Surface Water Supply of the United States 1949

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 the personnel of the Water Resources Division under the direction of:

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SCOPE OF WORK

This volume is one of a series of 14 reports presenting results of measurements of stage and flow made on streams, lakes, and reservoirs in the United States during the water year ending September 30, 1949. 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 11,680 gaging stations in the 48 States and also at many in the Territories of Alaska and Hawaii. On September 30, 1949, 6,240 gaging stations, including those in Hawaii and Alaska 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 acknowedged in connection with the description of each station affected; cooperation of the second kind is acknowledged, under the heading "Cooperation," in the introductory matter that precedes the gaging-station records in each volume. In the present volume, the section on cooperation of the second kind appears on page 13.

DEFINITION OF TERMS

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

"Second-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. Unless otherwise indicated, it is computed on the basis of a level pool and does not include bank storage.

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.

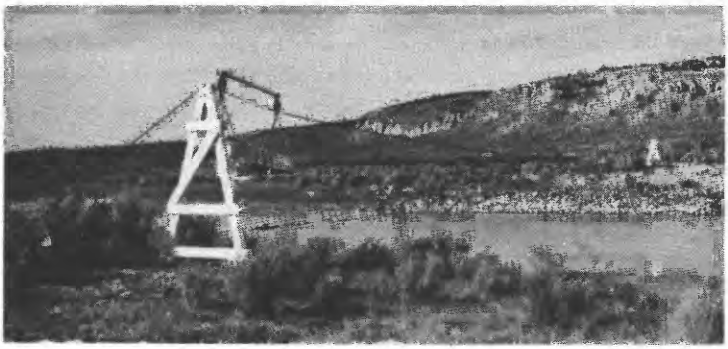
Rating tables giving the discharge for any stage are prepared from the discharge measurements. The application of the daily mean gage height to those rating tables gives the daily mean discharge, from which the monthly and the yearly mean discharge are computed. If the stage-discharge relation is subject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

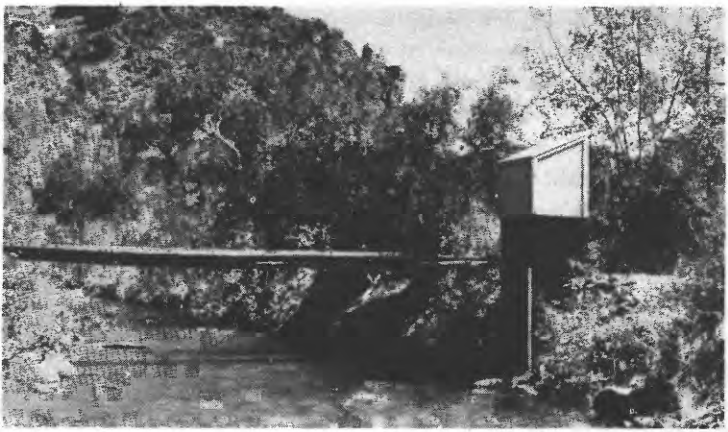
At most gaging stations in the northern part of the United States and at some in the mountainous regions of other parts the stage-discharge relation is affected by ice during the winter, which makes it impossible to compute the discharge in the usual manner. Discharge for periods of ice effect is computed 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, location, drainage area, records available, average discharge, extremes of discharge, general remarks, and notations of revisions of previously published record. The location of the gaging station and the drainage area are obtained from the most accurate maps available. Under "Average discharge" is given the average discharge for the number of years indicated. It is not given for stations having less than 10 complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. 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. Information pertaining to the accuracy of the records and conditions which affect the natural flow at the gaging station is given under "Remarks."

For some stations previously published records have been found to be in error on the basis of data or information obtained subsequently. Revisions of such records are usually published along with the current records in one of the annual reports. In order to make it easier to find such revised records, a paragraph headed "Revisions (water years)" has been added to the station description of all stations for which revised records have been published. Listed therein are all the reports in which revisions appear, each followed by the water years for which figures are revised in that report. In listing the report number, W. means Water-Supply Paper. In listing the years, water years are indicated by only 1 year, for instance, 1933 stands for the water year October 1, 1932, to September 30, 1933. If there were no daily, monthly, or annual figures of discharge involved in the revision, that fact is brought out by notations after the year dates as follows: (M) means that only the instantaneous maximum discharge was revised; (m) that only the instantaneous minimum was revised; and (P) that only peak discharges were revised. If the drainage area has been revised, the report in which the revised figure was first published is given. It should be noted that for all stations for which second-feet per square mile and runoff in inches are published, a revision of the drainage area necessitates corresponding revision of all figures based on the drainage area. Revised figures of second-feet per square mile and runoff in inches resulting from a revision of the drainage area only are usually not published in the annual series of reports.

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.

Peak discharges with the times of their occurrence are listed below the table of monthly discharge for most stations. All independent peaks above the selected base are given. The base discharge, which is given in parentheses, is selected so that an average of about three peaks a year will be presented. Peak discharges are not published for canals, ditches, drains, or for any stream for which the peaks are subject to substantial control by man.

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 reeervoirs a table showing daily contents or stage 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 ie 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 leas 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 etorage, 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 reeervoirs 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 areae 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., 106 Engineering Building, University of Maryland.
Columbia, S. C., 207 Creason Building.
Columbus, Ohio, 2590 West Hardin St., Ohio State University.
Harrisburg, Pa., 490 Education Building.
Hartford, Conn., 203 Federal Building.
Indianapolis, Ind., 311 West Washington Street.
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.
New Philadelphia, Ohio, Muskingum Watershed Conservancy District Building.
Ocala, Fla., Building 211, Camp Roosevelt.
Pittsburgh, Pa., 515 Plaza Building.
Raleigh, N. C., 908 Capitol Club Building.
St. Paul, Minn., 1427 New Post Office Building.
Trenton, N. J., 228 Federal Building.
Washington, D. C., General Services Administration Building.

West of the Mississippi River:
Austin, Tex., 302 West Fifteenth Street.
Bismarck, N. Dak., 7 Eltinge Building.
Boise, Idaho, 429 Federal Building.
Denver, Colo., 476 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., 207 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 in the reports listed below. In many of these reports records for years earlier than those indicated have been included for some streams.

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

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

Report	Character of data	Year
10th A, pt. 2	Descriptive information only.	
11th A, pt. 2	Monthly discharge and descriptive information	1884 to September 1890.
12th A, pt. 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.

Numbers of water-supply papers containing results of stream measurements, 1899-1949 (for basins included see p. 6).

Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1899 a	35	b35, 36	36	36	36	e36, 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	86, 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
191-	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	606	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
1948	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124
1949	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154

a Rating tables and index to WSP 35-39 contained in WSP 39. Monthly discharge for 1899 in 21st Annual Report, part 4.
b James River only.
c Gallatin River.
d Green and Gunnison Rivers and Coloredo River above Gunnison River.
e Mojave River only.
f Kings and Kern Rivers and south Pacific slope.
g Rating tables and index to WSP 47-52 contained in WSP 52. Monthly discharge for 1900 in 22d Annual Report, part 4.
h Schuylkill River 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 Bey only.
o New England rivers only.
p Hudson River to Delaware River.
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.

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.

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	1648-1915	415
Massachusetts, Hydrology of, Part 1, Summary of stream-flow and precipitation records.	1863-1945	1105
Nebraska, Surface water supply of	1894-1906	230
Oregon, Surface water supply of	1878-1910	370
Texas, Summary of records of surface waters of	1898-1937	850
Vermont, Surface waters of	1875-1916	424
Washington, Summary of hydrometric data in	1878-1919	492
Washington, Summary of records of surface waters of	1919-35	870
Wisconsin, northern, Water power of	1895-1905	156
Wyoming, Surface waters of, and their utilization	1894-1921	469
DRAINAGE BASIN		
Colorado River (Ariz., Colo., N. Mex., Utah, Wyo.) and its utilization	1888-1914	395
Colorado River, upper (Colo., Utah), and its utilization	1897-1927	617
Colorado River Basin (Ariz., Calif., Colo., Utah, Wyo.), Surface waters at base stations in.	1891-1938	918
Colorado River Basin (Ariz., Calif., Nev., N. Mex., Utah), Surface waters at stations on tributaries in lower.	1888-1938	1049
Columbia River Basin, upper (Mont., Idaho), Surface waters of	1898-1938	916
Great Salt Lake Basin, Water powers of	1889-1920	517
Green River (Colo., Utah, Wyo.) and its utilization	1894-1928	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.
Do.....	1904-47	Special Report 20, Water Resources and Hydrology of southeastern Alabama.	Do
Arkansas.....	1857-1928	Stream-gaging Rept. 1.....	Arkansas Geological Survey.
Do.....	1903-48	Surface Water Resources of Arkansas.....	Arkansas Resources and Development Commission; University of Arkansas, Institute of Science and Technology.
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.
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.
Do.....	1931-48	Bull. 5, Anne Arundel County Water Resources	Do.
Minnesota.....	1909-12	Water-resources investigation of Minnesota.	State Drainage Commission.
Mississippi...	1900-1948	Bull. 68, Surface Waters of Mississippi....	Mississippi Geological Survey.
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.
Do.....	1872-1945	Hydrologic Data on the Catawba and Broad River Basins.	Do.
Do.....	1857-1945	Hydraulic Data on The French Broad 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.

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

State reports containing compilations of records of discharge--Continued

State	Period	Report	Issued by
Oregon.....	1930-36	Bull. 9, Water resources of the State of Oregon.	Office of the State Engineer.
Do.....	1936-41	Bull. 10, 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.

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 August 1940 in the 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 1948 to September 1949 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 1949 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..	1937-49	Intermountain Forest & Range Experiment Station.
City Creek.....	Salt Lake City, Utah, near mouth of canyon.	1898-1949a	Salt Lake City.
Cottonwood Creek..	....do.....	1898-1949a	Do.
Donner Creek.....	Above Cold Creek, near Truckee, Calif....	1929-49	Federal Court Watermaster for Truckee River.
Do.....	Below Cold Creek, near Truckee, Calif....	1902-15, 1928-49b	Do.
Emigration Creek..	Salt Lake City, Utah, near mouth of canyon.	1898-1949a	Salt Lake City.
Ephraim Creek.....	Near Ephraim, Utah.....	1914-49	Intermountain Forest & Range Experiment Station.
Farmington Creek..	Near Farmington, Utah.....	1937-49	Do.
Honey Creek.....	Sec. 29, T. 36 S., R. 24 E., 1 mile northwest of Plush, Oreg.	1909-15, 1921-22, 1930-49d	Oregon State engineer.
Little Cottonwood Creek.	Salt Lake City, Utah, near mouth of canyon.	1898-1949a	Salt Lake City.
Little Truckee River.	Above Boca Reservoir, near Boca, Calif...	1942-49	Washoe County Water Conservation District.
Do.....	Below Boca Reservoir, near Boca, Calif...	1942-49	Do.
Mill Creek.....	Salt Lake City, Utah, near mouth of canyon.	1898-1949a	Salt Lake City.
Otter Creek Reservoir outlet.	Antimony, Utah, at former Geological Survey gaging station published as Otter Creek near Coyote.	1920-49e	Sevier River water Commissioner.
Parish Creek.....	Centerville, Utah, near mouth of canyon..	1937-49	Intermountain Forest & Range Experiment Station.
Parleys Creek.....	Salt Lake City, Utah, near mouth of canyon.	1898-1949a	Salt Lake City.
Prosser Creek.....	Near Boca, Calif.....	1942-49	Federal Court Watermaster for Truckee River.
Sevier River.....	Delta, Utah, at former Geological Survey gaging station.	1920-49e	Sevier River water Commissioner.
Truckee River.....	At Derby Dam, Nev.....	1907-10f, 1926-49	Federal Court Watermaster for Truckee River.
Do.....	At Farad, Calif.....	1938-49b	Truckee-Carson Irrigation District.
Do.....	At Pyramid Dam, Nev.....	1928-49	Federal Court Watermaster for Truckee River.
Do.....	At Tahoe, Calif.....	1895-96, 1900-49e	Do.
Do.....	At Vista, Nev.....	1899-1907f, 1927-49	Do.
Walker River.....	Near Wabuska, Nev.....	1902-8f, 1920-34f, 1940-49	Walker River Irrigation District.
West Walker River.	Near Hudson, Nev.....	1921-25f, 1941-49c	Do.
Do.....	Near Wellington, Nev.....	1940-49c	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 Irrigation seasons only.
d Records prior to 1942 are published in bulletins of the Oregon State engineer. Records prior to 1922 are also contained in water-supply papers published by the Geological Survey.
e Published in the annual reports of Sevier River water commissioner.
f Published in water-supply papers by the Geological Survey.
Note.- Records here listed other than those cited in above notes have 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 County.

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, succeeded by H. A. Linke; Utah Water and Power Board, W. R. Wallace, chairman.

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 five 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), R. C. Briggs; in Idaho (except for stations in Bear River Basin operated in connection with Federal Power Commission projects), T. R. Newell; in Oregon, K. N. Philips, 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, F. M. Bell.

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 4,186.9 feet above mean sea level, that of Midlake gage, 4,198.1 feet above mean sea level, datum of 1929.

Records available.- September 1875 to December 1899, March to July 1904, and October 1912 to September 1949 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, 4,198.25 feet June 1 at Boat Harbor gage, and June 15 at Midlake gage; minimum, 4,196.1 feet Nov. 15 at Midlake gage.
1851-49: Maximum elevation, 4,211.6 feet in 1873, computed from traditional data by E. C. LaRue (see Water-Supply Paper 880, p. 125); minimum, 4,193.7 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, water year 1948-49

Day	Boat Harbor	Midlake
Oct. 1	9.35	-1.95
15	9.3	-1.95
Nov. 1	9.25	-1.9
15	9.3	-2.0
Dec. 1	9.35	-1.9
15	9.45	-1.85
Jan. 1	9.6	-1.65
15	9.7	-1.6
Feb. 1	9.85	-1.5
15	9.95	-1.35
Mar. 1	10.15	-1.15
15	10.5	-.85
Apr. 1	10.9	-.4
15	11.0	-.35
May 1	11.1	-.15
15	11.1	-.1
June 1	11.35	+.1
15	11.3	+.15
July 1	11.1	-.1
15	10.9	-.25
Aug. 1	10.6	-.6
15	10.3	-.85
Sept. 1	10.15	-1.1
15	9.9	-1.35

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. 10 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 1949.

Extremes.- Maximum discharge during year, 1,720 second-feet June 13 (gage height, 3.59 feet); minimum, 24 second-feet Apr. 5, but may have been less during periods of no gage-height record.

1942-49: Maximum discharge, 2,200 second-feet May 19, 1948 (gage height, 4.23 feet); minimum, 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31					34	35	341	677	498	86	46
2	31					b34	34	406	551	491	86	46
3	30					35	33	558	466	538	92	45
4	31					35	33	572	435	594	90	a44
5	39					35	35	429	a420	518	88	a43
6	37					35	39	341	a400	435	86	a42
7	35					35	45	320	a430	389	88	a41
8	35					35	48	306	a480	341	101	a40
9	35		a40	a35		b34	47	362	a600	330	114	a41
10	33					34	50	498	a800	301	127	a42
11	32					33	54	594	a1,000	277	96	a43
12	31					33	66	623	a1,200	268	90	a44
13	31					32	73	677	a1,350	246	84	a50
14	31					34	70	724	1,200	232	84	48
15	38					35	86	774	1,170	216	84	44
16	37	a40			a32	35	76	638	1,220	208	82	41
17	35					35	94	638	1,360	196	74	40
18	35		a38			33	108	616	1,380	184	74	40
19	35					35	114	565	1,580	184	71	40
20	33					35	121	538	1,320	170	66	38
21	33					35	114	479	1,090	159	65	38
22	32					35	133	418	1,000	156	63	37
23	32			a32		35	192	a400	920	143	63	37
24	32					*34	250	a400	782	133	76	37
25	31		a35			34	282	a480	765	127	59	39
26	31					35	306	a650	757	118	50	43
27	*32					35	336	a750	700	108	47	43
28	37				(*)	33	412	850	646	101	47	44
29	a36				-	34	448	956	601	94	48	59
30	a35	(*)			-	36	395	841	531	94	47	60
31	a37	-			-	35	-	716	-	90	46	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,043	39	30	33.6	2,070
November	1,200	-	-	40	2,380
December	1,175	-	-	37.9	2,330
Calendar year 1948	58,497	1,750	-	160	116,000
January	1,037	-	-	33.5	2,060
February	896	-	-	32	1,780
March	1,067	36	32	34.4	2,120
April	4,109	448	33	137	8,150
May	17,460	956	306	563	34,630
June	25,831	1,580	400	861	51,240
July	7,939	594	90	256	15,750
August	2,374	127	46	76.6	4,710
September	1,295	60	37	43.2	2,570
Water year 1948-49	65,426	1,580	-	179	129,800

Peak discharge (base, 1,100 sec.-ft.).- June 13, 1,720 sec.-ft.

* Winter discharge measurement made on this day.

a No gage-height record (stage-discharge relation affected by ice during winter); discharge computed on basis of 1 discharge measurement, weather records, and records for stations on nearby streams.

b Stage-discharge relation affected by ice.

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., 1¾ 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 1949.

Extremes.- Maximum discharge during year, 1,580 second-feet June 20 (gage height, 4.32 feet); minimum, 9.3 second-feet Aug. 7.
1946-49: Maximum discharge, 2,180 second-feet May 20, 1948 (gage height, 5.01 feet); minimum, 5.5 second-feet Sept. 16, 1948.

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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	33					60	450	758	395	12	25
2	15	39					60	455	640	370	11	24
3	16	51					60	628	572	370	12	23
4	17	48					70	718	596	527	12	21
5	24	35					100	584	542	483	11	19
6	32	30					126	466	513	370	10	16
7	30	32					148	450	572	296	10	14
8	28	28		55		55	187	427	596	241	12	12
9	28	35					210	438	672	226	23	13
10	24	40	60				239	572	785	230	45	12
11	18	45					287	738	960	198	58	13
12	22	45					355	799	1,190	186	44	16
13	22	38					350	827	1,290	143	37	14
14	23	35					254	930	1,140	121	35	20
15	28	45			50		210	1,070	1,070	104	38	20
16	34	55					221	834	1,110	92	35	18
17	33	54					239	848	1,200	80	35	19
18	31	51		(*)			247	792	1,220	75	37	23
19	32	40					*239	698	1,300	74	35	24
20	32	35					254	688	1,380	65	33	22
21	28	45					214	590	1,110	48	28	21
22	25	60					221	554	972	32	25	21
23	23	65		50		60	266	501	865	22	30	21
24	22	70					350	489	720	16	32	21
25	23	65	55			(*)	380	622	662	19	34	22
26	25	55					400	778	668	25	26	22
27	26	45					422	813	643	28	22	22
28	30	47					513	841	578	24	18	24
29	39	48					572	982	527	22	17	28
30	37	*50			-		560	930	456	17	19	40
31	34	-			-		-	778	-	13	21	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	814	39	13	26.3	1,610
November	1,364	70	28	45.5	2,710
December	1,805	-	-	58.2	3,580
Calendar year 1948	65,418.2	1,880	-	179	129,700
January	1,625	-	-	52.4	3,220
February	1,400	-	-	50	2,780
March	1,785	-	-	57.6	3,540
April	7,814	572	60	260	15,500
May	21,288	1,070	427	687	42,220
June	25,307	1,380	456	844	50,200
July	4,892	527	13	158	9,700
August	817	58	10	26.4	1,620
September	610	40	12	20.3	1,210
Water year 1948-49	69,521	1,380	-	190	137,900

Peak discharge (base, 1,100 sec.-ft.).- May 15 (8:30 a.m.) 1,180 sec.-ft.; June 20 (7 a.m.) 1,580 sec.-ft.

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 7-15, Nov. 19 to Apr. 5 (no gage-height record at times); discharge computed on basis of 3 dissharge measurements, weather records, and records for stations on nearby streams.

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 road bridge and 3½ miles northwest of Evanston.

Drainage area.- 715 square miles.

Records available.- October 1913 to September 1949.

Average discharge.- 36 years, 230 second-feet.

Extremes.- Maximum discharge during year, 1,380 second-feet June 13 (gage height, 4.93 feet); minimum, 1.2 second-feet Oct. 4, Aug. 11.
1913-49: 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, 1948.

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

Revisions (water years).- W 1010: 1942, 1943. W 1090: 1947, drainage area.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.9	21	39				81	614	798	321	3.4	5.2
2	1.6	22	40				87	546	739	275	3.1	7.0
3	1.3	26	40				95	710	666	290	3.1	8.5
4	1.2	30	43				115	888	690	452	2.4	8.0
5	2.8	24	44			a60	142	865	674	519	2.0	6.5
6	5.2	16	49				190	666	590	385	1.9	6.0
7	8.5	22	51				251	598	646	290	1.8	4.9
8	8.0	10	58	b60			315	570	634	230	1.4	3.7
9	8.0	20	58				330	542	710	201	1.3	2.4
10	8.5	21	64				378	650	780	213	1.3	1.6
11	8.0	27					554	838	928	193	8.0	1.4
12	6.0	26				b60	766	1,040	1,100	166	20	2.5
13	8.5	18					892	1,050	1,300	136	16	2.8
14	9.5	17					762	1,060	1,200	110	12	4.6
15	13	29					598	1,220	1,070	81	12	5.5
16	14	27	b65		a55	b65	638	1,120	1,060	66	12	7.0
17	16	31		(*)		b70	630	1,070	1,150	53	12	5.2
18	17	11				b78	594	1,090	1,200	45	12	3.1
19	17	b11		b55		b85	570	924	1,260	42	13	2.6
20	17	b14				b90	598	847	1,300	32	12	4.6
21	17	b17				b90	558	757	1,020	24	10	4.3
22	10	28				b90	515	690	665	17	6.0	4.9
23	14	37				b95	582	594	752	14	7.0	5.2
24	9.5	38				97	670	538	638	10	10	7.5
25	8.0	35	b60			93	714	634	574	8.5	13	7.5
26	13	b26				81	670	788	566	6.0	13	6.0
27	14	b23		a55		76	622	842	562	4.6	9.5	8.5
28	16	28				b70	674	860	492	5.2	7.0	9.0
29	21	38			-	b70	766	955	449	6.0	4.9	10
30	22	*38			-	*72	770	950	378	5.2	3.4	14
31	22	-			-	76	-	820	-	4.6	4.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	339.5	22	1.2	11.0	673
November	731	38	10	24.4	1,450
December	1,796	-	-	57.9	3,560
Calendar year 1948	77,604.3	1,880	0	212	153,900
January	1,780	-	-	57.4	3,530
February	1,540	-	-	55	3,050
March	2,196	-	-	70.9	4,360
April	15,127	892	e1	504	30,000
May	25,536	1,220	538	817	50,250
June	24,791	1,300	378	826	49,170
July	4,207.1	519	4.6	136	8,340
August	241.1	20	1.3	7.78	478
September	172.4	14	1.4	5.75	342
Water year 1948-49	76,260.1	1,300	1.2	214	155,200

Peak discharge (base, 1,200 sec.-ft.).- May 15 (5:30 p.m.) 1,360 sec.-ft.; June 13 (7 p.m.) 1,360 sec.-ft.

* Winter discharge measurement made on this day.
e No gage-height record; discharge computed on basis of weather records and records for stations on nearby streams.
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 1949.

Extremes.- Maximum discharge during year, 1,240 second-feet June 21 (gage height, 3.74 feet); no flow Oct. 1-20.
1942-49: Maximum discharge, 1,940 second-feet Mar. 18, 1947 (gage height, 4.37 feet), Apr. 24, 1948 (gage height, 4.54 feet); 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	9.2	*b37				b120	642	690	305	4.2	1.3
2	0	12	b38				b130	511	690	265	3.8	1.0
3	0	12	b40				b140	549	630	265	3.3	.7
4	0	14	b43				b160	740	583	321	2.6	.8
5	0	19	b45	b65		a65	b180	834	648	501	2.0	1.3
6	0	19	b48				b220	708	572	426	1.7	2.2
7	0	16	b50				b250	554	554	338	1.5	2.2
8	0	b15	b55				b300	527	549	262	1.2	1.2
9	0	b16	b55				b330	485	594	213	1.1	1.0
10	0	18	b65		b60		b370	501	636	194	1.0	1.1
11	0	20		a65		a70	577	636	733	194	.8	1.1
12	0	27				a75	792	862	827	172	.8	1.0
13	0	25				a80	958	943	1,060	152	.6	1.0
14	0	b23				a85	*884	913	1,160	125	.5	.9
15	0	b27	b70			a90	733	1,020	1,050	108	2.2	.8
16	0	32				a95	690	1,120	965	89	1.7	.5
17	0	32				a100	720	1,000	995	79	2.2	.4
18	0	b30		a60		a110	684	1,020	1,090	64	3.1	.2
19	0	b20		(*)		a120	672	921	1,170	58	3.1	.3
20	0	b20				a130	660	806	1,210	46	2.8	2.2
21	2.9	b30				a140	678	726	1,100	36	2.6	1.7
22	5.2	b35				a150	600	648	848	31	2.4	1.3
23	6.0	b40				*a160	594	554	708	26	2.6	1.0
24	5.8	b40			a60	b150	648	549	606	20	3.1	.9
25	4.8	b40	b65	b60		b140	678	554	511	16	2.0	1.3
26	4.8	b35				b130	648	589	475	13	1.2	1.3
27	4.5	b32				b120	606	690	490	12	2.0	3.1
28	4.0	b32				b110	594	714	445	9.2	3.3	4.2
29	5.5	b34			-	b110	672	740	399	7.4	2.8	5.0
30	6.4	b35			-	b110	726	820	354	6.7	2.0	6.4
31	8.4	-			-	b110	-	759	-	5.2	1.7	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	58.3	8.4	0	1.88	116
November	759.2	40	9.2	25.3	1,510
December	1,891	-	-	61.0	3,750
Calendar year 1948	71,773.1	1,840	0	196	142,400
January	1,935	-	-	62.4	3,840
February	1,680	-	-	60	3,330
March	3,035	160	-	97.9	6,020
April	16,014	958	120	534	31,760
May	22,635	1,120	485	730	44,900
June	22,342	1,210	354	745	44,310
July	4,359.5	501	5.2	141	8,650
August	65.9	4.2	.5	2.13	131
September	47.4	6.4	.2	1.58	94
Water year 1948-49	74,822.3	1,210	0	205	148,400

Peak discharge (base, 1,300 sec.-ft.).- June 21 (4 a.m.) 1,240 sec.-ft.
* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of 2 discharge measurements, weather records, and records for stations on nearby streams.
b Stage-discharge relation affected by ice.

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 1949.

Extremes.- Maximum discharge during year, 923 second-feet May 21 (gage height, 5.85 feet); minimum, 18 second-feet Sept. 16.
1943-49: Maximum discharge, 1,600 second-feet June 14, 1947 (gage height, 7.85 feet); minimum, 14 second-feet July 16, 1948.

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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27	30					183	417	422	191	63	25
2	28	31					196	410	408	171	61	25
3	28	28				a75	208	337	405	176	60	23
4	28	27					225	244	424	184	59	23
5	30	27					260	225	504	188	58	22
6	29	28	b50				340	252	511	212	57	22
7	28	30					365	318	526	272	54	22
8	28	28		a70		a85	412	282	511	256	53	22
9	28	b26					464	227	504	286	53	21
10	27	b26					471	181	474	268	56	20
11	27	37				a90	457	158	459	242	53	20
12	27	37				a100	488	150	539	227	52	20
13	28	37				a110	554	179	491	238	50	20
14	28	b35				a115	627	258	544	208	49	22
15	27	b36				a120	661	346	641	188	48	21
16	28	39	b75		a65	a130	644	455	728	171	45	20
17	26	38		(*)		a140	594	599	691	155	45	20
18	27	35				a150	560	741	647	140	45	20
19	27	33				b160	534	828	763	128	45	22
20	27	b32				b180	514	902	838	116	44	22
21	27	b34				b200	486	916	885	109	42	23
22	27	39				b220	494	802	909	100	33	25
23	28	42		b65		b250	474	664	855	92	31	25
24	28	42				b280	438	562	679	86	33	22
25	28	b41	b70			b280	438	476	539	82	30	20
26	28	b38				b270	457	424	438	76	29	20
27	29	b35				b250	469	365	352	72	28	20
28	29	b34				b230	440	346	280	71	28	20
29	30	*b35			-	b210	378	363	227	69	28	22
30	30	b38			-	*194	396	369	210	66	26	23
31	30	-			-	179	-	398	-	64	25	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	867	30	26	28.0	1,720
November	1,018	42	26	33.9	2,020
December	2,020	-	-	65.2	4,010
Calendar year 1948	69,931	1,350	-	191	138,700
January	2,090	-	-	67.4	4,150
February	1,820	-	-	65	3,610
March	4,658	280	-	150	9,240
April	13,227	661	183	441	26,240
May	13,194	916	150	426	26,170
June	16,404	909	210	547	32,540
July	4,904	286	64	158	9,730
August	1,383	63	25	44.6	2,740
September	652	25	20	21.7	1,290
Water year 1948-49	62,237	916	-	171	123,500

Peak discharge (base, 800 sec.-ft.).- May 21 (11 a.m.) 923 sec.-ft.; June 22 (9 p.m.) 919 sec.-ft.
* 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.
b Stage-discharge relation affected by ice.

Bear River above Sublette Creek, near Cokeville, Wyo.

Location.- Water-stage recorder, lat. 42°02'20", long. 110°57'05", in SW¼NE¼ sec. 20, T. 24 N., R. 119 W., 1,500 feet upstream from Sublette Creek and 3½ miles south of Cokeville.

Drainage area.- 2,110 square miles.

Records available.- April 1948 to September 1949.

Extremes.- Maximum discharge during year, 970 second-feet May 19 (gage height, 7.44 feet); minimum, 35 second-feet Sept. 17.
1948-49: Maximum discharge, 1,270 second-feet Apr. 28, 1948 (gage height, 8.24 feet); minimum, 35 second-feet Aug. 29, 1948, Sept. 17, 1949.

Remarks.- Records good except those for period of ice effect or no gage-height record, which are fair. Many diversions above station for irrigation. No diversions between station and Collett Creek Branch of Smiths Fork.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	44	48	(*)				a260	340	463	255	110	44
2	47	50					b250	345	533	250	107	43
3	43	51				a85	245	340	506	248	96	43
4	47	a50					247	223	499	261	90	44
5	46	52					265	183	622	275	88	44
			b60									
6	44	47					312	145	698	409	85	44
7	47	a55					387	145	701	468	83	a44
8	46	*54				a100	426	196	691	475	80	a43
9	44	49					477	225	658	454	84	a42
10	44	55					511	178	595	461	84	a41
				a75								
11	44	60				a110	516	78	562	429	82	a40
12	44	62				a120	506	76	533	390	80	a39
13	44	59				a130	542	98	595	374	78	a38
14	44	59				a140	602	101	552	356	76	38
15	46	60				a150	653	114	576	316	73	38
			b80		a75							
16	46	65				a160	668	174	641	284	72	37
17	45	64				a180	660	358	653	258	71	36
18	45	59				a200	629	720	682	239	72	36
19	45	51				a220	*605	941	619	220	70	37
20	46	b50				a250	585	941	751	202	68	38
21	a46	b53		(*)		a280	564	955	773	188	66	38
22	a46	60	b75			a320	540	955	792	176	64	38
23	a47	62				a350	540	907	809	164	61	41
24	a47	61				a380	530	766	847	152	58	43
25	47	b60		b75		a400	499	648	718	145	56	46
26	47	b58				b400	499	502	581	137	52	42
27	48	b54	a75			b350	506	490	492	130	49	40
28	48	b50				*b320	497	433	386	123	50	38
29	48	b50			-	b300	442	403	360	127	50	41
30	48	b52		a75	-	b280	378	424	277	122	48	47
31	48	-			-	b270	-	422	-	115	46	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,421	48	43	45.8	2,820
November	1,660	65	47	55.3	3,290
December	2,225	-	-	71.8	4,410
Calendar year	-	-	-	-	-
January	2,325	-	-	75	4,610
February	2,100	-	-	75	4,170
March	6,235	400	-	201	12,370
April	14,341	668	245	478	28,440
May	12,826	955	76	414	25,440
June	18,165	847	277	606	36,030
July	8,203	475	115	265	16,270
August	2,249	110	46	72.5	4,460
September	1,223	47	36	40.8	2,430
Water year 1948-49	72,973	955	-	200	144,700

Peak discharge (base, 800, revised, sec.-ft.).- May 19 (12:45 p.m.) 970 sec.-ft.; June 24 (10 a.m.) 864 sec.-ft.

* 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 stations on nearby streams.

b Stage-discharge relation affected by ice.

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 1949.

Average discharge.- 12 years, 367 second-feet.

Extremes.- Maximum discharge during year, 1,560 second-feet May 22 (gage height, 5.86 feet); minimum daily, 87 second-feet Sept. 8-10, 12.
1943-49: 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 no gage-height record, which are fair. Many diversions above station for irrigation.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	146	164				135	406	737	915	477	191	103
2	144	*169				140	390	691	948	462	188	100
3	142	182	*140			150	386	658	935	475	186	94
4	140	184				150	400	640	867	502	189	96
5	156	185				150	423	606	935	545	186	98
6	156	180		100		150	454	531	1,090	559	182	94
7	160	160				160	529	502	1,200	668	176	91
8	165	150	130			180	582	499	1,170	652	176	87
9	165	150				180	615	571	1,120	649	180	87
10	164	150				180	658	585	1,060	643	205	87
11	165	160			120	185	681	534	1,020	627	193	88
12	165	170				190	694	529	1,000	588	199	87
13	165	170	120			195	717	571	1,040	554	203	90
14	167	170		(*)		205	761	574	1,020	540	195	94
15	173	170				210	810	597	1,000	510	186	102
16	176	170				220	844	658	1,040	464	169	96
17	173	170				240	859	788	1,040	416	160	94
18	171	150				260	859	1,060	1,090	388	155	93
19	174	140				290	855	1,410	1,090	366	147	94
20	173	130	110			320	879	1,470	1,110	352	144	94
21	174	140		110		320	871	1,530	1,140	328	140	96
22	171	150				400	838	1,550	1,120	313	135	93
23	169	160				410	841	1,530	1,070	292	132	93
24	165	170				440	887	1,440	1,030	269	137	96
25	167	160			130	450	887	1,270	1,010	253	132	94
26	164	150				449	875	1,070	879	232	132	94
27	162	130	100			454	875	996	802	219	122	91
28	165	120				436	891	948	668	207	120	97
29	167	130			-	433	871	962	612	197	119	106
30	165	140			-	*423	834	948	534	197	122	117
31	165	-			-	423	-	879	-	199	106	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	5,074	176	140	164	10,060
November	4,724	185	120	157	9,370
December	3,820	-	-	117	7,180
Calendar year 1948	150,969	2,010	-	412	299,400
January	3,310	-	-	107	6,570
February	3,440	-	-	123	6,820
March	8,528	454	135	275	16,920
April	21,472	891	386	716	42,590
May	27,334	1,550	499	882	54,220
June	29,555	1,200	534	985	58,620
July	13,143	668	197	424	26,070
August	5,007	205	106	162	9,930
September	2,846	117	87	94.9	5,640
Water year 1948-49	128,053	1,550	-	351	254,000

Peak discharge (base, 1,000 sec.-ft.).- May 22 (8 p.m.) 1,560 sec.-ft.; June 7 (2:30 p.m.) 1,230 sec.-ft.; June 21 (3 p.m.) 1,140 sec.-ft.

* Winter discharge measurement made on this day.

Note.- No gage-height record Nov. 5 to Mar. 25 (except Dec. 4, Jan. 15, 22, 23 when stage-discharge relation was affected by ice); discharge computed on basis of 2 discharge measurements, weather records, and combined flow of records furnished by Utah Power & Light Co. for Bear River below Stewart Dam, near Montpelier, Idaho, and Rainbow inlet canal near Dingle, Idaho.

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 Union Pacific (Oregon Short Line) Railroad, and 5 miles southeast of Dingle.

Drainage area.- 2,780 square miles.

Records available.- June 1913 to September 1916, January 1919 to September 1949.

Average discharge.- 33 years, 504 second-feet.

Extremes.- Maximum discharge during year, 1,810 second-feet May 22; minimum, 121 second-feet Sept. 11.
1913-16, 1919-49: 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. Nine discharge measurements made by Geological Survey in addition to those made by power company.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	183	207	195	150	170	190	493	1,040	1,170	558	245	140
2	180	*213	190	150	170	190	459	959	1,190	523	239	135
3	180	224	*191	155	170	195	466	908	1,230	538	236	135
4	183	236	200	155	170	*196	470	912	1,180	554	233	128
5	186	233	200	155	170	210	531	869	1,170	608	233	130
6	188	219	180	150	170	215	558	813	1,280	632	230	133
7	191	221	160	155	170	215	624	755	1,440	699	221	133
8	191	175	175	155	170	215	699	723	1,450	747	219	125
9	202	210	175	160	170	215	760	739	1,400	739	224	123
10	202	190	175	165	170	220	780	776	1,330	747	236	123
11	202	248	165	170	170	235	790	751	1,260	715	242	128
12	205	233	165	170	170	240	810	691	1,200	679	239	128
13	205	205	165	170	170	240	820	703	1,180	608	239	128
14	207	205	185	165	170	255	839	707	1,200	581	242	128
15	221	221	185	160	170	270	882	719	1,120	550	242	133
16	221	185	175	*166	170	290	921	788	1,100	516	230	140
17	224	225	175	170	165	310	942	921	1,070	451	219	133
18	230	255	160	170	165	350	951	1,180	1,120	410	210	133
19	227	180	160	175	165	380	951	1,500	1,220	380	199	133
20	224	175	165	175	170	390	959	1,670	1,190	365	188	135
21	224	175	165	175	170	420	972	1,720	1,250	344	186	135
22	227	205	160	175	175	470	942	1,800	1,250	323	177	137
23	221	215	160	175	180	512	921	1,780	1,250	309	172	135
24	219	225	160	170	185	531	972	1,770	1,180	283	175	135
25	216	240	160	165	190	500	1,040	1,640	1,190	286	172	137
26	216	200	160	165	190	504	1,080	1,470	1,120	260	167	137
27	210	195	145	170	190	512	1,100	1,320	1,010	251	162	137
28	207	195	155	165	190	504	1,120	1,270	852	245	154	133
29	210	170	150	165	-	508	1,150	1,240	735	236	152	137
30	210	195	150	170	-	493	1,120	1,240	644	239	152	150
31	210	-	150	170	-	*497	-	1,180	-	242	152	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	6,422	230	180	207	12,740
November	6,275	255	170	209	12,450
December	5,256	200	145	170	10,430
Calendar year 1948	186,223	2,290	114	509	369,400
January	5,106	175	150	165	10,130
February	4,855	190	165	173	9,630
March	10,472	531	190	338	20,770
April	25,122	1,150	459	837	49,830
May	34,554	1,800	691	1,115	68,540
June	34,981	1,450	644	1,166	69,380
July	14,618	747	236	472	28,990
August	6,387	245	152	206	12,670
September	3,997	150	123	133	7,930
Water year 1948-49	158,045	1,800	123	433	313,500

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 8-10, 13, 14, Nov. 16 to Mar. 22, Mar. 5-22 (no gage-height record Jan. 1-16, Jan. 26 to Mar. 4, Apr. 9-13; discharge computed on basis of discharge measurements, weather records, and records for nearby stations.).

Bear River below Stewart Dam, near Montpelier, Idaho

Location.- Water-stage recorder, 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 1949. January 1922 to September 1945 in files of Salt Lake City district office, Geological Survey.

Average discharge.- 27 years, 82.4 second-feet.

Extremes.- Maximum discharge during year, 560 second-feet May 31 (gage height, 4.21 feet); minimum daily, 9 second-feet on several days.
1923-49: Maximum daily discharge, 3,050 second-feet June 3, 1923; minimum daily, 1 second-foot on several days in 1931, 1934, 1940, 1948.

Remarks.- Records good. 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.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9	11	10	all	11	12	16	15	31	10	18	13
2	9	11	10	all	10	12	15	14	22	10	18	12
3	9	11	10	all	10	12	15	17	22	9	18	12
4	9	11	11	all	10	12	15	20	22	9	17	12
5	10	11	11	all	10	13	15	20	21	9	17	12
6	10	11	11	all	10	13	16	20	22	10	16	12
7	10	11	11	11	11	14	16	17	22	10	16	12
8	10	11	13	11	10	15	16	17	22	10	16	12
9	10	11	12	11	10	15	14	18	22	10	15	12
10	10	11	12	11	10	15	14	22	22	9	16	11
11	10	10	12	11	10	15	14	22	22	9	16	11
12	10	10	13	11	10	16	14	22	21	9	16	11
13	10	10	13	11	11	16	14	22	21	9	16	11
14	10	10	13	11	11	17	14	22	21	9	16	11
15	10	10	13	11	11	18	13	23	21	11	16	11
16	11	10	13	11	11	18	12	22	20	15	16	12
17	11	10	12	11	11	18	12	23	20	15	16	11
18	10	10	12	11	11	16	12	23	20	14	16	12
19	10	10	12	12	11	16	13	24	20	14	16	11
20	11	11	12	11	11	17	13	23	21	15	16	12
21	11	10	13	11	11	14	13	22	21	16	16	12
22	11	10	13	11	11	17	13	22	21	16	15	12
23	11	11	13	11	12	18	13	22	22	18	15	11
24	11	11	13	11	12	18	13	22	22	18	15	10
25	11	11	13	11	12	15	13	23	22	18	14	10
26	11	11	13	12	12	15	14	22	22	18	15	9
27	11	11	13	12	12	16	14	23	21	18	15	9
28	11	10	12	11	12	16	14	23	18	18	15	9
29	11	10	11	12	-	16	15	23	12	18	14	9
30	11	10	all	12	-	16	15	47	11	18	13	9
31	11	-	all	11	-	16	-	66	-	18	13	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	320	11	9	10.3	635
November	316	11	10	10.5	627
December	372	13	10	12.0	738
Calendar year 1948	6,308	30	1	17.2	12,510
January	346	12	11	11.2	686
February	304	12	10	10.9	603
March	477	18	12	15.4	946
April	420	16	12	14.0	833
May	721	66	14	23.3	1,430
June	627	31	11	20.9	1,240
July	410	18	9	13.2	813
August	487	18	13	15.7	966
September	333	13	9	11.1	660
Water year 1948-49	5,133	66	9	14.1	10,180

a No gage-height record; discharge computed on basis of 1 discharge measurement, weather records, and records for other stations on Bear River.

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 1949. January 1922 to September 1945 available in files of Salt Lake City district office, Geological Survey.

Average discharge.- 27 years, 494 second-feet.

Extremes.- Maximum discharge during year, 1,260 second-feet July 13 (gage height, 4.75 feet); minimum daily, 95 second-feet Mar. 5-7.
1922-49: 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. Five discharge measurements made by Geological Survey in addition to those made by power company.

Rating table, water year 1948-49, except period of ice effect
(gage height, in feet, and discharge, in second-feet)

1.7	87	2.9	361
1.8	101	3.3	511
2.0	134	3.8	729
2.2	172	4.4	1,040
2.5	241	4.8	1,290

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	678	763	500	680	825	295	271	193	400	1,170	816	483
2	519	767	*544	655	820	215	252	185	389	1,180	816	706
3	487	652	560	655	800	180	268	164	358	1,130	862	720
4	463	616	525	665	775	140	300	156	348	1,080	898	838
5	448	625	375	715	765	95	325	154	348	1,100	887	625
6	414	642	320	750	755	95	341	154	354	1,150	919	825
7	426	634	425	765	755	95	341	145	389	1,210	913	629
8	433	607	560	780	755	*96	331	138	418	1,180	898	692
9	433	603	540	775	755	100	344	141	411	1,180	893	720
10	433	607	530	765	755	110	325	143	386	1,140	967	720
11	429	612	575	760	720	130	300	150	348	1,080	983	715
12	426	620	655	790	625	135	291	145	319	1,150	978	706
13	429	620	660	*844	570	135	282	148	309	1,240	983	711
14	581	620	660	840	555	145	274	170	577	1,250	1,060	715
15	634	a625	650	840	620	150	268	180	665	1,220	1,180	715
16	629	a630	675	835	665	160	238	187	711	1,200	1,220	701
17	625	a625	735	855	685	195	228	221	701	1,170	1,220	511
18	620	a630	765	*835	690	260	228	263	697	1,130	1,130	456
19	616	a630	765	835	585	290	228	338	720	1,120	652	456
20	620	a625	800	835	440	285	238	389	758	1,090	994	456
21	652	a615	865	835	430	285	252	422	893	1,050	1,120	460
22	692	620	860	835	425	255	254	389	903	877	1,140	463
23	724	625	865	835	425	245	254	392	908	720	1,140	475
24	758	625	865	830	380	250	254	396	967	678	1,100	556
25	811	437	875	825	310	255	254	389	1,090	665	945	577
26	753	372	860	825	315	260	257	378	1,150	652	841	577
27	720	375	855	830	320	255	257	372	1,150	806	841	577
28	452	380	855	830	330	255	244	344	1,190	872	872	511
29	249	365	845	825	-	265	189	354	1,180	862	877	491
30	244	400	845	825	-	265	193	344	1,140	841	1,010	503
31	660	-	790	820	-	*268	-	351	-	826	978	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	17,038	811	244	550	33,790
November	17,547	767	360	585	34,800
December	21,199	875	320	684	42,050
Calendar year 1948	224,909	1,500	95	615	446,100
January	24,569	844	655	793	48,730
February	16,810	825	310	600	33,340
March	6,164	295	95	199	12,230
April	8,081	344	189	269	16,030
May	7,895	422	138	255	15,660
June	20,177	1,190	309	673	40,020
July	32,019	1,250	652	1,033	63,510
August	30,133	1,220	652	972	59,770
September	17,890	720	456	596	35,480
Water year 1948-49	219,522	1,250	95	601	435,400

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for nearby stations.
Note.- Stage-discharge relation affected by ice Nov. 28 to Mar. 29 (no gage-height record Jan. 5-8, 13-18.

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 1949.

Average discharge.- 34 years (1911-16, 1919-20, 1921-49), 731 second-feet.

Extremes.- Maximum daily discharge during year, 1,420 second-feet July 12; minimum daily, 105 second-feet Nov. 28.
1911-16, 1919-49: 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 were 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	763	1,090	720	373	1,140	478	420	121	559	1,400	1,060	1,120
2	680	1,070	662	521	1,140	431	508	721	576	1,390	1,030	862
3	437	1,060	557	985	1,110	450	265	573	569	846	1,200	305
4	785	703	443	1,090	1,150	486	633	507	542	712	1,160	284
5	682	786	453	1,050	1,140	325	698	468	536	1,300	1,070	567
6	720	568	632	1,050	1,030	231	713	311	536	1,400	811	1,100
7	520	375	615	1,040	893	519	808	142	589	1,350	744	1,120
8	563	890	620	1,050	1,050	551	928	128	568	1,300	1,100	1,060
9	509	895	789	783	897	471	899	293	565	1,380	1,170	970
10	577	915	861	1,130	933	479	667	409	582	1,070	1,150	503
11	886	720	507	1,100	958	453	761	612	571	1,220	1,060	493
12	858	885	425	1,150	746	377	763	672	536	1,420	957	924
13	768	520	962	1,070	975	173	706	368	652	1,260	661	894
14	912	375	894	772	937	426	648	302	737	1,220	576	783
15	882	820	964	683	869	482	666	132	626	1,220	1,140	779
16	302	780	936	519	620	492	390	631	699	798	1,140	647
17	358	760	1,030	1,060	680	357	125	495	841	832	1,170	404
18	976	720	985	892	898	387	786	469	693	1,210	1,180	604
19	1,060	850	898	1,080	791	355	731	384	583	1,070	1,120	764
20	927	470	973	1,080	340	272	662	512	825	911	1,020	798
21	774	410	971	1,000	836	499	757	433	983	808	641	883
22	923	895	1,020	827	606	587	588	385	1,180	753	1,190	872
23	844	685	1,150	693	550	621	577	503	1,250	660	1,150	722
24	728	590	1,020	1,120	608	722	232	545	1,330	572	1,150	508
25	1,090	180	840	1,060	459	721	690	535	1,310	897	1,150	392
26	1,030	545	614	1,090	474	723	703	601	977	1,080	1,170	967
27	1,040	480	1,030	1,070	281	507	754	692	1,370	1,060	1,170	984
28	1,260	105	1,020	1,090	530	700	661	739	1,300	922	776	999
29	1,190	780	990	920	-	673	716	583	1,300	878	1,150	998
30	951	665	1,020	555	-	550	449	548	1,390	818	1,190	806
31	424	-	910	1,080	-	475	-	813	-	704	1,200	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	24,419	1,260	302	788	48,430
November	20,587	1,090	105	686	40,830
December	25,511	1,150	425	823	50,600
Calendar year 1948	284,693	1,770	49	778	564,700
January	28,963	1,150	373	934	57,450
February	22,641	1,150	281	809	44,910
March	14,973	723	173	483	29,700
April	18,904	928	125	630	37,500
May	14,627	813	121	472	29,010
June	24,775	1,390	536	826	49,140
July	32,461	1,420	572	1,047	64,390
August	32,456	1,200	576	1,047	64,380
September	23,112	1,120	284	770	45,840
Water year 1948-49	283,429	1,420	105	777	562,200

Note.- No gage-height record Nov. 7 to Dec. 1; discharge computed on basis of output record of Soda plant.

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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.

Records available.- October 1945 to September 1949. January 1922 to September 1945 in files of Salt Lake City district office, Geological Survey.

Average discharge.- 27 years, 720 second-feet.

Extremes.- Maximum daily discharge during year, 1,750 second-feet Apr. 16; minimum daily, 74 second-feet May 29.
1922-49: 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 made by Geological Survey in addition to those made by power company.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	952	793	a910	1,040	1,250	507	515	664	705	1,310	962	917
2	752	1,010	a830	405	1,150	641	547	992	820	1,040	958	866
3	756	1,420	801	1,070	928	720	628	1,270	675	509	957	574
4	749	1,280	1,010	1,090	1,550	599	688	630	202	434	877	703
5	996	890	546	1,100	1,190	804	1,000	514	86	1,030	1,160	571
6	a860	1,110	759	1,110	1,290	167	1,130	794	351	949	861	1,140
7	a800	556	965	1,190	1,330	692	992	517	532	1,010	688	921
8	782	851	858	1,410	1,230	693	1,140	126	372	1,410	1,290	1,160
9	506	1,000	826	812	a1,040	742	1,470	781	225	1,190	1,270	673
10	999	908	a1,140	a1,590	1,210	926	1,090	881	286	807	777	889
11	764	1,060	931	a1,400	1,170	737	843	634	233	1,100	728	613
12	869	1,040	813	975	1,100	534	1,170	414	212	1,190	1,080	596
13	1,270	1,050	916	1,020	1,460	270	1,420	1,020	382	980	1,070	1,080
14	1,150	320	872	1,450	1,290	531	1,080	307	557	1,260	774	770
15	698	739	1,260	1,150	893	702	1,030	288	866	548	973	1,080
16	1,220	1,000	1,450	976	849	1,050	1,750	1,280	726	899	827	899
17	521	652	1,410	995	436	1,070	295	815	870	658	1,360	745
18	659	1,100	1,500	676	1,200	580	554	790	475	566	1,340	260
19	1,220	995	508	959	824	376	1,350	422	592	906	1,170	925
20	944	743	1,010	1,100	342	427	1,020	680	496	764	985	1,150
21	a1,290	744	1,530	1,530	1,060	663	1,150	493	407	1,030	782	795
22	a1,300	642	1,320	1,240	610	789	1,500	101	614	389	1,140	906
23	1,100	1,010	1,200	257	1,010	1,010	1,290	630	a1,010	730	1,340	834
24	909	891	1,320	1,030	667	898	369	897	a850	450	895	912
25	779	288	86	1,080	1,120	896	1,010	822	a992	493	974	1,000
26	1,190	501	599	1,240	464	787	1,380	754	151	874	1,120	826
27	1,420	720	1,210	1,260	318	444	923	826	837	1,030	1,150	919
28	1,210	606	1,090	1,380	675	990	1,210	176	1,140	695	868	1,020
29	1,300	534	1,220	1,240	-	1,310	973	74	1,240	325	1,240	1,120
30	1,100	1,220	996	645	-	457	1,310	81	1,210	883	962	1,130
31	955	-	1,490	1,310	-	530	-	389	-	400	1,740	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	30,020	1,420	506	968	59,540
November	25,673	1,420	288	856	50,920
December	31,376	1,530	86	1,012	62,230
Calendar year 1948	324,960	2,180	37	888	644,500
January	33,730	1,590	257	1,088	66,900
February	27,656	1,550	318	988	54,850
March	21,542	1,310	167	695	42,730
April	30,827	1,750	295	1,028	61,140
May	19,062	1,280	74	615	37,810
June	18,114	1,240	86	604	35,930
July	25,859	1,410	325	834	51,290
August	32,318	1,740	688	1,043	64,100
September	25,994	1,150	260	866	51,560
Water year 1948-49	322,171	1,750	74	883	639,000

a Discharge computed from 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 1949. October 1889 to September 1917 (gage heights only January to September 1917) at site 5 miles downstream.

Extremes.- Maximum discharge during year, 3,300 second-feet Jan. 10 (gage height, 5.07 feet); minimum, 0.6 second-foot June 14 (gage height, 0.63 foot); minimum daily, 120 second-feet June 5.

1889-1916, 1944-49: 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, that of June 14, 1949; minimum daily, 14 second-feet 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	898	799	1,000	1,250	1,230	617	580	707	663	1,240	791	1,030
2	748	937	874	468	1,220	664	594	1,040	883	833	782	638
3	689	1,330	1,090	1,100	995	864	600	1,200	672	376	824	500
4	786	1,340	974	1,140	1,590	634	747	716	318	301	673	592
5	922	1,020	704	1,240	1,280	872	932	621	120	791	807	405
6	910	1,000	644	1,140	1,400	383	1,300	833	277	817	810	1,020
7	750	773	1,150	1,310	1,420	790	1,110	545	508	793	675	742
8	910	826	937	1,480	1,240	781	1,250	204	397	1,080	985	1,020
9	458	973	747	652	1,120	827	1,280	759	238	1,050	1,120	579
10	913	932	1,030	1,670	1,250	1,020	1,490	854	200	585	652	678
11	750	967	1,160	1,470	1,210	804	713	669	209	786	456	609
12	703	1,140	936	1,160	1,150	519	1,400	552	164	992	1,060	465
13	1,160	1,050	912	1,070	1,350	453	1,380	986	258	943	947	886
14	1,240	458	1,130	1,510	1,150	556	1,240	302	398	1,090	665	714
15	725	743	1,220	1,210	906	760	960	408	669	427	831	905
16	967	1,060	1,350	924	924	1,060	1,720	1,390	579	525	708	719
17	774	598	1,560	1,260	469	1,220	520	1,050	693	613	1,150	614
18	498	1,080	1,470	767	1,230	747	638	1,040	252	452	1,190	207
19	881	1,020	852	1,040	862	515	1,280	714	499	502	988	752
20	1,030	629	1,020	1,160	427	585	1,060	963	357	562	862	969
21	1,200	824	1,520	1,620	942	817	1,270	772	202	926	676	688
22	1,210	734	1,330	1,340	924	918	1,630	380	444	295	961	713
23	1,030	1,010	1,210	369	1,000	1,020	1,320	777	822	482	1,140	834
24	1,050	860	1,190	1,100	779	941	544	1,010	687	411	728	753
25	666	440	501	1,130	1,190	960	1,050	888	694	390	875	739
26	962	500	586	1,300	558	853	1,500	891	186	659	928	742
27	1,420	598	1,300	1,260	394	601	995	954	559	872	1,060	745
28	1,230	763	1,020	1,440	669	1,070	1,270	326	975	514	944	1,020
29	1,190	564	1,300	1,250	-	1,390	1,080	231	1,020	263	1,150	913
30	1,150	1,260	1,090	784	-	508	1,460	188	954	706	974	918
31	1,020	-	1,370	1,390	-	599	-	458	-	305	1,480	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	28,840	1,420	458	930	57,200
November	26,228	1,340	440	874	52,020
December	33,177	1,560	501	1,070	65,810
Calendar year 1948	323,775	2,260	20	885	642,200
January	36,004	1,670	369	1,160	71,410
February	28,879	1,590	394	1,030	57,280
March	24,348	1,390	383	785	48,290
April	32,913	1,720	520	1,100	65,280
May	22,428	1,390	188	723	44,490
June	14,897	1,020	120	497	29,550
July	20,581	1,240	263	664	40,820
August	27,892	1,480	456	900	55,320
September	22,109	1,030	207	737	43,850
Water year 1948-49	318,296	1,720	120	872	631,300

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 1949.

Extremes.- Maximum discharge during year, 3,840 second-feet May 24, 25 (gage height, 4.86 feet); minimum daily, 23 second-feet July 20.
1889-1949: 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 at 12 p.m. Aug. 5, 1920.

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

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

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,280	2,120	1,270	1,080	1,900	1,710	1,950	3,300	2,060	53	99	173
2	1,250	1,010	1,610	a1,280	1,850	1,570	1,900	3,290	2,080	27	191	929
3	1,600	1,520	1,480	a1,740	2,150	1,650	1,240	3,060	2,120	27	99	1,140
4	1,360	1,810	1,360	a1,890	2,220	1,840	1,660	1,680	2,130	32	59	25
5	a960	1,420	1,240	a1,890	1,960	1,510	1,850	1,580	1,820	36	118	616
6	a940	1,950	1,590	a1,560	1,800	1,060	2,290	2,160	2,410	57	411	309
7	1,060	1,290	1,700	a1,840	1,730	2,130	2,360	1,930	1,690	144	172	233
8	1,340	2,010	1,250	1,530	1,850	2,010	2,360	1,530	1,430	75	135	449
9	806	1,260	a1,650	1,140	1,980	1,930	2,270	1,880	1,400	57	220	25
10	1,690	1,490	a1,830	2,020	2,270	2,450	3,330	1,630	1,130	24	128	394
11	1,050	1,190	a1,440	2,060	2,040	2,430	2,740	1,710	1,350	190	156	355
12	1,220	1,700	a1,300	1,670	2,210	2,320	2,480	1,180	631	547	149	374
13	1,410	1,770	a1,730	1,820	1,850	2,430	2,310	1,090	734	230	84	882
14	1,680	1,660	a1,930	1,670	1,910	3,730	2,220	1,410	588	361	25	592
15	1,010	1,480	a2,080	1,870	1,850	3,720	2,690	924	636	384	494	a310
16	571	1,570	1,890	1,850	1,900	3,730	2,970	1,840	464	640	534	a310
17	1,280	1,490	2,110	1,670	2,010	3,600	3,070	1,910	415	80	615	1,330
18	1,380	1,350	a1,970	1,470	1,720	3,110	3,190	2,320	87	45	433	516
19	1,450	1,320	1,460	1,810	1,490	3,260	2,790	3,110	290	50	215	487
20	1,120	834	1,600	1,640	1,690	3,210	2,410	3,760	730	23	109	439
21	1,320	1,140	1,950	1,930	1,500	2,430	2,450	3,760	867	39	243	1,130
22	1,280	1,310	a1,980	1,820	1,820	2,370	3,080	3,580	284	24	277	348
23	1,070	1,570	a1,920	1,200	1,040	2,760	3,230	3,520	197	379	148	791
24	1,350	1,580	a1,540	1,510	1,790	2,940	3,190	3,830	128	24	60	898
25	1,810	746	a650	a2,030	1,660	2,850	3,680	3,760	86	24	682	239
26	1,440	1,350	643	a2,000	1,620	2,970	3,180	3,770	124	25	662	804
27	a1,870	1,300	a1,500	a1,380	1,610	2,620	3,110	3,190	75	26	329	1,050
28	a1,780	929	a1,540	a1,290	1,680	2,530	3,540	3,680	228	27	254	752
29	1,620	1,180	a1,540	a1,490	-	1,150	3,440	3,050	251	245	657	785
30	1,250	1,800	1,690	1,330	-	1,480	3,410	2,920	25	81	890	1,380
31	1,310	-	1,290	1,700	-	2,040	-	2,000	-	25	473	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	40,557	1,870	571	1,308	80,440
November	43,149	2,120	746	1,438	85,580
December	48,733	2,110	643	1,572	96,960
Calendar year 1948	548,356	3,760	20	1,498	1,088,000
January	51,180	2,060	1,080	1,651	101,500
February	51,100	2,270	1,040	1,825	101,400
March	75,540	3,730	1,060	2,437	149,800
April	80,190	3,680	1,240	2,673	159,100
May	78,354	3,830	924	2,528	155,400
June	26,461	2,410	25	882	52,480
July	3,999	640	23	129	7,930
August	9,121	890	25	294	18,090
September	18,065	1,380	25	602	35,830
Water year 1948-49	526,449	3,830	23	1,442	1,045,000

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

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 1949.

Extremes.- Maximum daily discharge during year, 500 second-feet Apr. 11; no flow Sept. 10. 1942-49: Maximum discharge, 1,070 second-feet Apr. 21, 1948 (gage height, 4.01 feet); no flow Sept. 10, 1949.

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

Revisions (water years).- W 1040: 1943, 1944.

Rating table, water year 1948-49 (gage height, in feet, and discharge, in second-feet)

0.4	0	0.8	2.7	1.6	36	2.6	157
.5	.2	1.0	6.6	1.8	51	3.0	244
.6	.5	1.2	14	2.0	72	3.5	390
.7	1.4	1.4	24	2.3	111	4.0	574

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.3	0.5					b6.0	32	42	4.2	1.7	0.8
2	.3	.6					d8.0	28	55	6.6	1.8	.8
3	.2	1.0				a3	d15	43	62	35	1.9	.7
4	.2	b1.0					d20	63	126	100	1.8	.7
5	.4	1.0					d25	71	89	69	1.9	.7
6	.3	.7					d80	48	60	40	2.2	.5
7	.3	.8					d150	49	56	28	1.7	.4
8	.2	.9				a4	d200	43	40	19	1.5	.3
9	.2	.8					d250	37	44	22	1.7	.1
10	.3	.6					d300	46	30	31	1.7	.6
11	.3	1.0			a1		d500	62	30	28	1.2	1.0
12	.8						434	112	29	22	1.1	.8
13	.3					a5	*342	76	33	17	1.0	.8
14	.3						186	65	37	14	.9	.9
15	.4	b1					148	70	28	12	.9	.7
16	.3		b1	a1			140	57	24	9.9	.9	.5
17	.3					(*)	128	112	25	8.0	.9	.6
18	.3			(*)		a6	115	114	34	8.6	.9	.6
19	.3	1.0					100	80	34	12	.8	.7
20	.3	1.0					103	50	28	6.9	.8	.6
21	.3	1.0					74	40	20	4.8	.7	.6
22	.2						72	34	11	4.6	.7	.6
23	.2					b5	82	27	8.0	4.4	.8	.6
24	.2						93	24	6.9	3.1	1.1	1.5
25	a.3	b1			a2		84	28	6.0	2.9	1.1	1.7
26	.3						62	31	8.3	2.4	1.0	1.3
27	*.4						50	28	11	1.8	.9	1.1
28	.4					b6	51	30	8.0	1.4	.9	1.0
29	.6				-	(*)	58	27	6.4	1.5	.8	1.2
30	.6	(*)			-		47	23	5.4	1.9	.8	1.2
31	.5	-			-		-	22	-	1.9	.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	9.8	0.6	0.2	0.32	19
November	27.9	-	-	.93	55
December	31	-	-	1	61
Calendar year 1948	7,202.8	499	-	19.7	14,280
January	31	-	-	1	61
February	36	-	-	1.3	71
March	151	-	-	4.9	300
April	3,923.0	500	6.0	131	7,780
May	1,552	114	22	50.1	3,080
June	997.0	126	5.4	33.2	1,980
July	523.9	100	1.4	16.9	1,040
August	36.9	2.2	.7	1.19	73
September	23.6	1.7	.1	.79	47
Water year 1948-49	7,343.1	500	-	20.1	14,570

Peak discharge (base, 300 sec.-ft.).- Apr. 11 (time and discharge unknown).

* Winter discharge measurement made on this day.

a No gage-height record; discharge interpolated, or computed on basis of 1 discharge measurement, weather records, and records for stations on nearby streams.

b Stage-discharge relation affected by ice.

d Doubtful gage-height record; discharge computed on basis of 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.

Records available.- October 1945 to September 1949. April to September 1942 and May to September 1943 in Upper Bear River Water Commissioner's reports, Utah; April 1944 to September 1948 in Upper Bear River Water Commissioner's, Utah, and Bear River Hydrometric Data reports.

Extremes.- Maximum daily discharge during year, 121 second-feet May 11, 12, 16; no flow about half of time.
1942-49: Maximum daily discharge observed, 129 second-feet Apr. 14, 1946; no flow at times each year.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Canal diverts water from Bear River in Wyoming in NW¼ 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	4.4					0	85	90	32	1.6	
2	0	4.7					0	79	94	26	.9	
3	0	4.2	3.5				0	76	90	27	.7	
4	0	6.0					0	84	91	35	.6	
5	0	2.9					0	96	94	35	.2	
6	0	3.1					0	92	86	27	0	
7	0	1.6					0	88	90	16	0	
8	0	1.6	3.0				0	95	88	13	0	
9	0	3.3					0	82	96	12	0	
10	0	4.4					0	88	100	12	0	
11	0	8.5					0	121	106	11	0	
12	0	6.7					0	121	100	12	2.8	
13	0	5.5	2.5				0	119	74	12	3.5	
14	a.5	4.7					0	115	61	10	2.1	
15	a1.0	5.5					0	116	54	7.5	0	
16	2.1	4.4					0	121	54	4.7	0	
17	2.1	3.6					0	119	48	3.1	0	
18	1.5	.2	2.0				1.9	118	51	6.7	0	
19	1.9	0					.2	108	55	7.2	0	
20	1.2	.5					0	99	54	6.2	0	
21	.2	1.0					0	89	55	4.9	0	
22	.4	2.0					0	80	55	4.2	0	
23	0	2.5					6.0	69	57	3.8	0	
24	.1	3.0					30	0	61	3.1	0	
25	0	3.0					83	30	52	2.6	0	
26	.1	2.5	0				82	75	50	1.4	0	
27	1.6	2.5					83	80	52	.6	0	
28	2.9	2.5					83	81	48	.2	0	
29	4.0	*3.0					88	94	41	.6	0	
30	4.4	3.0					92	101	36	2.6	0	
31	4.4	-					-	94	-	1.5	-	

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	28.4	4.4	0	0.92	56
November	100.8	8.5	0	3.36	200
December	55.0	-	-	1.77	109
Calendar year 1948	4,419.2	99	0	12.1	8,770
January	0	0	0	0	0
February	0	0	0	0	0
March	0	0	0	0	0
April	549.1	92	0	18.3	1,090
May	2,815	121	0	*90.8	5,580
June	2,083	106	36	69.4	4,130
July	349.9	44	.2	11.3	694
August	12.4	3.5	0	.40	25
September	0	0	0	0	0
Water year 1948-49	5,993.6	121	0	16.4	11,890

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of weather records and records for Bear River near Evanston.
Note.- Stage-discharge relation affected by ice Nov. 20 to Dec. 29.

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 1949.

Extremes.- Maximum discharge during year, 139 second-feet June 12 (gage height, 2.81 feet); minimum, 1.0 second-foot Aug. 22.
1943-49: Maximum discharge, 649 second-feet Mar. 18, 1947 (gage height, 6.08 feet); minimum, 1.0 second-foot Dec. 17, 1946, Aug. 22, 1949, but may have been less in 1946 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. Many diversions above station for irrigation.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.7	7.7					7.2	a24	a25	10	7.7	3.1
2	8.9	9.7					7.7	24	a25	7.7	6.7	3.6
3	10	11				a8	13	24	22	13	6.2	3.6
4	9.7	11					18	27	22	13	4.1	4.1
5	8.2	9.7					25	21	93	47	4.6	5.6
6	9.7	10					*41	13	65	* 31	5.1	4.1
7	10	8.2					60	13	46	18	4.6	4.1
8	9.7	7.7	a8	a7.5	a6.5	a12	86	21	34	11	3.6	4.1
9	12	8.9					75	23	28	8.9	5.6	4.1
10	13	11					63	22	26	8.2	6.7	4.1
11	13	12					63	22	26	8.2	8.2	3.6
12	13	11					65	23	48	7.2	8.2	5.1
13	13	11				a20	65	25	21	7.2	8.2	5.1
14	12	9.7					45	28	16	6.7	7.2	5.1
15	12	9.7					30	20	14	6.2	6.7	5.1
16	12	8.9					18	24	12	5.6	5.6	5.6
17	10	9.7					24	31	10	5.6	5.6	3.6
18	9.7	5.6				(*)b28	20	55	16	5.6	5.1	3.1
19	9.7			(*)			a25	a45	62	8.9	4.6	4.1
20	9.7						a30	a38	17	9.7	3.6	4.1
21	8.2				a7		a38	a32	7.2	8.9	2.9	4.1
22	7.7						a30	a25	6.7	8.9	2.0	4.6
23	7.2		a7.5	a7		(*)b20	a25	a22	5.6	10	2.3	4.1
24	7.2	a7					a35	a20	6.2	7.2	4.1	4.1
25	7.2						a33	a21	6.7	5.6	3.6	4.1
26	7.2						a30	a23	7.7	11	2.9	5.6
27	7.7						a28	a24	10	11	3.1	4.6
28	7.2					b10	a26	a23	9.7	13	3.6	4.6
29	7.7				-	(*)	a25	a22	9.7	12	3.1	5.1
30	7.2				-		a25	a21	9.7	9.7	2.5	7.2
31	7.2	-			-		-	a21	-	8.9	2.7	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	294.7	13	7.2	9.51	585
November	256.5	-	-	8.55	509
December	240.0	-	-	7.74	476
Calendar year 1948	7,491.2	211	-	20.5	14,860
January	224.5	-	-	7.24	445
February	188.5	-	-	6.73	374
March	500	-	-	16.1	992
April	1,075.9	86	7.2	35.9	2,130
May	777	55	13	25.1	1,540
June	707.2	93	5.6	23.6	1,400
July	344.9	47	5.6	11.1	684
August	150.7	8.2	2.0	4.86	299
September	133.1	7.2	3.1	4.44	264
Water year 1948-49	4,893.0	93	-	13.4	9,700

Peak discharge (base, 200 sec.-ft.).- No peak above base.
* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of 2 discharge measurements, weather records, and records for stations on nearby streams.
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 1949.

Extremes.- Maximum discharge during year, 743 second-feet May 29 (gage height, 3.57 feet); minimum, 47 second-feet Apr. 2, but may have been less during period of ice effect.
1942-49: Maximum discharge, 1,120 second-feet May 9, 1947 (gage height, 4.21 feet); minimum, 37 second-feet May 11, 1948, but may have bee less during period of ice effect.

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

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	92	80	b72			b60	59	324	661	309	152	108
2	90	86	*b73			b60	58	306	598	339	152	108
3	88	88	75			b60	62	358	548	302	152	108
4	90	83	72			b60	65	382	514	299	152	108
5	95	80				b60	71	347	510	288	148	106
6	93	83				b60	75	320	510	278	145	102
7	92	b80				b60	83	309	510	265	143	101
8	92	*b75				61	95	317	524	259	143	101
9	90	b72				61	95	347	547	253	145	99
10	88	78				*58	101	390	578	253	150	102
11	88	77				58	110	455	593	246	141	104
12	86	77				58	123	491	593	237	141	104
13	85	77				58	123	505	588	234	136	102
14	85	75				58	116	519	563	228	134	101
15	95	77				58	116	588	543	222	129	99
16	92	74		b65	b60	59	132	624	534	216	129	97
17	85	78	b70			61	148	682	519	214	127	97
18	85	b72				61	172	699	534	208	125	97
19	85	b70				62	208	704	538	205	123	95
20	85	b74		(*)		65	234	721	491	199	119	93
21	83	b74				65	211	693	464	194	119	93
22	83	b70				64	222	666	442	188	116	93
23	83	75				65	302	661	424	186	127	92
24	83	77				64	362	624	403	180	134	90
25	83	75				61	386	614	386	178	121	90
26	83	75				61	382	624	386	175	116	88
27	82	b70				62	390	650	370	170	114	88
28	82	b68				58	420	704	347	168	114	88
29	80	b70			-	59	420	732	327	165	112	93
30	80	b72			-	61	370	715	320	160	110	95
31	80	-			-	59	-	688	-	158	108	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	2,683	95	80	86.5	5,320
November	2,282	88	68	76.1	4,530
December	2,182	-	-	70.4	4,330
Calendar year 1948	69,116	1,040	-	189	137,100
January	2,015	-	-	65	4,000
February	1,680	-	-	60	3,330
March	1,877	65	58	60.5	3,720
April	5,711	420	58	190	11,330
May	16,759	732	306	541	33,240
June	14,866	661	320	496	29,490
July	6,976	339	158	225	13,840
August	4,077	152	108	132	8,090
September	2,942	108	88	98.1	5,840
Water year 1948-49	64,050	732	-	175	127,100

Peak discharge (base, 580 sec.-ft.).- May 29 (5:15 p.m.) 743 sec.-ft.
* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

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. Prior to Aug. 11, 1949, at site 85 feet downstream, different datum.

Drainage area.- 275 square miles.

Records available.- April 1942 to September 1949.

Extremes.- Maximum discharge during year, 689 second-feet May 20 (gage height, 3.94 feet, site and datum then in use); minimum, 25 second-feet Aug. 22.
1942-49: Maximum discharge, 1,090 second-feet May 12, 1947, (gage height, 5.53 feet, site and datum then in use); minimum, that of Aug. 22, 1949.

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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	76	81	*97				82	380	594	213	51	33
2	76	78	100				83	352	552	216	52	33
3	74	92	100				88	377	501	216	55	33
4	76	94	100				91	430	464	225	56	39
5	a77	86					99	409	464	218	54	38
6	a78	94					116	383	476	191	51	33
7	78	100					128	372	489	173	48	32
8	77	*97					143	366	439	164	49	32
9	77	104					150	380	451	158	59	40
10	78	109					154	403	476	154	94	59
11	82	97					160	445	486	150	100	60
12	80	97					175	473	495	145	92	68
13	74	97				85	182	486	482	141	85	71
14	80	96					175	479	464	141	74	71
15	81	96					173	520	436	131	80	71
16	85	96		90	85		184	559	415	122	38	66
17	82	100					202	627	397	113	34	65
18	81	96	95				211	660	394	111	30	71
19	81	92					234	680	427	113	29	70
20	82	90		(*)			286	680	380	111	28	68
21	80	90					264	673	352	107	28	59
22	78	90					252	637	330	88	26	53
23	77	90					292	614	312	73	29	52
24	74	96					336	591	296	69	34	44
25	74	97				85	386	555	274	63	35	41
26	73	94				86	392	543	267	62	32	40
27	77	90				85	403	568	260	61	31	46
28	81	88				*77	430	607	238	57	31	56
29	81	90			-	76	458	623	227	57	31	60
30	81	92			-	82	424	617	220	53	36	73
31	81	-			-	82	-	594	-	51	43	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	2,432	85	73	78.5	4,820
November	2,809	109	78	93.6	5,570
December	2,962	100	-	95.5	5,880
Calendar year 1948	65,000	1,060	30	178	128,900
January	2,790	-	-	90.0	5,530
February	2,380	-	-	85.0	4,720
March	2,613	-	-	84.3	5,180
April	6,753	458	82	225	13,390
May	16,083	680	352	519	31,900
June	12,058	594	220	402	23,920
July	3,947	225	51	127	7,830
August	1,515	100	26	48.9	3,000
September	1,575	73	32	52.5	3,120
Water year 1948-49	57,917	680	26	159	114,900

* Winter discharge measurement made on this day.
a No gage-height record; discharge interpolated.
Note.- Stage-discharge relation affected by ice Nov. 20-23, Nov. 26 to Mar. 24 (no gage-height record Jan. 9 to Mar. 24 ; discharge computed on basis of 2 discharge measurements, weather records, and records for station near Border).

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., in Wyoming, 0.8 mile upstream from Salt Creek, 3.7 miles east of Wyoming-Idaho State line, and 5.4 miles northeast of Geneva post office.

Drainage area.- 45.3 square miles.

Records available.- October 1939 to September 1949.

Average discharge.- 10 years, 13.6 second-feet.

Extremes.- Maximum discharge during year, 78 second-feet Apr. 24 (gage height, 2.57 feet); minimum, 2.6 second-feet Nov. 8, but may have been less during periods of ice effect.
1939-49: Maximum discharge, 279 second-feet May 3, 1947 (gage height, 3.58 feet), from rating curve extended above 140 second-feet; 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 period of ice effect, which are fair. Practically no diversion above station. No regulation.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.0	4.5	(*)				5.3	50	46	14	6.3	4.0
2	4.0	5.3					5.6	49	40	13	6.3	4.0
3	4.0	6.3				b3.5	6.0	52	38	15	6.3	4.0
4	4.0	5.3					6.9	54	37	16	5.8	4.0
5	4.5	4.5					7.9	52	38	16	5.6	3.8
6	4.7	*4.2					9.1	52	37	13	5.3	3.8
7	4.5	4.2				b3.8	10	50	38	12	5.3	3.6
8	4.2	4.2					15	49	33	12	5.3	3.6
9	4.2	4.1				*3.8	17	49	31	11	5.3	3.6
10	3.8	4.0				3.8	18	49	28	11	5.3	3.8
11	3.8	4.2				3.8	20	49	30	11	5.3	3.8
12	3.8	4.0				3.8	24	49	28	9.9	5.1	4.0
13	3.8	4.2		(*)		3.8	23	49	26	9.9	4.9	4.0
14	4.2	4.9				4.0	19	48	24	9.5	4.7	3.8
15	5.1	4.2				4.5	a20	52	23	9.5	4.7	4.0
16	4.7	4.2	b4.0	b3.5	b3.5	4.7	a22	57	23	8.8	4.7	3.8
17	4.5	4.2				4.9	a24	69	21	8.8	4.7	3.8
18	4.0	b4.2				5.1	a25	66	28	8.8	4.7	3.8
19	4.0	b4.2				5.3	a27	62	30	8.8	4.7	3.8
20	4.0	4.2				5.3	a31	66	21	8.5	4.5	3.8
21	4.0	4.2				5.3	31	66	20	7.9	4.5	3.6
22	4.2	b4.2				5.1	39	62	19	7.9	4.5	3.8
23	4.2	4.2				5.1	55	62	18	7.6	4.9	4.0
24	4.2	4.2				5.1	64	57	18	7.2	5.6	3.6
25	4.2	b4.2				4.9	66	54	18	6.9	5.1	3.8
26	4.5	b4.1				5.1	60	50	18	6.9	4.7	3.6
27	4.2	b4.1				5.1	64	48	18	6.9	4.5	3.6
28	4.5	b4.0				4.9	64	49	17	6.9	4.5	3.6
29	4.5	b4.0			-	5.6	66	46	16	6.6	4.5	4.2
30	4.5	b4.0			-	5.1	57	43	14	6.6	4.2	4.9
31	4.2	-			-	5.3	-	46	-	6.3	4.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	131.0	5.1	3.8	4.23	260
November	130.3	6.3	4.0	4.34	258
December	124.0	-	-	4.0	246
Calendar year 1948	6,719.7	159	-	18.4	13,340
January	108.5	-	-	3.5	215
February	98.0	-	-	3.5	194
March	138.3	5.6	-	4.46	274
April	901.8	66	5.3	30.1	1,790
May	1,656	69	43	53.4	3,280
June	796	46	14	26.5	1,580
July	304.2	16	6.3	9.81	603
August	156.0	6.3	4.2	5.03	309
September	115.5	4.9	3.6	3.85	229
Water year 1948-49	4,659.6	69	-	12.8	9,240

Peak discharge (base, 40 sec.-ft.).- Apr. 24 (11:30 p.m.) 78 sec.-ft.; May 17 (6 a.m.) 75 sec.-ft.; June 6 (3:30 p.m.) 49 sec.-ft.

* 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.

b Stage-discharge relation affected by ice (no gage-height record Jan. 8-12, Feb. 3 to Mar. 8); discharge computed on basis of 2 discharge measurements, 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 1949.

Extremes.- Maximum discharge during year, 189 second-feet May 22 (gage height, 4.54 feet); minimum, 4.9 second-feet Aug. 23.
1942-49: 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	9.8	(*)				21	176	146	30	22	13
2	14	10					21	167	147	33	23	12
3	15	12					22	162	148	35	19	12
4	14	16					24	167	150	38	19	12
5	15	14					26	173	137	37	18	12
6	15	*14				b14	30	169	137	36	17	12
7	16	15					38	162	135	31	17	12
8	15	14	b18	b17	b15		46	156	136	27	16	12
9	15	b13				(*)	50	154	129	26	17	12
10	16	13					53	153	121	27	17	12
11	16	15					57	153	115	27	17	12
12	17	14				15	70	153	111	27	17	12
13	16	14				15	72	153	109	25	16	11
14	16	14		(*)		15	68	150	84	23	16	11
15	16	14				15	62	148	57	21	16	12
16	13	14				15	61	156	45	20	16	12
17	13	15				16	63	165	38	22	16	11
18	13	15				16	64	176	33	36	17	11
19	12	b15				17	68	181	35	37	16	11
20	12	b15				18	75	186	43	35	15	12
21	11	b17				19	85	187	43	32	6.1	12
22	11	16			b14	22	82	188	41	31	5.7	11
23	11	16	b17	b16		24	87	180	39	30	5.4	11
24	11	16				23	111	181	43	30	5.5	11
25	11	16				22	131	176	41	27	5.5	10
26	10	15				22	149	170	39	26	6.3	9.5
27	9.8	b18				21	157	165	40	24	6.5	9.5
28	9.8	b18				21	163	157	40	24	7.3	9.5
29	9.8	b18			-	20	174	156	37	24	7.8	10
30	9.3	b18			-	20	181	149	20	23	8.8	10
31	9.3	-			-	20	-	145	-	22	9.5	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	406.0	17	9.3	13.1	805
November	443.8	18	9.8	14.8	880
December	542	-	-	17.5	1,080
Calendar year 1948	18,821.8	319	9.3	51.4	37,330
January	511	-	-	16.5	1,010
February	407	-	-	14.5	807
March	530	24	-	17.1	1,050
April	2,311	181	21	77.0	4,580
May	5,114	188	145	165	10,140
June	2,439	150	20	81.3	4,840
July	886	38	20	28.6	1,760
August	421.4	23	5.4	13.6	836
September	339.5	13	9.5	11.3	673
Water year 1948-49	14,350.7	188	5.4	39.3	28,460

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.- Stage-discharge relation indefinite Mar. 12 to Apr. 7; discharge computed on basis of recorded gage heights, discharge measurement made Mar. 9, weather records, and records for stations on nearby streams.

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 Wyoming-Idaho State line, and 4¾ miles northeast of Geneva post office.

Drainage area.- 37.6 square miles.

Records available.- October 1939 to September 1949.

Average discharge.- 10 years, 17.1 second-feet.

Extremes.- Maximum discharge during year, 111 second-feet Apr. 27 (gage height, 2.86 feet); minimum not determined, occurred during period of ice effect.
1939-49: Maximum discharge, 309 second-feet May 4, 1947 (gage height, 4.70 feet); maximum gage height, 4.78 feet Apr. 26, 1946; minimum discharge, 0.5 second-foot Aug. 18, 1940.

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. No diversion below station.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.7	4.7	4.7				4.8	74	63	18	7.4	6.7
2	4.5	6.0	*4.5				5.0	72	58	17	7.4	6.2
3	4.5	6.2	4.7				5.5	83	54	18	7.2	6.0
4	4.5	5.5	4.7				6.4	86	51	18	6.9	6.0
5	4.8	4.8	4.5			4.0	7.7	75	49	18	6.7	6.0
6	5.2	*4.8					9.4	70	47	17	6.4	5.5
7	5.2	4.8					11	67	45	16	6.2	5.2
8	5.0	4.6					12	68	43	15	6.0	5.0
9	4.8	4.5				*4.7	13	69	41	15	6.4	5.0
10	4.8	4.5				4.0	14	71	39	15	6.7	5.5
11	4.8	4.7				4.0	17	70	38	14	6.4	6.0
12	4.8	4.7				4.0	19	68	38	13	6.4	6.2
13	4.7	4.7		(*)		4.2	20	66	35	13	6.2	6.0
14	5.0	4.7				4.2	18	63	34	13	6.0	6.0
15	6.0	4.7				4.5	19	66	32	12	6.0	6.0
16	5.2	4.7		4.0	4.0	4.7	22	72	30	12	6.2	5.7
17	4.8	4.7				5.0	26	75	30	12	6.4	5.7
18	4.8	4.7	4.5			5.2	31	76	31	12	6.7	5.7
19	4.8	4.7				5.0	36	83	38	11	6.7	5.7
20	4.8	4.7				5.5	42	90	30	11	6.7	5.7
21	4.8	4.7				5.5	40	88	27	10	6.4	5.5
22	4.8	4.7				5.5	49	84	26	10	6.2	5.5
23	4.8	4.7				5.2	70	84	24	9.6	6.7	5.5
24	4.8	4.7				5.5	86	80	24	9.4	7.7	5.5
25	5.5	4.7				5.2	91	77	23	9.4	6.9	5.2
26	4.8	4.7				5.2	91	74	22	9.1	6.4	5.5
27	4.8	4.7				5.0	93	70	22	9.1	6.2	5.5
28	4.8	4.7				5.0	101	68	20	8.8	6.2	5.0
29	4.8	4.7			-	5.0	98	65	19	8.2	6.2	5.2
30	4.8	4.7			-	4.8	82	61	18	8.2	6.0	6.7
31	4.7	-			-	4.7	-	60	-	8.0	6.0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	151.1	6.0	4.5	4.87	300
November	144.4	6.2	4.5	4.81	286
December	140.1	-	-	4.52	278
Calendar year 1948	7,808.9	208	-	21.3	15,500
January	124.0	-	-	4.0	246
February	112.0	-	-	4.0	222
March	143.6	5.5	-	4.63	285
April	1,139.8	101	4.8	38.0	2,260
May	2,275	90	60	73.4	4,510
June	1,051	63	18	35.0	2,080
July	389.8	18	8.0	12.6	773
August	201.9	7.4	6.0	6.51	400
September	170.9	6.7	5.0	5.70	339
Water year 1948-49	6,043.6	101	-	16.6	11,980

Peak discharge (base, 50 sec.-ft.).- Apr. 27 (9 to 11 p.m.) 111 sec.-ft.; May 4 (1 a.m.) 94 sec.-ft.; May 20 (6 p.m.) 94 sec.-ft.

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 6-10, 17-19, 22, 24-28, 30, Dec. 6 to Mar. 8 (no gage-height record Jan. 10-12, Feb. 22 to Mar. 8); discharge computed on basis of 4 discharge measurements, weather records, records for Thomas Fork near Geneva and Montpelier Creek at irrigators weir, near Montpelier.

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 1949. January 1922 to September 1945 in files of Salt Lake City district office, Geological Survey.

Extremes.- Maximum discharge during year, 1,400 second-feet May 22 (gage height, 4.23 feet); minimum daily, 43 second-feet Sept. 25, 26.
1945-49: Maximum discharge, 2,820 second-feet Mar. 29, 1946 (gage height, 6.75 feet); minimum daily, 16 second-feet Sept. 13, 1948.

Remarks.- Records good except those for periods of ice effect, 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	128	171	*141	118	118	138	466	996	705	438	133	79
2	136	177	139	116	118	145	445	927	749	359	133	75
3	144	183	*144	114	116	*150	431	845	777	327	133	75
4	155	192	155	*112	*118	148	428	825	773	349	122	73
5	152	*194	163	111	118	161	466	777	741	369	116	70
6	152	189	*141	*105	118	166	522	721	777	431	103	72
7	157	180	137	*101	118	172	557	620	944	435	96	73
8	174	155	*133	107	118	172	655	572	1,010	522	97	75
9	169	*160	123	107	*118	174	705	448	996	554	99	73
10	174	155	113	*111	119	174	729	418	923	554	105	72
11	171	200	116	116	120	186	745	412	845	539	118	70
12	171	*189	126	116	120	194	765	346	813	508	122	68
13	189	166	*128	*116	121	192	765	343	753	472	120	68
14	177	180	123	111	*122	209	777	349	725	431	126	66
15	189	*177	111	105	120	218	825	343	698	398	128	68
16	192	171	*110	109	122	236	886	359	678	382	118	73
17	192	*189	*109	*113	*118	255	915	448	635	340	97	68
18	192	163	113	116	116	292	927	620	628	308	86	68
19	183	*149	116	118	118	333	915	862	678	282	84	66
20	171	128	*121	*120	124	346	919	1,170	678	252	81	68
21	174	163	126	122	*126	378	919	1,280	741	236	75	68
22	174	*160	118	122	128	421	907	1,380	753	206	75	65
23	174	180	*109	120	136	452	886	1,370	745	194	77	57
24	180	*189	95	*113	138	497	915	1,300	713	192	77	46
25	183	177	91	111	*143	494	987	1,260	709	174	82	43
26	183	*163	97	113	145	476	1,010	1,090	709	166	86	43
27	177	144	*99	*115	145	486	1,020	907	655	169	84	46
28	171	118	99	113	*140	483	1,030	849	635	180	81	44
29	174	*131	104	113	-	480	1,050	793	579	169	73	44
30	174	155	*104	118	-	476	1,030	745	504	116	70	49
31	171	-	101	*116	-	466	-	694	-	126	81	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	5,303	192	128	171	10,520
November	5,048	200	118	168	10,010
December	3,705	163	91	120	7,350
Calendar year 1948	147,580	1,800	16	403	292,700
January	3,519	122	101	114	6,980
February	3,481	145	116	124	6,900
March	9,170	497	138	296	18,190
April	23,597	1,050	428	787	46,800
May	24,069	1,380	343	776	47,740
June	22,269	1,010	504	742	44,170
July	10,178	554	116	328	20,190
August	3,078	133	70	99.3	6,110
September	1,925	79	43	64.2	3,820
Water year 1948-49	115,342	1,380	43	316	228,800

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 7, 16, 22, Jan. 3, 4, Feb. 5-8, 10-13, 28.

Montpelier Creek at irrigation 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 donwstream from South Fork and 3 miles east of Montpelier.

Drainage area.- 50.9 square miles.

Records available.- December 1942 to September 1949.

Extremes.- Maximum discharge during year, 73 second-feet May 19 (gage height, 1.25 feet); minimum, 4.1 second-feet Dec. 15, but may have been less during period of no gage-height record, or indefinite stage-discharge relation.
1942-49: Maximum discharge, 170 second-feet Apr. 19, 1946 (gage height, 2.45 feet); minimum, 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 ice effect, no gage-height record, or indefinite stage-discharge relation, which are fair. One small diversion above station for irrigation.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	11	a9.6				11	54	59	28	15	12
2	12	14	a10				12	52	53	27	15	12
3	12	15	*11			e7	12	53	49	28	15	12
4	12	14	10				15	53	48	28	15	11
5	13	12	10				16	50	48	28	14	11
6	12	11	10	a9			19	48	51	27	14	11
7	12	11	10				22	46	53	26	14	10
8	12	9.9	9.6			e8	24	46	52	25	14	10
9	11	9.9	9.3				24	46	48	24	15	10
10	11	11	10				25	46	46	24	15	10
11	11	11	10				27	45	45	23	14	10
12	11	11	10	*8.8	a7		30	45	44	23	14	10
13	11	11	9.4	8.8		e9	31	49	43	23	14	10
14	11	11	9.4	8.8			31	47	42	22	14	11
15	14	11	9.6	8.6			32	50	41	21	14	10
16	13	11	7.7	8.0		e10	35	58	40	20	14	10
17	12	11	9.3	7.6		10	39	64	38	20	14	10
18	11	9.7	9.6	b7.6		10	41	65	41	20	13	11
19	11	9.6	9.6	7.6		11	46	69	44	19	13	11
20	11	11	9.9			12	52	69	38	18	13	10
21	11	11	7.8			12	52	68	36	18	13	10
22	11	10	6.4			12	53	68	35	18	12	10
23	11	11	8.6			12	62	68	34	18	13	10
24	11	11	9.7		(*)	11	65	66	33	17	14	10
25	a11	10	8.0			11	63	62	32	17	13	10
26	a11	10	7.4	a8	e7	11	62	58	34	17	12	10
27	11	9.6	8.9			11	62	56	32	16	12	9.6
28	11	a9.6				9.6	62	56	31	16	12	10
29	11	a9.6	a9		-	10	62	54	30	15	12	11
30	11	a9.6			-	9.3	58	56	29	15	12	12
31	11	-			-	*10	-	54	-	15	12	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	356	14	11	11.5	706
November	327.5	15	9.6	10.9	650
December	286.8	11	6.4	9.25	569
Calendar year 1948	8,919.4	120	5.0	24.4	17,680
January	260.8	-	-	8.41	517
February	196	-	-	7	389
March	291.9	12	-	9.42	579
April	1,145	65	11	38.2	2,270
May	1,721	69	45	55.5	3,410
June	1,249	59	29	41.6	2,480
July	656	28	15	21.2	1,300
August	420	15	12	13.5	833
September	314.6	12	9.6	10.5	624
Water year 1948-49	7,224.6	69	-	19.8	14,330

Peak discharge (base, 60 sec.-ft.).- Apr. 24 (3 a.m.) 70 sec.-ft.; May 19 (1 a.m.) 73 sec.-ft.
* Winter discharge measurement made on this day.
a No gage-height record; discharge interpolated, or computed on basis of weather records and records for stations on nearby streams.
b Stage-discharge relation affected by ice.
e Stage-discharge relation indefinite; discharge computed on basis of 1 discharge measurement, weather records, and records for stations on nearby streams.

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 3½ 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 1949. 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, 1,146,000 acre-feet June 19-29 (elevation, 5,919.73 feet); minimum, 951,500 acre-feet Feb. 25 to Mar. 4 (elevation, 5,916.92 feet).

1921-49: 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 5,902.00 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,075	1,033	1,006	977.5	959.7	951.5	987.8	1,038	1,115	1,145	1,107	1,024
2	1,074	1,031	1,005	976.1	959.0	951.5	989.2	1,040	1,115	1,145	1,106	1,022
3	1,073	1,029	1,004	975.4	958.3	951.5	991.3	1,043	1,117	1,145	1,104	1,019
4	1,072	1,028	1,004	975.4	956.9	951.5	993.4	1,044	1,118	1,144	1,102	1,017
5	1,070	1,026	1,003	974.7	956.2	952.1	994.8	1,047	1,120	1,144	1,100	1,014
6	1,069	1,025	1,002	974.0	956.2	952.8	996.8	1,049	1,121	1,143	1,099	1,012
7	1,069	1,024	1,002	973.4	956.2	954.2	999.6	1,051	1,123	1,143	1,097	1,010
8	1,067	1,024	1,001	973.4	956.2	954.9	1,001	1,053	1,126	1,143	1,094	1,007
9	1,067	1,023	1,000	972.7	955.5	955.5	1,003	1,055	1,129	1,143	1,092	1,005
10	1,066	1,022	1,000	972.7	954.9	956.2	1,005	1,057	1,131	1,143	1,090	1,003
11	1,065	1,021	999.6	972.0	954.9	957.6	1,007	1,058	1,135	1,143	1,088	1,001
12	1,065	1,020	999.6	972.0	954.9	959.0	1,009	1,059	1,139	1,142	1,085	998.2
13	1,064	1,020	998.9	971.3	954.9	960.4	1,011	1,060	1,141	1,140	1,083	994.8
14	1,062	1,019	998.9	971.3	954.2	961.7	1,012	1,061	1,143	1,139	1,078	992.0
15	1,062	1,018	998.9	970.6	954.2	962.4	1,014	1,061	1,145	1,138	1,074	989.9
16	1,060	1,017	998.2	969.9	953.5	963.8	1,015	1,062	1,145	1,136	1,072	986.5
17	1,059	1,016	997.5	969.2	953.5	965.2	1,015	1,065	1,145	1,135	1,067	983.7
18	1,058	1,015	996.1	967.9	952.8	966.5	1,016	1,067	1,145	1,134	1,062	982.3
19	1,057	1,015	995.4	967.2	952.8	968.6	1,017	1,072	1,146	1,131	1,059	980.3
20	1,056	1,014	994.8	966.5	952.8	969.2	1,018	1,074	1,146	1,129	1,058	979.6
21	1,054	1,013	993.4	965.8	952.8	969.9	1,018	1,078	1,146	1,127	1,054	977.5
22	1,053	1,012	992.7	965.2	952.1	971.3	1,020	1,081	1,146	1,125	1,051	976.1
23	1,052	1,011	992.0	965.2	952.1	974.0	1,023	1,085	1,146	1,123	1,048	975.4
24	1,050	1,011	990.6	964.5	952.1	975.4	1,025	1,089	1,146	1,122	1,045	974.0
25	1,048	1,010	988.5	963.8	951.5	977.5	1,027	1,092	1,146	1,120	1,042	972.0
26	1,047	1,009	987.2	963.1	951.5	979.6	1,029	1,097	1,146	1,118	1,038	969.9
27	1,044	1,009	985.1	962.4	951.5	981.6	1,030	1,099	1,146	1,118	1,035	968.6
28	1,043	1,008	983.0	962.4	951.5	983.0	1,032	1,101	1,146	1,115	1,034	967.9
29	1,041	1,007	981.6	961.7	-	985.1	1,033	1,106	1,146	1,113	1,032	967.2
30	1,038	1,006	981.0	961.0	-	986.5	1,035	1,109	1,145	1,111	1,029	967.2
31	1,035	-	978.9	960.4	-	987.8	-	1,113	-	1,109	1,026	-

Monthly elevation and contents, water year October 1948 to September 1949

Date	Elevation (feet)†	Contents (thousands of acre-feet)	Change in contents during month (thousands of acre-feet)
Oct. 1	5,918.71	1,075	-42
Nov. 1	5,918.11	1,033	-27
Dec. 1	5,917.71	1,006	-28.5
Calendar year 1948	-	-	-49.5
Jan. 1	5,917.30	977.5	-17.8
Feb. 1	5,917.04	959.7	-8.2
Mar. 1	5,916.92	951.5	+36.3
Apr. 1	5,917.45	987.8	+50.2
May 1	5,918.17	1,038	+77
June 1	5,919.28	1,115	+30
July 1	5,919.71	1,145	-38
Aug. 1	5,919.17	1,107	-83
Sept.1	5,917.97	1,024	-57.5
Oct. 1	5,917.14	966.5	-
Water year 1948-49	-	-	-108.5

† Mean daily elevation.

Bear Lake Outlet Canal near Paris, Idaho

Location.- Water-stage recorder, lat. 42°13'00", 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 1949. January 1922 to September 1945 in files of Salt Lake City district office, Geological Survey.

Average discharge.- 27 years, 299 second-feet.

Extremes.- Maximum discharge during year, 1,210 second-feet Aug. 16 (gage height, 18.10 feet); minimum daily, 7 second-feet Apr. 8-18.
1923-49: 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 ice effect or no gage-height record, which are fair. Flow regulated by Bear and Mud Lakes.

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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	h520	688	429	b575	755	b135	8	9	8	996	788	h407
2	403	h579	446	b575	730	b105	8	9	8	999	800	739
3	400	494	412	590	705	b60	8	9	8	940	846	628
4	387	512	h265	640	695	14	8	9	8	937	843	587
5	370	540	210	675	685	14	8	9	8	956	885	595
6	359	550	h314	690	685	14	8	8	8	974	897	601
7	361	532	453	b705	685	14	8	8	8	996	879	641
8	366	532	b430	b700	685	14	7	8	8	987	864	722
9	370	527	b420	b695	685	14	7	8	8	1,010	912	720
10	368	537	470	b690	650	14	7	8	8	956	962	720
11	364	537	548	b700	555	14	7	8	8	980	953	703
12	361	537	553	b745	500	14	7	8	8	1,100	943	692
13	h475	535	558	b780	495	14	7	8	h147	1,180	984	694
14	584	537	548	b780	540	14	7	8	455	1,160	1,120	692
15	584	540	574	b775	605	14	7	8	469	1,140	1,190	706
16	576	537	637	b770	605	14	7	8	518	1,110	1,190	h591
17	563	543	668	b770	b605	14	7	8	513	1,080	1,140	425
18	558	543	b670	770	b510	14	7	8	516	1,050	h731	427
19	550	535	b705	770	355	14	8	8	536	1,040	h734	427
20	584	527	b770	770	b355	14	8	8	614	1,020	1,090	430
21	609	530	767	770	b350	14	8	8	725	897	1,100	439
22	645	524	b770	770	b350	14	8	8	711	700	1,100	443
23	691	524	b775	b765	b290	14	8	8	748	601	1,090	471
24	726	h376	782	b760	b230	14	8	8	837	606	1,000	543
25	711	243	770	b760	b240	14	9	8	888	604	858	548
26	676	240	765	760	b245	14	9	8	909	680	805	548
27	h465	243	765	760	b250	14	9	8	931	879	826	518
28	h187	249	760	760	b220	14	9	8	974	849	834	452
29	132	283	760	760	-	11	9	8	946	840	909	457
30	h461	384	710	755	-	8	9	8	946	843	996	476
31	714	-	600	755	-	8	-	8	-	800	h686	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	15,120	726	132	488	29,990
November	14,458	688	240	482	28,680
December	18,304	782	210	590	36,310
Calendar year 1948	171,493	1,400	10	469	340,200
January	22,540	780	575	727	44,710
February	14,260	755	220	509	28,280
March	677	135	8	21.8	1,340
April	235	9	7	7.8	466
May	253	9	8	8.2	502
June	12,479	974	8	416	24,750
July	28,910	1,180	601	933	57,340
August	28,955	1,190	686	934	57,430
September	17,042	739	407	568	33,800
Water year 1948-49	173,233	1,190	7	475	343,600

b Stage-discharge relation affected by ice.
h Discharge computed from hourly staff gage readings.
Note.- No gage-height record Dec. 25-31, Jan. 3-6, 18-22, Jan. 26 to Feb. 16, Feb. 19, Mar. 4 to June 12; discharge computed on basis of discharge measurements and records of gate changes.

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 northwest of Georgetown.

Drainage area.- 22.2 square miles.

Records available.- November 1939 to September 1949. 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, 44 second-feet June 8 (gage height, 1.58 feet); minimum daily, 25 second-feet Mar. 26 to Apr. 25.
1911-14, 1939-49: Maximum discharge observed, 162 second-feet June 8, 1915; 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 1948 to September 1949

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

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,005	34	32	32.4	1,990
November	982	34	31	32.7	1,950
December	862	31	27	28.5	1,750
Calendar year 1948	[illegible]	87	25	33.9	24,580
January	821	27	26	26.5	1,630
February	799	26	26	26.0	1,440
March	801	27	25	25.8	1,590
April	758	26	25	25.2	1,500
May	993	41	27	32.1	1,980
June	1,110	42	34	37.3	2,220
July	1,061	35	33	34.2	2,100
August	1,050	36	32	33.2	1,040
September	957	32	31	31.9	1,900
Water year 1948-49	11,136	42	25	30.5	22,090

Note.- No gage-height record Dec. 20 to Jan. 11, Feb. 11 to Mar. 7, Mar. 31 to Apr. 18, Apr. 21 to May 8; discharge computed on basis of weather records and records for stations on nearby streams.

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Cottonwood Creek near Cleveland, Idaho

Location.- Water-stage recorder, lat. 42°20', long. 111°46', in SW¼ sec. 34, T. 12 S., 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 1949.

Average discharge.- 10 years (1939-49), 30.4 second-feet.

Extremes.- Maximum discharge during year, 308 second-feet Apr. 25 (gage height, 2.85 feet); minimum, 2.4 second-feet Sept. 25, may have been less during periods of ice effect or no gage-height record.
1938-49: Maximum discharge, 680 second-feet Apr. 21, 1948 (gage height, 3.60 feet); minimum observed, 0.5 second-foot Aug. 17, 1940.

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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.5	8.7	7.0			a7.5	28	122	47	8.1	5.6	5.1
2	7.3	14	8.1			a8	30	112	43	7.5	5.6	5.1
3	7.5	14	10			a8.5	34	122	41	8.1	6.1	4.9
4	7.8	13	11			a9	46	119	38	10	6.1	5.1
5	8.7	10	10			a9.5	63	106	36	9.8	6.5	7.0
6	7.8	10	10	a10		a10	83	96	36	9.0	5.8	7.0
7	7.3	11	11			a11	104	88	36	7.8	5.6	4.0
8	8.3	12	b9.5			a11	146	81	31	7.0	5.1	3.3
9	7.3	12	b10		a7	a12	138	82	29	7.8	5.6	2.8
10	7.3	9.2	12			a13	148	87	24	7.8	7.5	3.3
11	7.3	9.8	13			a14	175	83	22	7.5	8.7	4.0
12	7.3	10	13	*11		a15	201	73	21	7.5	7.8	3.3
13	7.3	10	12	11		17	173	70	19	7.5	7.0	3.3
14	7.3	12	13	11		18	158	64	17	7.3	4.4	3.3
15	8.7	12	b12	11		20	169	63	16	7.0	4.9	3.2
16	10	11	b11			24	182	73	15	7.0	4.6	3.2
17	10	12	b10			27	199	88	13	6.8	4.6	3.7
18	10	8.7	b10	b10		31	216	82	12	7.0	4.7	4.0
19	9.8	b9	b10			37	229	112	13	9.0	4.7	4.0
20	9.5	11	11			44	249	114	11	9.2	4.7	3.8
21	9.5	11	b11	a9	a6.5	*41	201	129	10	9.5	4.2	3.8
22	9.2	11	b10			39	196	103	9.8	6.1	4.2	4.0
23	9.2	*11	b10		(*)	35	238	94	9.2	6.3	5.1	4.2
24	9.0	11	b10			32	252	83	9.0	6.1	7.0	2.9
25	9.0	9.8				30	243	74	8.4	6.1	5.8	2.6
26	8.4	9.8				29	219	71	9.8	5.8	5.6	2.6
27	9.2	b9			a7	28	201	67	10	5.8	5.3	3.0
28	9.8	b8	a10			23	189	63	9.0	5.8	5.3	3.3
29	9.5	b7		a7	-	24	187	58	8.4	5.8	5.3	4.2
30	9.2	b7.5			-	26	142	52	8.4	6.1	5.1	5.8
31	9.0	-			-	25	-	44	-	5.6	5.1	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	264.0	10	7.3	8.52	524
November	314.5	14	7	10.5	624
December	324.6	-	-	10.5	644
Calendar year 1948	12,060.5	400	0	33.0	23,930
January	290	-	-	9.4	575
February	191.5	-	-	6.84	380
March	678.5	44	7.5	21.9	1,350
April	4,839	252	28	161	9,600
May	2,675	129	44	86.3	5,310
June	612.0	47	8.4	20.4	1,210
July	227.7	10	5.6	7.35	452
August	173.6	8.7	4.2	5.60	344
September	119.8	7.0	2.6	3.99	238
Water year 1948-49	10,710.2	252	-	29.3	21,250

Peak discharge (base, 150 sec.-ft.).- Apr. 25 (1 a.m.) 308 sec.-ft.; May 21 (2:15 a.m.) 175 sec.-ft.

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of 1 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 1947 to September 1949.

Extremes.- Maximum discharge during year, 373 second-feet May 18 (gage height, 3.40 feet); minimum, 29 second-feet Jan. 29 to Feb. 17.
1947-49: Maximum discharge, 600 second-feet May 29, 1948 (gage height, 3.65 feet); minimum, 26 second-feet Feb. 12-16, 1948.

Remarks.- Records good. Three diversions above station for irrigation, one of which first diverted water Sept. 24, 1949, to Worm Creek Basin for storage in Glendale Reservoir and irrigation in vicinity of Preston. Records not equivalent after that date.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	39	41	35	33	29	32	40	134	284	94	53	42
2	38	42	35	33	29	32	41	123	263	91	52	42
3	40	42	35	33	29	33	42	132	236	88	53	42
4	39	41	35	33	29	34	47	155	221	87	52	42
5	46	39	35	33	29	34	54	160	211	86	51	37
6	36	39	35	33	29	34	62	151	208	84	49	39
7	36	39	35	33	29	34	67	149	205	81	46	41
8	36	39	34	33	29	33	75	158	205	80	47	42
9	36	39	33	33	29	33	75	180	205	77	48	44
10	36	39	34	32	29	33	75	228	197	71	48	45
11	37	39	35	32	29	33	79	284	194	66	47	44
12	39	39	35	32	29	34	84	292	188	68	46	42
13	39	39	35	32	29	35	86	296	175	66	46	43
14	40	39	34	32	29	37	84	310	170	66	45	43
15	40	38	34	32	29	39	83	318	160	65	43	42
16	40	38	33	32	29	42	84	332	158	60	42	42
17	42	39	34	32	29	44	88	336	158	59	43	40
18	41	38	34	31	30	45	91	359	151	60	43	40
19	38	38	34	31	30	50	96	345	147	59	43	39
20	38	37	34	31	30	51	104	341	140	60	43	40
21	37	37	34	31	30	50	102	332	135	60	41	40
22	37	37	33	31	30	47	103	323	130	59	42	40
23	37	37	33	31	31	46	112	310	128	56	44	39
24	37	37	33	31	31	44	120	314	123	53	43	36
25	37	37	33	30	31	42	132	327	115	57	43	38
26	36	36	33	30	31	42	140	327	111	57	44	37
27	37	36	33	30	31	41	144	336	109	57	42	35
28	39	36	33	30	32	39	151	345	104	55	42	38
29	41	36	33	29	-	40	158	350	103	54	42	42
30	41	36	33	29	-	40	147	332	100	55	42	42
31	41	-	33	29	-	40	-	310	-	54	42	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,196	46	36	38.6	2,370
November	1,149	42	36	38.3	2,280
December	1,052	35	33	33.9	2,090
Calendar year 1948	32,324	526	26	88.3	64,120
January	977	33	29	31.5	1,940
February	830	32	29	29.6	1,650
March	1,213	51	32	39.1	2,410
April	2,766	158	40	92.2	5,490
May	8,389	359	123	271	16,640
June	5,034	284	100	168	9,980
July	2,085	94	53	67.3	4,140
August	1,407	53	41	45.4	2,790
September	1,218	45	35	40.6	2,420
Water year 1948-49	27,316	359	29	74.8	54,200

Peak discharge (base, 350 sec.-ft.).- May 18 (11 a.m.) 373 sec.-ft.

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., 1,000 feet upstream from Bear Hollow, 1¼ miles upstream from mouth, and 3 miles southwest of town of Mink Creek.

Drainage area.- 58.7 square miles.

Records available.- April 1943 to September 1949.

Extremes.- Maximum discharge during year, 302 second-feet May 20 (gage height, 2.46 feet); minimum daily, 1.9 second-feet Aug. 18.

1948-49: Maximum daily discharge, 413 second-feet June 2, 1943, May 28, 1948; 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.

Rating table, water year 1948-49, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

0.25	0	0.7	12	1.6	117
.3	.2	.8	20	1.8	156
.4	1.1	1.0	36	2.1	220
.5	3.0	1.2	58	2.4	288
.6	6.3	1.4	85		

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.7	2.8	44	41	b36	40	33	75	166	a5.0	a4.8	4.0
2	2.6	4.0	44	b41	b36	41	17	56	150	a5.0	a4.5	6.0
3	2.6	3.3	44	b40	b36	42	11	53	126	a6.0	a4.2	5.6
4	3.3	2.6	44	b40	b36	45	16	72	114	a7.0	a4.0	5.0
5	4.5	2.8	43	b40	37	44	25	72	103	6.0	4.0	4.0
6	4.0	2.8	43	b40	b38	46	30	59	98	5.3	2.8	3.7
7	4.0	3.6	*43	b40	38	46	31	48	102	5.3	2.8	3.7
8	4.0	2.4	41	b40	38	46	42	53	114	5.0	2.4	4.0
9	4.0	2.4	41	b40	38	46	33	66	103	4.6	2.4	4.0
10	3.7	2.6	43	b39	36	48	27	90	82	4.6	2.4	4.3
11	3.0	2.6	43	b39	37	51	30	114	68	4.6	2.0	5.0
12	3.0	3.4	44	*b39	36	54	32	126	57	5.0	1.9	4.3
13	3.0	2.4	44	39	b36	58	30	130	42	4.6	2.2	4.0
14	3.3	2.4	43	39	b36	64	23	128	33	5.3	2.4	4.0
15	4.0	2.2	43	39	b36	*68	18	156	21	5.3	2.8	3.7
16	3.7	2.4	b40	b39	b36	77	19	198	11	5.3	2.6	3.3
17	3.3	2.6	b41	b39	37	82	30	222	7.4	5.3	2.6	3.7
18	3.3	3.4	42	b38	37	86	23	258	6.9	5.3	2.4	3.7
19	3.0	2.4	42	b38	37	92	32	279	14	5.6	2.4	3.7
20	2.8	2.8	42	b36	37	105	56	283	8.0	3.7	2.8	3.0
21	2.8	2.8	42	b38	38	85	50	270	6.3	4.0	2.6	3.3
22	2.8	2.4	b40	b38	37	81	43	249	6.3	5.3	3.0	3.3
23	2.8	2.4	b40	38	37	78	54	220	6.3	5.6	4.0	3.7
24	2.6	2.6	b40	b38	37	72	74	208	6.3	a5.5	3.3	4.0
25	2.6	2.8	b40	b37	37	64	85	218	5.6	a5.5	3.3	3.7
26	2.6	2.4	b40	b37	38	58	94	222	11	a5.5	3.7	4.0
27	a2.8	18	b40	b37	39	53	96	224	24	a28	4.0	4.0
28	a2.6	45	b40	b37	40	47	103	213	a6.0	a25	4.0	3.7
29	2.6	45	41	b36	-	42	115	198	a5.5	a5.5	3.6	5.0
30	2.6	43	40	b36	-	41	100	181	a5.2	a5.2	3.0	7.4
31	2.6	-	b40	b36	-	38	-	162	-	a5.0	2.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	97.6	4.0	2.6	3.15	194
November	214.9	43	2.2	7.16	426
December	1,297	44	40	41.8	2,570
Calendar year 1949	18,450.4	413	2.2	50.4	36,590
January	1,196	41	36	38.6	2,370
February	1,037	40	36	37.0	2,060
March	1,840	105	38	59.4	3,650
April	1,362	115	11	45.4	2,700
May	4,902	283	48	158	9,720
June	1,508.8	166	5.2	50.3	2,990
July	203.6	28	3.7	6.57	404
August	95.3	4.8	1.9	3.07	189
September	124.8	7.4	3.0	4.16	248
Water year 1948-49	13,879.0	283	1.9	38.0	27,520

* Winter discharge measurement made on this day.

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

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 and 1 mile west of Mink Creek post office.

Records available.- April 1943 to September 1949.

Extremes.- Maximum daily discharge during year, 162 second-feet May 14; no flow Nov. 28 to Mar. 14.
1943-49: Maximum daily discharge, that of May 14, 1949; no flow at times in each year.

Remarks.- Records good except those for period 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	34	32				0	34	135	144	57	25	21
2	38	38				0	57	136	143	62	26	21
3	40	40				0	70	143	143	61	26	21
4	39	41				0	78	146	143	58	24	21
5	40	41				0	90	140	143	57	23	19
6	38	42				0	a100	142	143	56	23	21
7	39	42				0	a100	145	130	54	21	21
8	38	42				0	a110	146	127	51	24	21
9	35	41				0	a120	149	125	46	26	22
10	37	42				0	a110	151	131	40	25	24
11	37	41				0	a105	156	136	40	24	23
12	34	42				0	111	160	137	40	23	23
13	37	41				0	118	160	144	38	24	24
14	38	41				0	117	162	143	35	23	23
15	39	40				2.4	112	160	142	33	24	23
16	38	40				3.9	118	147	142	29	23	21
17	36	41				4.2	123	149	139	28	23	21
18	36	38				4.2	128	150	134	32	23	21
19	36	39				9.9	130	149	132	32	22	23
20	34	39				13	129	148	124	32	22	23
21	32	38				12	125	139	117	32	21	22
22	31	37				12	125	136	109	30	21	23
23	32	38				12	128	135	104	28	26	22
24	32	38				11	128	133	101	25	24	24
25	33	38				11	129	123	97	29	23	25
26	32	38				13	129	120	78	30	23	23
27	33	14				14	129	121	77	29	23	19
28	33	0				15	131	133	84	28	22	21
29	34	0				16	132	143	79	28	21	27
30	34	0				20	133	143	75	28	22	28
31	33	-				22	-	144	-	27	22	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,102	40	31	35.5	2,190
November	1,044	42	0	34.8	2,070
December	0	0	0	0	0
Calendar year 1948	17,314	152	0	47.3	34,340
January	0	0	0	0	0
February	0	0	0	0	0
March	195.6	22	0	6.31	388
April	3,349	133	34	112	6,640
May	4,444	162	120	143	8,810
June	3,666	144	75	122	7,270
July	1,205	67	25	38.9	2,390
August	722	26	21	23.3	1,430
September	671	28	19	22.4	1,330
Water year 1948-49	16,398.6	162	0	44.8	32,520

a No gage-height record; discharge computed on basis of records for Mink Creek below Dry Fork, near Mink Creek, Mink Creek near Mink Creek, and Preston-Riverdale & Mink Creek Canal 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 1949.

Extremes.- Maximum daily discharge during year, 40 second-feet July 11, 12; no flow Nov. 29 to May 3.
1943-49: 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 period 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a15	5.6						0	8.4	37	33	30
2	a15	6.4						0	4.8	36	32	31
3	a15	6.2						0	4.4	37	33	30
4	a11	5.6						5.9	4.1	37	31	31
5	a9.5	5.1						7.1	3.8	38	31	28
6	9.4	4.9						6.2	18	39	31	29
7	9.6	4.8						5.2	21	38	29	30
8	9.6	4.8						5.2	20	37	30	30
9	9.8	5.2						14	26	38	32	31
10	9.0	5.1						22	30	38	31	32
11	8.8	4.9						25	34	40	31	31
12	8.1	4.8						25	34	40	30	30
13	8.1	4.6						31	34	39	30	31
14	8.1	4.6						36	34	39	30	31
15	7.5	4.4						36	38	39	30	30
16	7.3	4.6						23	39	37	30	30
17	7.3	4.8						3.7	38	37	30	29
18	5.8	4.4						2.5	35	38	30	28
19	5.4	4.3						2.9	33	37	29	27
20	6.2	4.3						3.0	35	37	29	27
21	6.0	4.3						2.8	36	37	28	26
22	5.8	3.8						2.3	36	36	28	27
23	5.8	3.8						14	36	35	31	26
24	6.0	3.7						17	35	34	31	22
25	6.2	3.4						17	34	35	31	23
26	6.2	3.3						16	37	35	30	23
27	6.4	4.1						13	37	12	29	21
28	5.6	.8						12	35	15	30	22
29	5.6	0						18	38	34	31	25
30	5.8	0						27	36	34	31	24
31	5.6	-						30	-	33	29	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	250.5	15	5.4	8.08	497
November	126.6	6.4	0	4.22	251
December	0	0	0	0	0
Calendar year 1948	4,522.5	43	0	12.4	8,970
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	422.8	36	0	13.6	839
June	854.5	39	3.8	28.5	1,690
July	1,098	40	12	35.4	2,180
August	941	33	28	30.4	1,870
September	835	32	21	27.8	1,660
Water year 1948-49	4,528.4	40	0	12.4	8,990

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 1949.

Extremes.- Maximum discharge during year, 533 second-feet May 20 (gage height, 3.16 feet); minimum daily, 18 second-feet Jan. 30 to Feb. 23.
1940-49: 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 or no gage-height record, which are fair. No diversions above station.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	33	28	24	23	a18	20	30	155	312	98	51	36
2	32	30	24	b23	a18	22	33	127	281	95	51	36
3	33	30	24	b23	a18	23	38	151	252	94	51	36
4	32	28	24	b23	a18	24	43	196	229	91	50	36
5	33	27	24	b23	a18	25	51	191	226	88	48	35
6	32	28	24	b23	a18	24	57	169	223	84	48	34
7	32	27	23	b23	a18	25	63	160	234	83	47	33
8	32	26	23	a23	a18	25	67	172	243	82	47	33
9	32	26	23	a23	a18	24	64	218	243	81	48	33
10	32	27	23	a22	a18	25	63	298	243	78	47	34
11	32	26	24	a22	a18	27	67	389	240	76	46	34
12	31	26	23	a22	a18	29	71	435	237	74	46	34
13	31	25	23	a22	a18	29	67	418	229	73	45	34
14	31	25	23	22	a18	32	62	430	212	71	45	33
15	32	26	23	22	a18	36	63	464	199	70	43	33
16	30	25	23	22	a18	37	67	451	189	67	43	33
17	30	26	23	b22	18	39	73	468	179	65	42	32
18	30	25	23	21	18	41	82	516	172	65	41	32
19	30	24	23	b21	18	44	97	511	167	63	41	31
20	30	24	23	21	18	46	108	503	160	62	41	31
21	30	24	23	21	18	41	99	422	149	62	40	31
22	29	24	b23	21	18	39	102	377	140	60	39	30
23	29	24	b23	20	18	37	127	342	132	59	42	30
24	29	25	23	b20	19	33	162	338	127	58	40	30
25	29	25	b23	b19	19	30	179	354	121	57	39	30
26	29	25	b23	b19	19	30	186	385	119	57	38	30
27	29	24	23	b19	19	30	202	406	115	56	38	30
28	29	24	23	a19	20	28	220	422	108	54	38	30
29	29	24	23	a19	-	27	220	426	107	53	37	32
30	28	24	23	a18	-	27	194	393	102	53	37	31
31	28	-	23	a18	-	28	-	354	-	52	37	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	948	33	28	30.6	1,880
November	772	30	24	25.7	1,530
December	726	24	23	23.2	1,430
Calendar year 1948	33,645	634	18	91.9	66,710
January	659	23	18	21.3	1,310
February	510	20	18	18.2	1,010
March	947	46	20	30.5	1,880
April	2,957	220	30	98.6	5,870
May	10,641	516	127	343	21,110
June	5,690	312	102	190	11,290
July	2,181	98	52	70.4	4,330
August	1,346	51	37	43.4	2,670
September	977	36	30	32.6	1,940
Water year 1948-49	28,348	516	18	77.7	56,230

Peak discharge (base, 440 sec.-ft.).-May 20 (6 a.m.) 533 sec.-ft.
a No gage-height record; discharge computed on basis of weather records and records for Mink Creek below Dry Fork, near Mink Creek.
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.- 58.7 square miles.

Records available.- March 1940 to September 1949.

Extremes.- Maximum discharge during year, 514 second-feet May 21 (gage height, 3.12 feet); minimum daily, 1.7 second-feet July 31, Aug. 4-8, 15, 16, 18-22.
1940-49: Maximum discharge, 617 second-feet June 2, 1943 (gage height, 4.34 feet); minimum daily, 0.6 second-foot Sept. 16, 1948.

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.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	9.1	11	26	28	34	58	141	314	3.2	2.5	2.8
2	19	8.8	9.8	22	29	35	61	120	264	3.0	2.2	2.5
3	17	8.8	9.6	19	28	39	67	129	217	3.0	1.8	2.2
4	16	9.4	10	22	32	44	72	161	184	3.0	1.8	2.2
5	20	9.1	9.1	22	32	47	71	164	167	3.0	1.7	2.2
6	17	8.7	10	27	30	48	77	120	160	2.8	1.7	2.2
7	15	9.4	10	26	33	50	98	96	167	2.8	1.7	2.0
8	13	9.1	9.8	26	33	49	106	104	171	2.8	1.7	2.0
9	12	8.1	9.4	25	35	51	95	101	171	2.5	2.2	2.5
10	11	9.4	10	23	33	54	84	143	152	2.8	2.2	2.5
11	8.0	9.4	11	23	33	57	97	196	134	2.8	2.0	2.5
12	9.4	9.4	11	24	33	64	91	234	123	2.5	1.8	2.8
13	8.1	7.7	11	25	26	67	85	224	73	2.5	1.8	2.8
14	9.4	19	11	23	26	77	75	229	63	2.8	1.8	2.8
15	8.8	20	8.8	25	33	88	74	261	23	3.0	1.7	2.8
16	9.4	20	17	23	34	95	79	312	18	2.8	1.7	2.5
17	9.1	21	22	20	34	98	87	372	14	2.8	2.0	2.8
18	9.1	20	24	20	31	101	98	429	11	2.8	1.7	2.8
19	9.1	18	24	23	31	111	111	484	8.9	39	1.7	5.5
20	9.1	19	26	26	30	120	149	490	6.6	35	1.7	3.0
21	9.1	18	23	23	31	107	136	477	4.8	6.2	1.7	3.2
22	9.1	18	16	20	32	98	115	470	4.8	2.8	1.7	3.2
23	9.1	19	26	17	33	93	129	384	4.5	2.5	2.0	3.0
24	9.1	20	26	23	32	87	156	378	4.2	2.2	2.5	20
25	9.1	20	21	21	31	77	178	375	4.0	2.2	2.2	4.0
26	9.1	19	23	22	32	71	172	372	4.0	2.2	2.0	4.0
27	9.1	17	26	23	33	66	167	372	3.8	2.2	2.0	3.8
28	9.1	16	26	23	34	62	183	381	3.5	2.2	2.0	3.5
29	9.1	17	27	24	-	58	215	381	3.5	2.0	2.2	5.2
30	9.1	9.8	26	25	-	56	196	355	3.0	1.8	2.2	14
31	9.1	-	23	23	-	55	-	312	-	1.7	2.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	286.6	24	9.1	7.63	469
November	358.6	21	3.1	12.9	711
December	532.7	28	9.1	17.2	1,060
Calendar year 1948	25,202.4	566	.6	68.9	49,990
January	741	37	19	23.9	1,470
February	880	34	26	31.4	1,750
March	2,159	120	34	69.6	4,280
April	3,362	215	58	112	6,670
May	8,717	490	96	281	17,290
June	2,481.6	314	3.0	82.7	4,920
July	152.9	39	1.7	4.93	303
August	60.1	2.5	1.7	1.94	119
September	115.3	20	2.0	3.84	229
Water year 1948-49	19,796.8	490	1.7	54.2	39,270

Note.- No gage-height record Jan. 25 to Feb. 3; discharge computed on basis of weather records and records for station near Preston.

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 1949.

Extremes.- Maximum daily discharge during year, 73 second-feet May 12; no flow Oct. 1-10, Aug. 21 to Sept. 30.
1943-49: Maximum daily discharge, 84 second-feet June 2, 1948; no flow at times each year.

Remarks.- Records good except those for periods of 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	12	23				*2.5	26	16	37	12	
2	0	14	23				7	25	17	36	11	
3	0	14	23	5			10	29	28	34	11	
4	0	14	23				23	30	37	34	10	
5	0	14	23				40	37	43	33	9	
6	0	14	23				42	54	50	30	9	
7	0	14	*23			(*) 1	58	63	50	27	9	
8	0	14	23	3			60	66	51	24	9	
9	0	14	23				56	69	51	21	8	
10	0	14	23				56	68	52	19	8	
11	4	14	23				58	69	60	18	8	
12	10	14	23				58	73	63	17	8	
13	10	14	23				57	68	68	16	7	
14	10	14	23				56	68	68	14	6	
15	10	14	16			(*)	56	70	68	13	6	
				2	1	1.5						
16	10	14					58	68	67	11	5	
17	10	14		(*)			58	50	66	9.7	4	
18	10	14	9				58	46	69	8.6	3	
19	10	14					61	30	72	8.6	2	
20	10	14					61	28	71	8.4	1	
21	10	14					59	18	68	7.6	0	
22	10	14				2	60	6.1	61	6.6	0	
23	10	14	8				64	4.4	56	4.4	0	
24	10	14					68	3.2	52	4.6	0	
25	10	14					70	3.1	47	5.9	0	
26	10	14		1.5			71	24	50	7.2	0	
27	10	14					72	34	52	11	0	
28	10	14					69	32	50	15	0	
29	10	18	7		-	2.5	52	36	46	14	0	
30	10	23			-		26	44	41	14	0	
31	10	-			-		-	52	-	13	0	

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	204	10	0	6.6	405
November	431	23	12	14.4	855
December	465	23	-	15.0	922
Calendar year 1948	6,441.0	84	0	17.6	12,770
January	76.5	-	-	2.47	152
February	28	-	-	1	56
March	50.0	-	-	1.61	99
April	1,544.5	69	2.5	51.5	3,060
May	1,293.8	73	3.1	41.7	2,570
June	1,590	72	16	53.0	3,150
July	522.6	37	4.4	16.9	1,040
August	146	12	0	4.7	290
September	0	0	0	0	0
Water year 1948-49	6,351.4	73	0	17.4	12,600

* Winter discharge measurement or field estimate made on this day.

Note.- No gage-height record Oct. 1 to Apr. 3 (stage-discharge relation affected by ice most of winter period), Apr. 5, July 27 to Aug. 20; discharge computed on basis of 3 discharge measurements, 3 field estimates, notes of water-master giving estimates of flow and time of gate changes at head of canal, and weather records.

Preston-Whitney Canal near Preston, Idaho

Location.- Water-stage recorder 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. Prior to May 25, 1949, staff gage at same site and datum.

Records available.- April 1946 to September 1949. April 1944 to September 1948 (irrigation seasons only) in Bear River Hydrometric Data reports.

Extremes.- Maximum daily discharge during year, 38 second-feet May 13; no flow Nov. 29 to Apr. 25.
1946-49: Maximum daily discharge, 60 second-feet June 20, 1948; no flow during winter months and at other times each year.

Remarks.- Records excellent May 25 to Sept. 30, others fair. Canal diverts from west side of Cub River for irrigation in vicinity of Preston. Staff gage read once daily prior to May 25.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.6	0.9					0	13	3.6	20	3.2	1.7
2	2.4	.9					0	12	3.2	19	3.2	1.7
3	2.2	.9					0	13	3.0	19	3.2	1.7
4	1.9	.9					0	12	2.8	19	3.2	1.7
5	1.6	.9					0	12	2.8	19	3.2	1.7
6	1.2	.9					0	12	2.8	18	3.2	1.7
7	.9	.9					0	11	2.8	18	3.0	1.7
8	.8	.9					0	11	2.8	19	3.0	1.7
9	.7	.9					0	21	2.8	19	3.0	1.7
10	.6	.9					0	20	7.7	19	3.0	1.7
11	.6	.9					0	20	12	19	3.0	1.7
12	.6	.9					0	28	14	18	3.0	1.7
13	.6	.9					0	38	21	18	3.0	1.7
14	.6	.9					0	37	26	18	3.0	1.7
15	.5	.9					0	36	25	18	3.0	1.7
16	.5	.9					0	13	25	18	3.0	1.7
17	.5	.9					0	7.7	25	18	3.0	1.7
18	.5	.9					0	6.6	25	18	3.0	1.7
19	.5	.9					0	3.7	24	18	3.0	1.7
20	.5	.9					0	2.0	23	17	3.0	1.7
21	.7	.9					0	1.8	22	17	3.0	1.7
22	.9	.9					0	1.5	22	16	2.4	1.7
23	.9	.9					0	3.6	21	16	1.7	1.7
24	.9	.9					0	5.6	21	13	1.7	1.6
25	.9	.9					0	5.6	20	10	1.6	1.6
26	.9	.9					9.7	5.4	20	7.4	1.7	1.6
27	.9	.9					14	5.2	19	4.3	1.7	1.4
28	.9	.9					14	4.7	19	3.4	1.7	1.4
29	.9	0					14	4.3	19	3.4	1.7	1.4
30	.9	0					14	4.0	19	3.2	1.7	1.4
31	.9	-					-	3.8	-	3.2	1.7	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	30.0	2.6	0.5	0.97	60
November	25.2	.9	0	.84	50
December	0	0	0	0	0
Calendar year 1948	1,908.7	60	0	5.22	3,780
January	0	0	0	0	0
February	0	0	0	0	0
March	0	0	0	0	0
April	65.7	14	0	2.19	130
May	374.5	38	1.5	12.1	743
June	456.3	26	2.8	15.2	905
July	465.9	20	3.2	15.0	924
August	81.8	3.2	1.6	2.64	162
September	49.5	1.7	1.4	1.65	98
Water year 1948-49	1,548.9	38	0	4.24	3,070

Note.- No gage-height record Oct. 21, May 19-24; discharge interpolated or computed on basis of field estimates by engineers and notes of gate changes by watermaster.

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.

Records available.- April 1946 to September 1949. April 1944 to September 1948 (irrigation season only 1944-46) 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, 133 second-feet May 15; no flow Nov. 14 to Apr. 25.
1946-49: Maximum daily discharge, 144 second-feet 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	22					0	36	20	45	40	36
2	18	25					0	22	34	43	40	37
3	18	25					0	24	34	42	40	37
4	21	22					0	36	36	41	38	36
5	17	21					0	28	38	42	38	36
6	23	22					0	28	37	41	37	35
7	27	22					0	31	37	40	38	a35
8	28	21					0	29	38	41	37	a35
9	28	20					0	58	37	42	a37	35
10	28	18					0	90	50	42	a37	36
11	30	18					0	110	58	42	a37	36
12	25	18					0	119	a65	42	a37	a36
13	24	9.6					0	126	a90	42	37	a36
14	25	0					0	118	a85	42	37	a36
15	28	0					0	133	104	39	36	a36
16	26	0					0	108	100	37	39	a36
17	24	0					0	78	96	40	40	a36
18	24	0					0	68	92	38	39	a35
19	24	0					0	60	84	7.9	39	a35
20	23	0					0	47	80	8.5	39	a35
21	22	0					0	33	73	35	38	a34
22	22	0					0	33	69	39	39	a34
23	23	0					0	32	66	40	a39	a34
24	23	0					0	33	63	41	a39	a14
25	24	0					0	33	60	41	a38	a33
26	23	0					a12	36	56	41	38	33
27	23	0					a20	37	55	41	38	33
28	23	0					a20	39	49	39	38	33
29	24	0					a13	40	48	39	38	31
30	24	0					29	35	46	39	37	26
31	24	-					-	34	-	38	36	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	729	30	13	23.5	1,450
November	263.6	25	0	8.79	523
December	0	0	0	0	0
Calendar year 1948	8,348.9	142	0	22.8	16,560
January	0	0	0	0	0
February	0	0	0	0	0
March	0	0	0	0	0
April	94	29	0	3.1	186
May	1,734	133	22	55.9	3,440
June	1,800	104	20	60.0	3,570
July	1,190.4	45	7.9	38.4	2,360
August	1,180	40	36	38.1	2,340
September	1,020	37	14	34.0	2,020
Water year 1948-49	8,011.0	133	0	21.9	15,890

a No gage-height record; discharge computed on basis of discharge measurement made Sept. 22 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.

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 1949.

Extremes.- Maximum discharge during year, 146 second-feet May 20 (gage height, 2.21 feet); minimum daily, 1.1 second-feet Oct. 1, Sept. 7-9.
1946-49: Maximum discharge, 229 second-feet May 17, 1948 (gage height, 2.88 feet); minimum daily, 1.0 second-foot Sept. 26-30, 1948.

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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.1	1.8	1.7	a2.0	a1.8	a1.7	14	59	54	8.5	2.8	1.7
2	1.2	2.8	1.6	a2.0	a1.8	a1.8	15	49	47	8.0	2.8	1.7
3	1.3	3.0	1.7	2.0	1.8	a2.1	20	58	42	7.6	2.6	1.5
4	1.4	2.1	1.7	2.1	2.0	a2.4	26	66	40	7.6	2.6	1.5
5	1.5	1.8	b1.6	2.1	2.0	a2.7	41	60	39	8.0	2.2	1.5
6	1.6	1.6	1.6	2.1	2.0	a3.0	50	52	39	8.0	2.0	1.4
7	1.7	1.7	1.6	a2.1	2.1	a3.2	58	51	39	7.6	2.1	1.1
8	1.8	1.4	1.8	a2.1	2.1	a3.1	67	53	37	6.9	2.2	1.1
9	1.8	1.8	b2.1	a2.1	2.1	a3.3	56	59	35	6.6	2.8	1.1
10	1.7	1.5	2.0	a2.1	1.8	a3.6	57	70	34	6.6	2.6	1.4
11	1.7	1.6	2.0	a2.1	1.8	a4.0	66	79	34	6.0	2.6	1.4
12	1.7	1.6	2.0	a2.1	1.7	a5.0	73	87	31	5.7	2.4	1.4
13	1.6	1.6	1.8	a2.1	a1.8	a10	66	82	26	5.7	2.4	1.5
14	1.6	1.6	1.8	h2.1	a1.7	20	57	82	24	5.4	2.1	1.5
15	2.4	1.7	2.1	a2.1	a1.7	19	57	87	22	5.4	2.1	1.4
16	2.2	1.8	b2.1	a2.1	a1.6	20	62	88	22	5.1	2.1	1.5
17	1.8	1.7	b2.1	a2.1	1.6	21	69	107	20	4.5	2.1	1.5
18	a2.0	1.6	2.2	a2.0	1.6	25	75	121	20	4.5	2.0	1.6
19	h2.2	1.4	2.0	a2.0	1.4	35	85	133	20	4.2	2.0	1.7
20	a2.3	1.6	2.1	a1.9	a1.5	39	97	134	20	4.2	1.8	1.7
21	a2.4	1.7	b2.1	a2.0	a1.5	31	85	127	18	4.0	1.7	1.6
22	a2.3	2.0	a2.0	a1.9	a1.6	26	77	119	16	3.8	1.7	1.6
23	a2.2	1.7	a2.0	a1.9	a1.8	24	95	111	16	3.8	2.2	1.5
24	a2.1	1.7	a2.1	a2.0	a1.7	20	103	99	15	3.8	2.2	1.5
25	a2.0	1.7	a2.1	a2.0	a1.7	17	101	91	14	3.6	1.8	1.5
26	h1.8	1.6	a2.0	a1.9	a1.6	15	93	87	13	3.4	1.7	1.6
27	a1.9	2.0	a2.0	a1.9	a1.6	15	85	84	12	3.2	1.6	1.6
28	a2.0	b1.9	a2.1	a1.9	a1.7	13	86	80	10	3.2	1.7	1.7
29	2.1	1.7	a2.0	a1.9	-	13	85	77	9.8	3.0	1.7	2.0
30	2.0	b1.7	a2.0	a1.9	-	13	70	69	9.4	2.8	1.6	2.2
31	1.8	-	a2.0	a1.9	-	13	-	62	-	2.8	1.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	57.2	2.4	1.1	1.85	113
November	53.4	3.0	1.4	1.78	106
December	60.0	2.2	1.6	1.94	119
Calendar year 1948	7,925.4	207	1.0	21.7	15,720
January	62.5	2.1	1.9	2.02	124
February	48.9	2.1	1.4	1.75	97
March	424.9	39	1.7	13.7	843
April	1,991	103	14	66.4	3,950
May	2,583	134	49	83.3	5,120
June	778.2	54	9.4	25.9	1,540
July	163.5	8.5	2.8	5.27	324
August	65.8	2.8	1.6	2.12	131
September	46.0	2.2	1.1	1.53	91
Water year 1948-49	6,334.4	134	1.1	17.4	12,560

Peak discharge (base, 150 sec.-ft.).- May 20 (7:30 a.m.) 146 sec.-ft.
a No gage-height record; discharge computed on basis of weather records and records for Cub River above Maple Creek, near Franklin.
b Stage-discharge relation affected by ice.
h Computed from staff-gage readings.

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 1949. April 1944 to September 1948 (irrigation season only) in Bear River Hydrometric Data reports.

Extremes - Maximum discharge during year, 228 second-feet May 19 (gage height, 2.29 feet); minimum not determined, occurred during period of no gage-height record.
1946-49: Maximum discharge, 242 second-feet May 19, 1948 (gage height, 2.34 feet); minimum daily, 5.0 second-feet Feb. 8-14, 1948.

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

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	9.9	7.7			a7.4	a15	59	124	38	17	11
2	10	13	7.7			a7.8	a16	56	109	38	17	10
3	10	12	8.1			a8.4	a19	65	87	38	17	10
4	11	10	8.1			a9.0	a23	66	86	38	17	11
5	12	9.0	b8.1			a9.4	a29	64	87	37	17	10
6	11	9.0	8.1			a9.6	a34	59	86	35	17	10
7	11	9.0	8.1	a8		a9.8	39	61	88	33	16	9.9
8	11	9.0	8.1			a9.6	42	67	90	32	16	9.9
9	10	8.6	8.1		a7	a10	39	75	90	31	16	9.4
10	9.9	7.2	8.6			a11	39	91	95	29	16	9.9
11	9.9	7.2	8.6			a12	45	104	96	28	15	9.9
12	9.9	7.2	8.6			a13	49	113	96	27	14	9.9
13	9.9	7.2	8.6			a15	46	112	90	26	13	9.4
14	10	8.1	9.0	8.1		16	41	116	83	25	12	9.0
15	12	8.1		7.7		18	41	131	79	24	12	8.6
16	10	8.1				19	46	134	77	24	12	9.0
17	9.9	8.6				18	54	170	76	24	11	9.4
18	9.9	7.7				20	59	177	73	23	11	9.0
19	9.9	b7.9			7.2	24	65	208	71	22	11	8.6
20	9.9	8.1				26	71	201	65	22	11	8.1
21	9.9	8.1				21	63	183	63	21	11	8.1
22	9.9	8.1				19	59	162	60	20	10	7.7
23	9.9	8.1	a8.5			17	72	147	57	20	12	7.7
24	9.4	8.1		a7.5	a7	16	79	140	55	20	11	7.7
25	9.4	7.7				15	79	140	51	20	11	7.7
26	9.4	7.7				15	77	143	48	19	11	7.7
27	9.9	7.7				14	79	149	47	19	11	7.7
28	9.9	b7.7				14	81	154	45	18	11	7.7
29	9.9	7.7			-	a14	77	152	42	18	11	8.1
30	10	b7.7			-	a14	66	140	41	18	11	7.7
31	9.9	-			-	a14	-	126	-	18	11	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	315.7	12	9.4	10.2	626
November	253.5	13	7.2	8.45	503
December	260.0	-	-	8.39	516
Calendar year 1948	11,896.7	211	5.0	32.5	23,600
January	239.8	-	-	7.74	476
February	196.2	-	-	7.01	389
March	446.0	26	7.4	14.4	885
April	1,544	81	15	51.5	3,060
May	3,765	208	56	121	7,470
June	2,257	124	41	75.2	4,480
July	805	38	18	26.0	1,600
August	409	17	10	13.2	811
September	269.8	11	7.7	8.99	535
Water year 1948-49	10,761.0	208	-	29.5	21,350

Peak discharge (base, 150 sec.-ft.).- May 19 (10 a.m.) 228 sec.-ft.
a No gage-height record; discharge computed on basis of weather records and records for stations on nearby streams.
b Stage-discharge relation affected by ice.

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 1949 in reports of Geological Survey. January 1936 to October 1939 (fragmentary) in reports of Little Bear River Water commissioner.

Average discharge.- 11 years (1938-49), 80.2 second-feet.

Extremes.- Maximum discharge during year, 796 second-feet Apr. 20 (gage height, 4.22 feet); minimum, 15 second-feet Aug. 11.
1938-49: Maximum discharge, 926 second-feet Apr. 19, 1946 (gage height, 5.15 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	43	50	57	53	b54	63	102	307	208	33	19	19
2	37	58	58	b52	b54	64	107	287	191	32	19	20
3	33	62	59	b48	b54	67	117	324	168	31	19	20
4	35	62	59	b45	b54	75	155	347	157	32	19	19
5	40	59	54	b42	b54	78	199	310	155	35	21	18
6	42	59	56	b48	b53	77	247	268	145	33	22	18
7	42	61	54	b52	b52	77	287	231	133	32	22	18
8	43	53	57	b56	b54	77	341	218	124	31	21	18
9	43	52	54	b56	53	77	327	224	117	30	20	18
10	36	56	57	b56	51	78	335	252	102	28	20	18
11	37	56	62	b56	54	82	341	278	98	28	20	18
12	37	57	62	b56	54	94	391	310	92	28	19	19
13	38	57	59	56	b52	91	430	290	78	27	19	20
14	43	57	58	56	b52	98	385	282	71	26	19	20
15	52	57	54	56	b54	121	376	287	66	26	19	20
16	48	58	47	b55	54	143	403	266	58	25	19	20
17	47	67	53	b54	54	157	430	430	53	25	19	21
18	44	59	54	b54	56	170	433	464	59	25	19	21
19	38	54	54	b52	56	204	467	482	74	24	19	23
20	38	58	57	b54	57	236	696	485	62	23	19	25
21	38	57	57	b54	58	187	542	476	53	23	19	26
22	36	57	53	b54	59	175	512	412	47	22	18	28
23	40	57	53	b54	61	159	545	370	46	21	18	27
24	42	61	53	b50	61	135	570	344	44	20	20	26
25	43	58	b47	45	61	128	536	332	42	20	19	26
26	44	57	b45	46	59	128	482	296	43	20	20	25
27	45	53	b47	50	61	122	452	296	43	20	19	25
28	47	51	b50	54	62	110	443	279	36	20	19	25
29	47	54	53	52	-	105	455	257	34	19	19	31
30	48	52	53	54	-	100	388	229	35	19	19	37
31	48	-	53	54	-	100	-	201	-	19	19	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,296	52	33	41.8	2,570
November	1,709	67	50	57.0	3,390
December	1,689	62	45	54.5	3,350
Calendar year 1948	40,510	669	17	111	80,350
January	1,624	56	42	52.4	3,220
February	1,558	62	51	55.6	3,090
March	3,578	236	63	115	7,100
April	11,494	696	102	383	22,800
May	9,851	485	201	318	19,540
June	2,634	208	34	87.8	5,220
July	797	35	19	25.7	1,580
August	602	22	18	19.4	1,190
September	669	37	18	22.3	1,330
Water year 1948-49	37,501	696	18	103	74,380

Peak discharge (base, 400 sec.-ft.).- Apr. 13 (1:30 a.m.) 506 sec.-ft.; Apr. 20 (9:30 to 10:30 a.m.) 796 sec.-ft.; May 17 (5 p.m.) 570 sec.-ft.

b Stage-discharge relation affected by ice.

Note.- No gage-height record Jan. 25-31, July 8-31; discharge computed on basis of weather records and records for stations on nearby streams.

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 1949.

Extremes.- Maximum contents observed during year, 15,280 acre-feet May 8, 19, May 31 to June 15 (elevation, 4,672.0 feet); minimum, 4,900 acre-feet Sept. 30 (elevation, 46,747.3 feet).

1938-49: Maximum contents, 15,470 acre-feet May 5, 1947 (elevation, 4,672.4 feet); 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, 4,660 feet. Water used for irrigation on Hyrum project.

Cooperation.- Capacity table furnished by Bureau of Reclamation.

Revisions (water years).- W 1060: 1946(m).

Contents, in acre-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	7,380	10,010	10,050	-	-	-	-	15,280	13,310	10,010	6,340
2	5,220	-	-	-	-	-	-	-	15,280	13,220	9,920	6,230
3	-	-	-	-	10,090	-	-	-	15,280	13,170	9,750	6,160
4	-	-	-	-	-	-	-	-	15,280	13,130	9,620	6,080
5	-	-	-	-	-	-	-	-	15,280	12,940	9,410	6,010
6	-	-	-	-	-	-	-	-	15,280	12,850	9,250	5,940
7	-	-	-	-	-	-	-	-	15,280	12,580	9,160	5,900
8	-	-	-	-	-	-	-	15,280	15,280	12,480	9,000	5,900
9	-	-	-	-	-	-	-	-	15,280	12,390	8,910	5,860
10	-	-	-	-	-	10,610	11,140	-	15,280	12,210	8,830	5,860
11	-	-	10,050	-	-	-	-	-	15,280	12,210	8,670	5,860
12	6,380	-	-	-	-	-	-	-	15,280	11,850	8,580	5,830
13	-	-	-	-	-	-	-	-	15,280	11,760	8,460	5,790
14	-	-	-	-	-	-	-	-	15,280	11,720	8,380	5,720
15	-	-	-	-	10,570	-	-	-	15,280	11,670	8,340	5,650
16	-	8,910	-	-	-	-	-	-	15,190	11,580	8,300	5,570
17	-	-	-	-	-	-	-	-	15,140	11,450	8,260	5,540
18	-	-	-	-	-	-	-	-	15,090	11,400	8,180	5,500
19	-	-	-	-	-	-	-	15,280	15,040	11,140	8,060	5,500
20	-	-	-	-	-	-	-	-	15,000	11,090	7,980	5,500
21	-	-	-	-	-	-	-	-	14,950	11,000	7,700	5,470
22	-	-	-	-	-	-	-	-	14,900	10,960	7,580	5,400
23	-	-	-	-	-	-	-	-	14,810	10,830	7,260	5,320
24	-	-	-	-	-	-	-	-	14,250	10,740	6,990	5,250
25	-	-	-	-	-	10,700	-	-	14,150	10,700	6,950	5,220
26	-	-	-	-	-	-	-	-	14,100	10,610	6,880	5,150
27	-	-	-	-	-	-	-	-	14,060	10,520	6,800	5,080
28	7,110	-	-	-	10,570	-	-	-	13,960	10,440	6,720	5,010
29	-	9,960	-	-	-	-	-	-	13,920	10,350	6,650	5,010
30	-	a9,960	-	-	-	-	11,940	-	13,870	10,220	6,610	4,900
31	a7,340	-	10,050	10,050	-	10,790	-	15,280	-	10,140	6,460	-

Monthly elevation and contents, water year October 1948 to September 1949

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30	4,648.1	5,180	-
Oct. 31	-	a7,340	+2,160
Nov. 30	-	a9,960	+2,620
Dec. 31	4,660.5	10,050	+90
Calendar year 1948	-	-	-340
Jan. 31	4,660.5	10,050	0
Feb. 28	4,661.7	10,570	+520
Mar. 31	4,662.2	10,790	+220
Apr. 30	4,664.8	11,940	+1,150
May 31	4,672.0	15,280	+3,340
June 30	4,669.0	13,870	-1,410
July 31	4,660.7	10,140	-3,730
Aug. 31	4,651.6	6,460	-3,680
Sept. 30	4,647.3	4,900	-1,560
Water year 1948-49	-	-	-280

a No gage-height record; contents interpolated.

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 1949.

Average discharge.- 11 years, 56.7 second-feet.

Extremes.- Maximum discharge during year, 882 second-feet May 19 (gage height, 3.97 feet); minimum daily, 1.3 second-feet Nov. 15.
1938-49: 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 period 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.3	1.7	44	62	54	75	108	147	247	8.4	4.6	6.3
2	9.1	2.2	45	63	54	73	103	70	124	8.4	3.5	6.2
3	6.0	2.1	49	61	54	75	101	6.0	58	9.1	4.2	6.0
4	3.8	1.7	54	58	54	78	111	5.6	94	9.4	5.2	5.9
5	5.6	1.5	62	56	54	79	132	6.3	122	9.4	5.6	5.7
6	4.9	1.6	65	54	53	79	168	5.2	138	8.4	4.2	5.6
7	8.0	1.6	65	54	52	79	218	4.9	136	7.4	4.6	5.4
8	7.7	1.5	65	56	54	82	285	49	116	6.3	4.6	5.3
9	8.4	1.5	62	57	53	80	315	191	101	5.6	6.0	5.1
10	8.0	1.5	62	57	51	80	319	250	85	3.8	3.5	4.9
11	6.6	1.5	69	57	54	85	322	232	68	3.5	5.6	4.8
12	7.7	1.5	72	56	54	91	353	229	54	3.5	3.8	4.6
13	7.4	1.5	62	57	52	96	408	232	41	6.0	3.1	4.5
14	7.7	1.5	56	58	52	98	408	218	26	4.6	4.2	4.4
15	7.7	1.3	61	59	56	108	371	215	14	4.2	4.6	4.2
16	6.3	1.6	61	59	56	123	364	196	13	4.9	2.4	5.6
17	2.2	1.9	59	59	56	139	397	218	13	3.1	2.6	7.0
18	2.1	1.7	61	59	60	149	423	308	13	2.6	3.3	6.6
19	2.1	1.7	62	57	61	165	470	639	11	3.1	6.3	7.0
20	2.2	1.7	61	54	62	202	662	434	9.1	4.6	7.4	6.0
21	2.2	1.9	62	56	62	191	698	401	9.8	3.3	8.0	5.6
22	2.2	1.9	61	56	63	179	573	454	9.8	3.3	7.4	4.9
23	2.1	1.9	58	56	63	172	581	416	9.1	2.1	6.0	4.6
24	2.1	2.1	58	56	63	155	626	382	8.8	2.2	7.7	4.9
25	2.1	2.1	57	50	75	138	622	364	8.1	2.1	7.4	6.8
26	2.1	2.4	56	48	90	130	553	275	11	1.9	7.3	5.2
27	2.1	3.3	57	50	82	123	501	247	10	1.5	7.1	4.2
28	2.1	3.5	59	54	78	118	450	250	9.1	1.9	6.8	4.9
29	2.1	25	61	52	-	110	394	244	9.1	5.2	6.8	5.6
30	2.1	36	61	54	-	101	218	235	9.1	5.2	6.6	3.5
31	1.9	-	61	54	-	98	-	235	-	4.9	6.5	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	142.9	9.1	1.9	4.61	283
November	112.9	36	1.3	3.76	224
Dacember	1,848	72	44	59.6	3,670
Calendar year 1948	30,980.3	775	1.3	84.6	61,460
January	1,739	63	48	56.1	3,450
February	1,672	90	51	59.7	3,320
March	3,551	202	73	115	7,040
April	11,254	698	101	375	22,320
May	7,159.0	639	4.9	231	14,200
June	1,578.0	247	8.8	52.6	3,130
July	149.9	9.4	1.5	4.84	297
August	167.0	8.0	2.4	5.39	331
September	161.1	7.0	3.5	5.37	320
Water year 1948-49	29,534.8	698	1.3	80.9	58,580

Note.- No gage-height record Jan. 20 to Feb. 18, Aug. 26 to Sept. 14; discharge computed on basis of Water Commissioner's notes of gage changes at Hyrum Dam, weather records, and records for station near Paradise.

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 1949. April 1927 to September 1930 at site 2 miles downstream, records not equivalent.

Extremes.- Maximum discharge during year, 475 second-feet Apr. 23 (gage height, 4.61 feet); minimum, 5.0 second-feet Feb. 14.

1938-49: 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, that of Feb. 14, 1949.

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

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	13	12	13	11	a18	28	176	96	31	19	**14**
2	13	**14**	12	13	11	a20	28	168	87	31	19	14
3	13	16	12	b12	11	a21	31	189	83	31	18	14
4	13	15	12	b10	11	22	32	191	83	34	18	14
5	14	**14**	12	b9	11	23	38	166	81	32	17	14
6	**14**	13	12	b11	11	22	48	138	78	31	17	14
7	14	13	12	13	12	23	62	123	73	29	17	14
8	14	13	12	13	12	23	83	**115**	70	28	17	14
9	14	12	12	13	12	22	89	113	65	28	17	14
10	13	12	12	**a13**	12	21	105	121	62	27	17	14
11	13	12	**13**	a13	12	22	121	125	58	27	17	**14**
12	13	12	13	a13	12	23	151	142	57	27	16	14
13	13	12	13	a13	a11	23	176	138	54	26	16	14
14	13	12	13	**a13**	a11	23	168	134	52	25	16	14
15	15	13	13	a12	a12	26	171	134	51	25	16	14
16	14	13	12	a11	a12	31	**189**	131	46	24	16	14
17	14	14	13	a11	a12	34	210	191	45	24	16	14
18	14	13	13	11	a12	35	230	194	51	24	16	14
19	13	13	13	11	a12	39	267	186	51	23	16	13
20	13	13	13	12	a12	44	345	186	45	22	16	13
21	13	13	13	**13**	a13	**43**	**248**	181	42	22	16	13
22	13	13	11	12	a13	40	276	163	40	21	15	13
23	13	13	13	12	a13	39	334	149	39	20	16	13
24	13	13	12	b11	a13	36	341	138	38	20	16	13
25	13	13	10	b10	a13	35	320	131	36	20	16	13
26	13	13	12	b10	a14	33	286	125	36	20	15	13
27	13	13	12	11	a15	31	276	117	35	20	15	13
28	**13**	12	12	11	a16	31	270	109	35	20	**14**	13
29	13	12	12	b10	-	31	254	103	33	19	14	14
30	13	12	12	11	-	30	210	94	32	19	14	**14**
31	13	-	13	11	-	28	-	89	-	19	14	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	413	15	13	13.3	819
November	389	16	12	13.0	772
December	381	13	10	12.3	756
Calendar year 1948	16,859.9	389	8	46.1	33,430
January	361	13	9	11.6	716
February	342	16	11	12.2	678
March	892	44	18	28.8	1,770
April	5,387	345	28	180	10,680
May	4,460	194	89	144	8,850
June	1,654	96	32	55.1	3,280
July	769	34	19	24.8	1,530
August	502	19	14	16.2	996
September	410	14	13	13.7	813
Water year 1948-49	15,960	345	9	43.7	31,660

Peak discharge (base, 130 sec.-ft.).- Apr. 23 (8:30 p.m.) 475 sec.-ft.; May 12 (5 a.m.) 186 sec.-ft.; May 17 (2 p.m.) 267 sec.-ft.

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

b Stage-discharge relation affected by ice.

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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 1949. 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.- 36 years (1913-49), 108 second-feet.

Extremes.- Maximum discharge during year, 874 second-feet May 18 (gage height, 3.26 feet); minimum, 10 second-feet Dec. 2.
1913-49: 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. Nine discharge measurements made by Geological Survey in addition to those made by power company.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	46	24	26	16	12	12	21	276	499	128	17	15
2	39	33	19	15	12	12	18	239	445	75	16	15
3	39	32	24	13	12	12	26	311	389	75	15	15
4	42	30	26	13	12	12	28	410	376	75	15	15
5	51	21	18	13	11	13	48	398	376	83	15	15
6	46	20	22	16	11	13	75	351	356	69	16	14
7	45	21	22	17	12	12	101	287	402	58	16	14
8	45	17	20	18	11	12	118	211	393	49	16	16
9	42	19	15	16	12	12	116	214	398	48	16	16
10	38	20	22	16	12	12	124	280	402	53	16	16
11	32	18	22	16	12	13	139	343	402	45	16	16
12	32	17	21	13	12	13	158	419	406	39	16	16
13	30	17	19	16	12	13	164	415	380	39	16	16
14	30	16	18	13	11	13	155	428	331	38	16	15
15	40	20	17	13	11	14	155	508	291	30	16	15
16	32	25	13	13	11	19	176	536	265	h27	16	16
17	30	39	19	11	11	25	208	628	246	21	16	16
18	31	27	15	13	12	24	239	746	261	21	15	16
19	27	26	15	13	11	26	335	796	265	20	14	14
20	26	32	19	13	12	36	423	783	208	h83	14	13
21	26	28	15	14	12	40	331	676	185	106	14	12
22	24	26	12	13	12	43	253	583	164	h43	14	13
23	25	28	13	12	12	40	319	545	155	18	15	14
24	27	31	14	11	12	38	398	513	144	18	15	13
25	27	26	13	12	12	32	459	522	128	18	15	14
26	25	27	13	11	11	30	423	549	126	18	15	14
27	22	21	16	12	13	30	389	583	111	18	14	15
28	26	22	18	13	13	24	372	618	167	18	h17	14
29	28	25	15	13	-	25	385	623	182	17	15	14
30	22	20	14	14	-	20	331	578	170	17	15	15
31	26	-	15	h29	-	19	-	522	-	18	15	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,021	51	22	32.9	2,030
November	728	39	16	24.3	1,440
December	550	26	12	17.7	1,090
Calendar year 1948	52,497	962	10	143	104,100
January	441	29	11	14.2	875
February	329	13	11	11.8	653
March	659	43	12	21.3	1,310
April	6,487	459	18	216	12,870
May	14,891	796	211	480	29,540
June	8,623	499	111	287	17,100
July	1,385	128	17	44.7	2,750
August	477	17	14	15.4	946
September	442	16	12	14.7	877
Water year 1948-49	36,033	796	11	98.7	71,480

h Computed from hourly 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 1949.

Average discharge.- 36 years, 106 second-feet.

Extremes.- Maximum discharge during year, 189 second-feet May 13 (gage height, 2.63 feet); minimum, 1.2 second-feet Apr. 19.
1914-49: Maximum daily discharge, 198 second-feet Apr. 28-30, 1947; no flow for periods during several years.

Remarks.- Records good. 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. Seven discharge measurements made by Geological Survey in addition to those made by power company.

Rating table, water year 1948-49 (gage height, in feet, and discharge, in second-feet)

0.7	0	1.6	57
.8	4	1.8	78
.9	9	2.2	127
1.1	19	2.4	153
1.3	32	2.7	201

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	103	103	104	102	94	96	102	h89	181	h126	173	130
2	103	103	104	100	95	98	101	98	181	182	171	128
3	103	103	104	89	91	98	102	98	181	186	171	127
4	103	103	104	a90	91	100	102	100	181	h181	170	127
5	103	103	104	80	91	101	102	100	179	184	165	124
6	103	103	104	101	86	101	102	98	181	184	159	123
7	103	101	104	100	94	100	102	h144	h161	184	156	a120
8	103	104	104	103	89	101	102	184	184	184	156	a120
9	103	102	104	102	90	100	102	184	184	182	154	123
10	103	103	104	100	90	98	102	178	182	182	153	124
11	103	104	104	100	91	101	102	184	178	184	153	123
12	103	104	104	100	92	101	102	182	178	186	152	123
13	103	104	104	100	76	101	102	182	181	184	150	124
14	103	104	104	98	a85	102	102	182	184	184	148	130
15	103	102	104	98	a90	102	102	182	182	184	146	127
16	103	103	96	96	92	102	102	182	182	h181	148	120
17	103	104	101	83	94	102	103	181	184	184	148	120
18	103	104	102	94	89	101	102	181	187	184	146	126
19	103	102	100	86	94	100	h31	182	187	186	144	131
20	103	103	102	101	91	100	2	181	186	h121	141	135
21	103	104	102	89	89	101	h34	181	186	h98	141	136
22	103	104	a85	102	90	101	98	182	186	h162	140	128
23	103	104	97	97	91	101	100	182	186	186	139	127
24	103	104	100	84	91	101	100	181	186	186	137	127
25	102	104	89	78	92	98	h72	182	186	184	136	127
26	102	104	94	80	91	98	h67	184	186	182	136	126
27	101	104	100	96	94	100	h67	181	186	178	135	124
28	102	104	103	94	96	100	101	181	h108	178	132	127
29	102	104	102	77	-	102	102	179	h86	178	134	140
30	103	104	102	100	-	101	100	181	h93	176	132	143
31	103	-	101	77	-	102	-	181	-	171	132	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	3,187	103	101	103	6,320
November	3,102	104	101	103	6,150
December	3,136	104	85	101	6,220
Calendar year 1948	35,101	104	65	95.9	69,620
January	2,897	103	77	93.5	5,750
February	2,539	96	76	90.7	5,040
March	3,110	102	96	100	6,170
April	2,710	103	2	90.3	5,380
May	5,087	184	89	164	10,090
June	5,213	187	86	174	10,340
July	5,432	186	98	175	10,770
August	4,598	173	132	148	9,120
September	3,810	143	120	127	7,560
Water year 1948-49	44,821	187	2	123	88,910

a No gage-height record; discharge computed on basis of power-plant operation records.
h Computed from hourly staff-gage readings.

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 1949.

Average discharge.- 26 years (1923-49), 28.8 second-feet.

Extremes.- Maximum daily discharge during year, 133 second-feet June 17; no flow at times. 1906, 1924-49: Maximum daily discharge, 136 second-feet May 30, 31, 1930; no flow at times in most years.

Remarks.- Records excellent except 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	26	6.8	6.4	6.1	5.3	0	58	73	121	47	45
2	26	26	6.8	6.4	6.1	4.9	0	65	53	119	47	45
3	26	26	7.2	6.4	6.1	4.5	0	82	53	119	47	45
4	22	26	7.2	6.4	6.1	4.5	0	58	53	117	45	45
5	19	24	6.8	6.4	6.1	4.5	0	0.6	53	97	44	45
6	19	24	6.8	6.4	6.0	4.2	0	0	52	96	48	45
7	19	24	6.8	6.4	6.0	4.2	0	0	48	95	50	46
8	19	21	6.8	6.4	6.0	4.0	0	42	53	99	49	49
9	18	18	6.4	6.1	6.0	4.0	0	86	53	92	49	51
10	22	20	6.8	b6.1	6.0	4.0	0	103	53	86	55	51
11	27	20	6.8	6.1	6.0	3.7	0	110	58	86	49	51
12	27	20	6.8	6.1	6.0	3.7	0	93	66	83	52	51
13	27	19	6.4	6.1	5.9	3.7	0	106	81	82	47	48
14	27	18	6.4	6.1	5.9	4.0	0	113	104	80	47	43
15	29	20	6.4	6.1	5.9	3.7	0	112	117	80	51	45
16	28	13	6.1	6.1	5.9	4.5	0	78	127	82	52	48
17	28	7.2	6.1	6.4	5.9	4.5	0	50	133	77	52	48
18	28	6.8	6.1	6.1	5.9	4.9	0	24	111	74	51	42
19	27	6.8	6.1	6.1	5.9	8.0	0	12	103	72	47	33
20	27	6.8	6.1	6.1	5.8	8.9	0	11	128	68	46	27
21	27	6.8	6.1	6.4	5.8	3.7	0	13	129	65	46	28
22	27	6.8	6.1	6.8	5.8	0	0	19	132	60	47	34
23	27	6.8	6.1	6.8	5.8	0	0	18	130	58	51	34
24	26	6.8	6.1	6.4	5.8	0	0	21	128	57	51	34
25	27	6.8	6.1	6.1	5.8	0	0	41	130	53	49	35
26	25	6.8	6.4	6.1	5.7	0	0	43	129	56	46	34
27	24	6.8	6.4	6.1	5.7	0	32	44	132	57	45	37
28	24	6.8	6.4	6.1	5.3	0	58	44	128	55	45	36
29	26	7.2	6.4	6.1	-	0	50	50	130	51	44	22
30	24	6.8	6.4	6.1	-	0	47	68	126	52	44	15
31	26	-	6.4	6.1	-	0	-	85	-	47	44	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	765	29	17	24.7	1,520
November	441.0	26	6.8	14.7	875
December	200.6	7.2	6.1	6.47	398
Calendar year 1948	11,609.4	135	0	31.7	23,020
January	193.8	6.8	6.1	6.25	384
February	165.3	6.1	5.3	5.90	328
March	97.4	8.9	0	3.14	193
April	187	58	0	6.2	371
May	1,649.6	113	0	53.2	3,270
June	2,866	133	48	95.6	5,680
July	2,436	121	47	78.6	4,830
August	1,487	55	44	48.0	2,950
September	1,212	51	15	40.4	2,400
Water year 1948-49	11,700.7	133	0	32.1	23,200

b Stage-discharge relation affected by ice.

Note.- No gage-height record Jan. 30 to Feb. 26; discharge interpolated.

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 1949.

Extremes.- Maximum discharge during year, 262 second-feet Apr. 20 (gage height, 2.97 feet); minimum, 52 second-feet Feb. 8.
1943-49: Maximum discharge, 488 second-feet Apr. 18, 1946 (gage height, 4.08 feet); minimum, 36 second-feet Mar. 12, 1948.

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

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	76	75	71	64	a64	70	85	129	120	92	91	88
2	76	81	70	66	a64	72	92	124	118	96	89	88
3	76	81	70	62	a65	72	97	131	111	96	89	86
4	76	76	70	a59	b65	74	104	139	117	99	89	86
5	77	74	67	a54	66	75	120	131	118	99	88	85
6	77	75	70	a62	64	76	135	123	117	97	88	86
7	76	75	70	a63	62	77	140	118	113	96	88	86
8	76	72	70	a65	64	76	159	116	110	96	88	86
9	77	71	66	a64	63	76	151	118	108	97	99	86
10	77	74	71	a64	63	76	148	124	104	96	92	85
11	76	74	72	a64	63	80	155	129	103	95	91	85
12	74	74	71	a64	63	81	163	135	104	95	91	85
13	74	74	71	a64	60	81	161	134	101	95	88	84
14	76	74	71	a64	59	84	145	131	100	95	88	84
15	77	74	71	a63	64	95	137	135	100	95	89	84
16	74	74	64	a62	64	100	139	137	99	93	88	83
17	74	77	68	a62	63	106	145	143	97	93	88	83
18	74	72	70	a63	63	108	153	150	101	92	88	84
19	74	71	67	a60	63	120	164	156	104	92	88	84
20	72	74	70	64	63	117	209	151	100	92	86	84
21	72	72	70	64	64	111	164	156	96	93	86	83
22	75	72	63	66	66	111	159	150	93	93	86	84
23	75	72	64	64	67	107	168	142	93	93	86	84
24	75	74	66	b60	67	99	176	137	95	93	88	85
25	75	72	b62	b56	67	97	173	135	95	93	88	85
26	75	71	b60	b58	67	96	161	134	97	92	91	85
27	76	70	63	a62	67	92	153	129	96	92	89	84
28	76	64	64	a64	68	85	151	124	96	91	88	84
29	76	70	64	a58	-	83	151	123	95	89	88	85
30	75	68	64	a64	-	83	140	120	93	88	88	85
31	75	-	64	a63	-	81	-	120	-	89	89	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	2,334	77	72	75.3	4,630
November	2,197	81	64	73.2	4,360
December	2,094	72	60	67.5	4,150
Calendar year 1948	33,245	234	43	90.8	65,950
January	1,932	66	54	62.3	3,830
February	1,798	68	59	64.2	3,570
March	2,761	120	70	89.1	5,480
April	4,396	209	85	147	8,720
May	4,134	161	116	133	8,200
June	3,094	120	93	103	6,140
July	2,907	99	88	93.8	5,770
August	2,753	99	86	88.8	5,460
September	2,546	88	83	84.9	5,050
Water year 1948-49	32,946	209	54	90.3	65,360

Peak discharge (base, 150 sec.-ft.).- Apr. 11 (8:30 p.m.) 212 sec.-ft., Apr. 20 (8 a.m.) 262 sec.-ft., May 20 (3 p.m.) 170 sec.-ft.

a No gage-height record; discharge computed on basis of weather records and records for station above Utah Power & Light Co.'s dam near Hyrum.
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 1949.

Average discharge.- 35 years (1914-49), 120 second-feet.

Extremes.- Maximum discharge during year, 538 second-feet Apr. 23 (gage height, 3.64 feet); minimum daily, 61 second-feet Jan. 5.
1913-49: 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 good. 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	101	97	89	85	84	92	113	317	201	136	121	112
2	101	107	86	83	84	93	118	296	194	138	121	112
3	100	106	89	68	85	93	124	312	192	146	121	112
4	100	102	88	63	85	95	129	334	190	146	121	112
5	102	100	88	61	85	97	144	305	207	146	119	110
6	101	98	89	77	84	98	160	281	194	143	118	108
7	98	100	88	79	85	98	180	260	190	141	118	108
8	98	97	89	85	85	101	201	245	182	141	118	107
9	98	97	85	84	85	98	203	241	178	141	123	107
10	98	97	88	84	84	98	205	252	170	139	123	107
11	98	98	92	85	84	102	216	260	166	138	121	107
12	98	95	90	85	84	106	238	269	162	136	119	106
13	98	97	89	85	79	104	245	272	159	134	118	106
14	98	97	88	84	79	106	232	262	157	132	118	106
15	106	97	88	84	89	116	227	264	153	131	118	106
16	101	97	84	81	86	123	238	272	150	129	118	106
17	100	101	85	77	84	131	260	286	148	129	118	106
18	100	97	85	81	83	136	303	298	151	127	118	106
19	98	94	84	75	83	144	365	315	162	127	116	106
20	98	95	85	85	81	151	450	312	155	127	116	104
21	97	94	85	80	84	143	395	303	151	127	116	104
22	95	94	81	84	84	144	400	288	144	127	115	104
23	97	94	84	84	84	144	455	274	144	127	118	104
24	98	94	84	77	85	132	472	257	143	127	118	104
25	98	93	71	68	85	127	452	245	141	127	116	104
26	98	92	70	69	86	126	422	236	144	127	113	104
27	100	90	84	79	88	121	398	229	146	126	113	102
28	101	88	86	85	89	118	400	220	143	124	113	a102
29	100	89	85	77	-	115	395	209	141	123	113	a102
30	98	89	85	86	-	112	356	205	139	121	112	a102
31	98	-	84	84	-	112	-	201	-	121	112	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	3,072	106	95	99.1	6,090
November	2,886	107	88	96.2	5,720
December	2,648	92	70	85.4	5,250
Calendar year 1948	52,369	622	52	143	103,900
January	2,464	86	61	79.5	4,890
February	2,363	89	79	84.4	4,690
March	3,576	151	92	115	7,090
April	8,496	472	113	283	16,850
May	8,320	334	201	268	16,500
June	4,897	207	139	163	9,710
July	4,104	146	121	132	8,140
August	3,642	123	112	117	7,220
September	3,186	112	102	106	6,320
Water year 1948-49	49,654	472	61	136	98,470

Peak discharge (base, 140 sec.-ft.).- Mar. 19 (11 p.m.) 164 sec.-ft.; Apr. 12 (11:30 p.m.) 284 sec.-ft.; Apr. 23 (11:45 p.m.) 538 sec.-ft.; May 19 (8 a.m.) 329 sec.-ft.

a No gage-height record; discharge computed on basis of weather records and records for station at Hardware Ranch, near Hyrum.

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 1949.

Average discharge.- 37 years, 226 second-feet.

Extremes.- Maximum daily discharge during year, 719 second-feet June 17; no flow Mar. 19 to May 3.
1912-49: Maximum daily discharge, 729 second-feet May 19, 1946; no flow during periods in every year except 1914.

Remarks.- Records good except those for period of no gage-height record, which are fair. 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	312	103	42	20	10	14		0	296	661	585	562
2	312	90	42	20	10	14		0	225	657	563	556
3	310	88	38	20	10	14		0	329	655	563	554
4	306	87	20	20	10	14		220	352	655	579	560
5	306	86	20	20	10	14		195	306	655	594	554
6	301	86	20	20	10	14		197	332	655	600	542
7	291	84	20	20	10	14		195	345	643	613	539
8	289	83	20	20	10	14		231	423	635	619	541
9	291	80	20	20	10	14		324	522	633	627	539
10	288	76	20	20	10	14		437	613	631	627	537
11	270	75	20	20	10	14		460	649	627	633	531
12	250	71	20	13	10	14		522	685	625	641	514
13	243	64	20	10	10	14		588	711	629	655	489
14	199	63	20	10	10	14		596	709	635	655	473
15	102	61	20	10	10	14		590	705	633	657	475
16	51	60	20	10	10	14		552	715	615	655	473
17	73	60	20	10	10	14		437	719	592	655	465
18	130	59	20	10	12	7		187	713	580	659	458
19	145	60	20	10	12	0		53	711	563	657	453
20	127	61	20	10	12	0		52	713	546	657	451
21	121	61	20	10	12	0		53	715	550	655	451
22	121	59	20	10	12	0		52	705	535	643	451
23	110	56	20	10	12	0		52	689	527	613	444
24	112	49	20	10	12	0		52	677	529	596	439
25	115	46	20	10	14	0		73	677	531	573	440
26	115	47	20	10	14	0		204	677	531	573	457
27	111	47	20	10	14	0		267	671	531	573	437
28	111	47	20	10	14	0		284	657	533	575	425
29	112	42	20	10	-	0		257	655	531	567	276
30	113	42	20	10	-	0		304	659	546	546	156
31	113	-	20	10	-	0		422	-	562	556	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	5,850	312	51	189	11,600
November	1,993	103	42	66.4	3,950
December	682	42	20	22.0	1,350
Calendar year 1948	86,019	709	0	235	170,600
January	423	20	10	13.6	839
February	310	14	10	11.1	615
March	245	14	0	7.9	486
April	0	0	0	0	0
May	7,856	596	0	253	15,540
June	17,555	719	225	585	34,820
July	18,431	661	527	595	36,560
August	18,944	659	546	611	37,870
September	14,220	562	156	474	28,200
Water year 1948-49	65,489	719	0	257	171,500

Note.- No gage-height record Nov. 29 to May 3; discharge computed on basis of 5 discharge measurements and notes of gage changes by employee of Utah Power & Light Co.

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 1949.

Average discharge.- 32 years (1917-49), 50.9 second-feet.

Extremes.- Maximum daily discharge during year, 159 second-feet July 9, 10; no flow Nov. 2 to May 3.
1912-49: Maximum daily discharge, 182 second-feet June 28, July 1, 1932, June 27, 28, 1933; no flow for periods during each year.

Remarks.- Records good. 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	57	8						0	63	155	141	126
2	57	0						0	58	155	138	122
3	57	0						0	66	155	148	122
4	57	0						67	67	156	157	122
5	56	0						65	63	156	158	122
6	55	0						64	62	156	158	120
7	47	0						64	67	157	158	115
8	44	0						72	98	158	157	106
9	44	0						97	108	159	158	106
10	44	0						122	123	159	158	107
11	44	0						129	122	158	155	107
12	40	0						135	131	158	155	108
13	38	0						139	142	158	155	106
14	37	0						136	142	158	155	102
15	23	0						126	141	158	156	103
16	15	0						60	143	157	153	103
17	14	0						46	150	158	148	102
18	15	0						14	154	156	149	102
19	15	0						4.0	146	147	148	101
20	15	0						4.0	144	145	149	98
21	14	0						3.8	144	144	149	97
22	14	0						3.8	144	141	148	98
23	13	0						3.8	150	138	132	99
24	13	0						23	155	139	122	98
25	16	0						35	155	142	131	95
26	17	0						42	154	142	138	91
27	17	0						48	155	142	137	93
28	17	0						46	155	144	138	94
29	17	0						54	154	142	136	64
30	17	0						81	155	143	126	46
31	17	-						78	-	143	127	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	944	57	13	30.5	1,870
November	8	8	0	.3	16
December	0	0	0	0	0
Calendar year 1948	18,860.7	169	0	51.5	37,410
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	1,762.4	139	0	56.9	3,500
June	3,711	155	58	124	7,360
July	4,679	159	138	151	9,280
August	4,538	158	122	146	9,000
September	3,075	126	46	102	6,100
Water year 1948-49	18,717.4	159	0	51.3	37,130

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 1949.

Extremes.- Maximum discharge observed during year, 375 second-feet Mar. 18, 20, 21 (gage height, 6.20 feet); minimum observed, 20 second-feet Oct. 1, 2, 9, July 12, Aug. 8-19; minimum gage height observed, 2.06 feet Aug. 12.
1938-49: 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, 1.92 feet 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.

Revisions (water years).- W 1060: 1943(M).

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	37	46	56	59	76	100	74	34	23	23	22
2	20	37	49	56	60	76	100	62	36	23	23	22
3	21	40	50	b56	60	77	94	54	34	24	23	22
4	21	40	d51	56	60	80	89	52	32	22	23	22
5	21	40	52	56	59	82	89	50	30	22	23	22
6	21	41	52	56	55	86	89	49	28	22	23	22
7	23	41	52	52	55	102	83	46	28	22	23	22
8	23	42	53	52	55	118	83	42	32	21	20	21
9	20	40	53	52	55	138	145	42	34	21	20	22
10	21	44	53	52	55	158	139	39	36	21	20	22
11	21	45	54	54	53	228	126	35	36	21	20	22
12	22	48	58	54	53	252	113	32	32	20	20	22
13	23	49	67	55	58	295	106	31	30	22	20	22
14	25	52	76	57	57	d330	102	30	28	23	20	22
15	26	52	76	58	b57	356	100	32	24	24	20	22
16	27	52	64	58	66	361	95	37	24	24	20	22
17	28	54	62	58	62	367	88	48	22	23	20	21
18	30	54	63	58	64	375	88	64	23	24	20	21
19	29	54	56	58	64	367	87	46	23	24	20	21
20	30	*53	57	58	67	375	87	99	23	24	22	21
21	30	59	59	*57	69	375	87	153	23	23	22	21
22	30	60	50	60	69	297	79	187	23	24	22	21
23	31	58	56	59	71	296	70	174	23	24	22	22
24	31	64	54	58	71	290	67	131	23	24	24	23
25	32	61	54	59	75	257	64	101	22	24	24	24
26	30	61	55	58	*73	199	59	81	21	24	22	25
27	32	53	51	59	75	153	56	57	22	24	22	23
28	34	42	51	59	76	128	52	43	24	24	22	23
29	34	52	52	59	-	113	47	40	24	24	22	23
30	34	48	52	59	-	112	75	39	24	24	22	23
31	36	-	54	59	-	99	-	34	-	24	22	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	826	36	20	26.6	1,640
November	1,473	64	37	49.1	2,920
December	1,732	76	46	55.9	3,440
Calendar year 1948	26,584	555	19	72.6	52,740
January	1,758	60	52	56.7	3,490
February	1,753	76	53	62.6	3,480
March	6,618	375	76	213	13,130
April	2,659	145	47	88.6	5,270
May	2,004	187	30	64.6	3,970
June	818	36	21	27.3	1,620
July	713	24	20	23.0	1,410
August	669	24	20	21.6	1,330
September	663	25	21	22.1	1,320
Water year 1948-49	21,686	375	20	59.4	43,020

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
d Doubtful gage-height record; discharge computed on basis of weather records and records for stations on Little Malad River and other nearby streams.

Little Malad River above Elkhorn Reservoir, near Malad City, Idaho
(Formerly published as Little Malad River above Elkhorn Reservoir, near Malad)

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 City.

Records available.- August 1911 to August 1913, October 1931 to September 1932, November 1940 to September 1949.

Average discharge.- 10 years (1911-12, 1931-32, 1941-49), 17.5 second-feet.

Extremes.- Maximum discharge during year, 130 second-feet May 15 (gage height, 2.31 feet), from rating curve extended above 50 second-feet on basis of computation of flood flow by weir formula; minimum, 12 second-feet Aug. 21; minimum gage height, 0.49 foot Nov. 8, 30.

1911-13, 1931-32, 1940-49: Maximum discharge, 270 second-feet Feb. 22, 1948 (gage height, 3.26 feet), from rating curve extended above 50 second-feet on basis of computation of flood flow by weir formula; minimum, 6.8 second-feet Aug. 19, 1948 (gage height, 0.31 foot).

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

Discharge, in second-feet, water year October 1948 to September 1949

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

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	490	16	15	15.8	972
November	474	17	14	15.8	940
December	526	18	15	17.0	1,040
Calendar year 1948	7,587	110	13	20.7	15,050
January	514	18	15	16.6	1,020
February	431	16	15	15.4	855
March	611	25	15	19.7	1,210
April	790	32	22	26.3	1,570
May	757	35	22	24.4	1,500
June	531	22	15	17.7	1,050
July	526	18	15	17.0	1,040
August	447	17	13	14.4	887
September	430	15	14	14.3	853
Water year 1948-49	6,527	35	13	17.9	12,940

Elkhorn Reservoir near Malad City, Idaho
(Formerly published as Elkhorn Reservoir near Malad)

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 City.

Records available.- December 1940 to September 1949.

Extremes.- Maximum gage height observed during year, 10.84 feet Mar. 24; minimum gage height, below -3.3 feet for long periods.
1940-49: Maximum gage height observed, 17.0 feet Feb. 22 or 23, 1948, from high-water mark; minimum gage height, below -3.3 feet in July 1944, for long periods in 1947, in June 1948, and for long periods in 1949.

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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-1.23	-	-	-	-	-	-	6.03	-	-	-	-
2	-	-	-	-	-	-	10.02	-	-	3.04	-	(†)
3	-	-	(†)	-	-	-	-	-	-0.96	-	-	-
4	-.85	-	-	-	(†)	-	-	-	-	-	-	-
5	-	-1.25	-	-	-	9.50	-	-	-	-	(†)	-
6	-	-	-	-	-	-	-	2.54	-	-	-	-
7	-	-	-	(†)	-	-	-	-	-	-	-	-
8	.04	-	-	-	-	-	-	-	-	3.04	-	(†)
9	-	-	-	-	-	-	10.06	-	-	-	-	(†)
10	-	-	(†)	-	-	-	-	-	-.96	-	-	-
11	-	-	-	-	-	10.08	-	-	-	2.64	-	-
12	-	-2.05	-	-	(†)	-	-	-	-	-	(†)	-
13	-	-	-	-	-	-	-	-	-	-	(†)	-
14	-	-	-	(†)	-	-	10.04	1.54	-	-	-	-
15	1.04	-	-	-	-	-	9.94	-	-	e3.70	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	(†)	-	-	-	-	-	-1.96	-	-	(†)
18	-	-	-	-	-	10.54	-	-	-	-	-	-
19	-	(†)	-	-	(†)	-	-	-	-	-	(†)	-
20	-	(†)	-	-	-	-	-	-	-	-	-	-
21	-	-	-	(†)	(†)	-	-	3.64	-	-	-	-
22	.04	-	-	-	-	-	8.50	-	-	4.23	-	-
23	-	-	-	-	-	-	-	-0.22	-	-	-	-
24	-	-	(†)	-	-	10.84	-	-	.04	-	-	(†)
25	-	-	-	(†)	9.02	10.78	-	-	-	-	-	-
26	-	(†)	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	9.50	-	-	-0.96	-	-	(†)	-
28	-	-	-	(†)	-	-	-	-	-	-	-	-
29	-.96	-	-	-	-	-	-	-	-	4.45	-	-
30	-	-	-	-	-	-	-	-	-	-	-	(†)
31	-	-	(†)	-	-	-	-	-	-	-	-	-

† Below stage of -3.3 feet on this day.
e Gage height estimated.

Little Malad River below Elkhorn Reservoir, near Malad City, Idaho
(Formerly published as Little Malad River below Elkhorn Reservoir, near Malad)

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 City.

Records available.- December 1940 to September 1949.

Extremes.- Maximum discharge during year, 60 second-feet July 29; maximum gage height, 3.63 feet Jan. 24 (ice jam); no flow at times during February, March, and April.
1940-49: Maximum discharge, 113 second-feet Aug. 23, 1946, from computation of flow over weir 50 feet upstream; maximum gage height, that of Jan. 24, 1949; no flow at times during most years.

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

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	14	15	16	15	1.9	0	22	23	14	13	14
2	14	15	15	16	14	1.9	0	23	22	16	13	14
3	14	15	16	16	15	1.8	0	26	22	16	14	14
4	14	14	15	15	14	1.8	0	22	22	16	14	15
5	15	14	14	15	15	1.0	.1	22	21	17	14	15
6	14	14	14	15	15	0	.1	22	21	16	13	14
7	14	14	14	15	15	0	0	22	21	18	13	14
8	14	13	12	15	15	0	0	22	20	17	12	14
9	15	14	15	15	15	0	0	22	20	16	12	14
10	15	14	16	15	15	0	0	22	20	17	12	14
11	15	15	16	15	15	0	1.5	22	20	17	12	14
12	15	14	16	15	14	0	2.4	22	19	17	12	14
13	15	14	16	15	14	0	2.4	22	18	16	12	14
14	15	15	16	15	14	0	2.4	23	18	16	13	14
15	15	15	14	15	14	0	2.4	28	17	16	13	14
16	15	15	15	15	14	0	4.8	37	16	15	13	14
17	14	15	14	14	14	0	7.3	26	16	15	14	14
18	14	14	15	14	14	0	7.0	26	16	15	14	14
19	14	14	16	14	13	0	7.0	27	16	16	14	14
20	14	*15	16	14	13	0	11	27	17	15	14	14
21	14	15	16	15	7.9	.1	20	31	17	14	14	14
22	14	16	15	16	0	.1	20	29	16	14	14	14
23	14	16	15	16	.2	.1	20	28	16	14	14	14
24	14	16	15	16	.2	.1	19	25	16	14	15	14
25	14	16	14	*16	*.3	.1	21	24	15	14	14	14
26	14	16	15	16	.5	.1	23	24	16	14	14	14
27	14	14	16	16	1.3	.1	22	23	16	14	14	14
28	14	14	16	16	1.9	.1	21	23	16	14	14	14
29	14	15	16	15	-	.1	21	23	15	15	14	14
30	14	14	16	15	-	0	22	23	15	14	14	15
31	14	-	16	15	-	0	-	23	-	14	14	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	443	15	14	14.3	879
November	439	16	13	14.6	871
December	470	16	12	15.2	932
Calendar year 1948	6,823.6	77	3.4	18.6	13,530
January	471	16	14	15.2	934
February	299.3	15	0	10.7	594
March	9.3	1.9	0	.30	18
April	257.4	2.3	0	8.58	511
May	761	37	22	24.5	1,510
June	543	23	15	18.1	1,080
July	476	18	14	15.4	944
August	416	15	12	13.4	825
September	423	15	14	14.1	839
Water year 1948-49	5,008.0	37	0	13.7	9,937

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 25 to Jan. 7, Jan. 17-26, 29, 30, Feb. 5-10. No gage-height record Jan. 8-13, 27, Feb. 11-18; discharge computed on basis of weather records and records for Elkhorn Reservoir and station above Elkhorn Reservoir near Malad City.

Little Malad River below Sand Ridge dam site, near Malad City, Idaho
(Formerly published as Little Malad River below Sand Ridge dam site, near Malad)

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 City, and 9 miles downstream from Elkhorn Reservoir.

Records available.- October 1945 to September 1949.

Extremes.- Maximum discharge during year not determined, occurred during periods of ice effect; minimum daily, 0.2 second-foot on many days in August and September; minimum gage height observed, 1.52 feet Aug. 26, Sept. 9, 16, 23.
1945-49: Maximum discharge, 240 second-feet Feb. 22, 1948 (gage height, 9.6 feet, from floodmark), by submerged orifice method; minimum discharge recorded, 0.1 second-foot Sept. 7, 1947; minimum gage height observed, that of Aug. 26, Sept. 9, 16, 23, 1949.

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

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.5	0.5	12		5.5	3.5	2.4	1.6	1.6	0.7	0.4	a0.2
2	.5	.8	12		5.1	3.6	2.4	1.5	1.6	.6	.4	a.2
3	.5	2.3	13		5.1	3.9	2.4	1.4	1.6	.6	.5	.6
4	.5	2.4	13		5.1	4.1	2.5	1.4	1.5	.6	.5	.4
5	2.0	2.6	12		5.1	3.9	2.4	1.4	1.5	.7	.4	a.4
6	4.0	4.4	12		4.8	3.2	2.4	1.3	1.4	.6	.4	a.3
7	4.8	5.2	12	11	5.3	1.9	2.4	1.3	1.6	.5	.4	a.3
8	2.3	6.2	12		5.2	1.6	3.0	1.3	1.6	.5	.4	a.2
9	.8	8.0	6.6		5.5	1.7	2.7	1.3	1.4	.6	.4	h.2
10	.6	8.3	10		5.5	1.8	2.5	1.4	1.3	.6	.5	a.2
11	.6	8.6			5.6	1.9	2.1	1.3	1.3	.6	.4	a.2
12	.6	8.3			5.5	2.0	1.9	1.3	1.2	.6	.4	a.2
13	3.1	8.4			4.7	2.2	1.9	1.3	1.2	.6	.4	a.2
14	1.2	8.7		8.0	5.2	2.4	2.1	1.2	1.2	.6	a.4	a.2
15	.6	8.9		3.5	5.3	2.8	3.6	1.3	1.2	.6	a.4	a.2
16	.6	9.2		3.5	5.2	3.1	3.7	1.4	1.2	.6	a.4	h.2
17	.6	9.9		3.5	5.5	3.1	5.2	1.3	1.2	a.5	a.3	a.2
18	.7	9.9		3.5	6.0	2.8	5.3	1.4	1.2	.5	a.3	a.2
19	.7	10		4.0	6.0	3.1	5.5	1.5	1.2	a.5	h.3	a.2
20	.7	*11		5.0	6.0	5.0	5.1	1.7	1.0	a.5	a.3	a.2
21	.7	11	12	*4.5	6.0	5.0	5.2	10	1.0	a.5	a.3	a.2
22	.6	11		3.5	5.0	4.1	2.0	10	.9	.5	a.3	a.2
23	.6	11		3.5	2.1	3.6	1.9	3.3	.8	.5	a.2	h.2
24	.6	11		3.5	1.7	3.1	1.7	2.2	.8	a.5	a.2	a.2
25	.6	12		3.5	1.9	2.7	1.7	2.2	.8	.5	a.2	a.2
26	.6	13		3.5	*1.7	2.6	1.7	2.2	.8	.6	h.2	a.2
27	.6	13		4.0	1.6	2.5	1.7	2.1	.8	a.5	a.2	a.3
28	.5	11		4.5	2.4	2.4	1.6	2.1	.8	a.5	a.2	a.3
29	.5	11		6.0	-	2.3	1.8	2.0	.7	.4	a.2	a.3
30	.5	11		6.0	-	2.4	2.4	1.7	.7	.4	a.2	h.3
31	.5	-		6.0	-	2.3	-	1.6	-	.4	a.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	32.2	4.8	0.5	1.04	64
November	248.6	13	.5	8.29	493
December	366.6	-	6.6	11.8	727
Calendar year 1948	3,403.8	104	.3	9.30	6,740
January	222.5	-	3.5	7.18	441
February	129.6	6.0	1.6	4.63	257
March	90.6	5.0	1.6	2.92	180
April	83.2	5.5	1.6	2.77	165
May	67.0	10	1.2	2.16	133
June	35.1	1.6	.7	1.17	70
July	16.9	.7	.4	.55	34
August	10.3	.5	.2	.33	20
September	7.4	.6	.2	.25	15
Water year 1948-49	1,310.0	-	.2	3.59	2,600

* 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, near Malad City, and Malad River at Woodruff.
h Computed from staff-gage reading.
Note.- Stage-discharge relation affected by ice Nov. 27 to Dec. 1, Dec. 4-8, Dec. 11 to Feb. 1, Feb. 17-22.

Devil Creek above Campbell Creek, near Malad City, Idaho
(Formerly published as Devil Creek above Campbell Creek, near Malad)

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 City.

Records available.- November 1938 to September 1949.

Average discharge.- 10 years (1939-49), 10.2 second-feet.

Extremes.- Maximum discharge during year, 80 second-feet Apr. 11 (gage height, 1.37 feet), from rating curve extended above 47 second-feet; minimum, 2.3 second-feet Feb. 4 (gage height, 0.44 foot); minimum daily, 2.8 second-feet Feb. 5, 10.
1938-49: Maximum discharge observed, 202 second-feet Apr. 2, 1943 (gage height, 2.10 feet), from rating curve extended above 47 second-feet; minimum recorded, that of Feb. 4, 1949; minimum daily, 2.8 second-feet Dec. 11, 12, 1947, Feb. 5, 10, 1949.

Remarks.- Records fair except those for periods of ice effect or no gage-height record, which are poor. 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.6	9.2	8.0	8.8	7.2	8.4	12	17	16	11	7.6	6.4
2	7.6	10	8.0	8.8	7.2	8.4	13	16	16	11	7.6	6.8
3	7.6	10	8.4	b8.5	7.2	8.4	15	16	15	11	7.2	6.8
4	8.0	9.2	8.0	b8.4	5.5	8.8	20	16	15	10	7.2	6.8
5	8.0	9.2	7.6	b8.2	2.8	9.0	25	15	15	9.6	7.2	6.8
6	8.4	9.2	9.2	b8.2	5.5	9.0	30	15	14	9.2	6.8	6.4
7	8.4	8.8	7.2	b8.4	4.1	9.0	31	14	14	9.2	6.8	6.4
8	8.0	8.8	6.0	8.4	b3.2	9.0	43	14	14	9.2	6.8	6.0
9	9.2	8.8	8.0	b8.4	b3.0	9.0	33	15	13	9.2	7.2	6.4
10	8.8	9.2	8.8	b8.5	2.8	9.0	30	15	12	9.2	7.2	6.8
11	8.8	8.8	8.4	b8.5	3.3	9.0	36	15	13	11	6.4	6.8
12	8.8	8.8	8.0	b8.8	5.5	9.0	31	15	14	9.6	6.4	6.4
13	8.8	8.8	8.0	9.2	8.0	9.0	25	16	14	9.6	6.4	6.8
14	9.2	8.8	8.0	9.6	8.8	9.0	22	16	14	9.2	6.4	6.8
15	9.6	9.2	7.5	9.6	b3.3	9.5	22	17	14	8.8	6.8	6.8
16	9.2	9.2	8.0	9.2	3.0	10	21	18	13	8.8	6.4	6.4
17	9.2	8.8	8.0	8.4	4.9	11	21	17	13	8.8	6.8	6.0
18	9.2	8.8	8.0	8.0	8.0	11	21	18	13	8.8	6.8	6.4
19	9.2	8.8	8.0	8.4	8.8	12	20	21	13	8.4	6.8	6.4
20	9.2	8.8	8.0	9.6	8.0	13	20	22	13	8.8	6.4	6.4
21	9.2	*8.4	8.0	8.8	7.6	15	18	21	13	8.4	6.4	6.4
22	9.2	8.4	b8.0	*9.2	7.6	14	19	22	13	8.4	6.0	6.4
23	8.8	8.0	b8.2	8.4	7.6	13	19	20	13	8.4	7.2	6.4
24	9.2	7.6	8.4	b8.5	*7.6	11	19	19	12	8.0	6.8	6.4
25	9.2	7.2	b8.4	b8.5	8.0	11	18	19	12	7.6	6.8	6.8
26	9.2	7.6	b8.6	b8.0	8.0	11	18	18	12	8.0	6.8	6.8
27	9.2	7.6	8.8	7.6	8.4	11	18	18	11	8.0	6.4	6.8
28	9.2	7.6	8.8	7.2	8.4	10	18	18	11	7.6	6.8	7.2
29	9.2	7.6	8.8	7.2	-	10	19	17	11	7.6	6.4	8.0
30	9.2	7.6	8.4	7.2	-	11	18	18	10	7.6	6.8	7.2
31	9.2	-	8.8	7.2	-	11	-	16	-	7.6	6.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	273.6	9.6	7.6	8.83	543
November	258.8	10	7.2	8.63	513
December	252.3	9.2	6.0	8.14	500
Calendar year 1948	3,920.8	42	6.0	10.7	7,780
January	261.7	9.6	7.2	8.44	519
February	173.3	8.8	2.8	6.19	344
March	318.5	15	8.4	10.3	632
April	675	43	12	22.5	1,340
May	534	22	14	17.2	1,060
June	396	16	10	13.2	785
July	277.6	11	7.6	8.95	551
August	210.4	7.6	6.0	6.79	417
September	199.2	8.0	6.0	6.64	395
Water year 1948-49	3,830.4	43	2.8	10.5	7,600

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.- No gage-height record Mar. 5-24; discharge computed on basis of weather records and records for station above Evans dividers, near Malad City.

Devil Creek above Evans dividers, near Malad City, Idaho
(Formerly published as Devil Creek above Evans dividers, near Malad)

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 of Malad City.

Records available.- December 1940 to December 1943, April 1946 to September 1949.

Extremes.- Maximum discharge during year, 81 second-feet Apr. 8, from rating curve extended above 45 second-feet; maximum gage height observed, 4.76 feet Jan. 23 (ice jam); minimum not determined, occurred during period of no gage-height record.
1940-43, 1946-49: 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, 1.8 second-feet Dec. 12, 1947.

Remarks.- Records fair except 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	9.7			8.0	10	21	21	19	7.1	5.4	6.2
2	10	11			8.0	10	23	20	21	7.1	5.6	6.2
3	10	11			8.0	10	30	20	20	7.1	5.8	8.4
4	10	10			6.5	11	39	20	19	8.0	5.8	6.5
5	9.7	9.7			4.0	11	48	20	19	8.8	5.8	6.5
6	8.3	9.9			6.0	12	52	20	18	8.6	5.6	6.4
7	8.1	9.9			5.5	12	54	21	18	8.2	5.6	6.5
8	8.3	9.7			6.0	12	66	21	19	8.0	4.8	6.4
9	8.4	9.5			5.5	11	46	21	18	8.0	4.9	6.5
10	8.3	9.7			3.5	12	44	22	16	8.2	5.8	6.9
11	8.4	9.9			4.0	11	48	23	16	8.8	5.6	6.9
12	9.0	9.9	9.0		6.5	12	47	24	15	9.1	5.6	6.9
13	8.8	9.9			9.0	11	41	24	14	8.8	5.4	8.7
14	8.8	9.7			10	11	38	24	12	8.6	5.4	6.7
15	11	9.9		9.5	7.0	12	37	24	12	8.4	5.4	6.5
16	9.5	10			4.0	13	35	26	12	6.2	5.4	6.5
17	9.2	10			6.0	14	34	28	11	4.8	5.6	6.4
18	9.0	9.7			9.5	14	32	29	10	6.7	5.4	5.2
19	9.2	9.9			10	16	28	30	10	6.0	5.4	4.3
20	9.0	10			9.8	18	27	30	9.8	7.1	5.2	4.0
21	8.8	*10			9.5	22	24	31	9.3	6.9	5.4	4.0
22	8.8	10			9.5	21	25	31	9.5	6.9	5.4	5.4
23	8.8	11		(*)	9.5	18	26	31	10	6.5	6.5	6.5
24	8.8	11			*9.9	16	25	30	12	6.4	5.4	6.5
25	8.8	10			9.9	16	25	28	11	6.2	4.0	6.5
26	9.0	10	9.5		9.7	16	23	27	11	6.0	3.8	6.5
27	9.2				9.9	16	22	25	8.2	4.8	5.4	6.4
28	9.7				10	15	22	25	7.7	6.0	5.8	6.7
29	9.5	9.0		8.0	-	15	25	23	7.1	5.8	6.0	7.7
30	9.5				-	16	23	22	7.3	5.8	6.2	8.2
31	9.7	-			-	18	-	22	-	5.6	6.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	283.6	11	8.1	9.15	563
November	297.0	11	-	9.90	589
December	283.5	-	-	9.15	562
Calendar year 1948	4,870.3	63	5.2	13.3	9,660
January	287.0	-	-	9.26	569
February	214.7	10	3.5	7.67	426
March	432	22	10	13.9	857
April	1,030	66	21	34.3	2,040
May	763	31	20	24.6	1,510
June	401.9	21	7.1	13.4	797
July	220.5	9.1	4.8	7.11	437
August	169.6	6.5	3.8	5.47	336
September	189.0	8.2	4.0	6.30	375
Water year 1948-49	4,571.8	66	3.5	12.5	9,080

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Nov. 9, Nov. 27 to about Feb. 15. No gage-height record Nov. 23 to Jan. 21, Feb. 3-23; discharge computed on basis of weather records, records for station above Campbell Creek, near Malad City, and for stations on nearby streams.

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 1949.

Average discharge.- 43 years (1906-49), 228 second-feet.

Extremes.- Maximum discharge during year, 1,760 second-feet June 13 (gage height, 3.68 feet); minimum recorded, 48 second-feet Oct. 3.
1904-49: Maximum discharge observed, 4,010 second-feet July 6, 1907, June 5-7, 1909; minimum recorded, 16 second-feet Mar. 12, 1941.

Remarks.- Records excellent 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 headwaters and a small reservoir on Smith and Morehouse Creek. Total capacity of all reservoirs, about 3,200 acre-feet.

Revisions (water years).- W 790: 1934.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	52	57				b57	63	463	902	423	114	86
2	52	66				b57	63	458	746	404	120	85
3	51	68				b57	64	551	649	394	122	84
4	50	67				b57	65	626	589	408	124	82
5	59	59				b57	73	551	540	383	142	79
6	54	b58				b57	82	484	522	321	133	78
7	52	b56				b57	93	442	557	298	120	76
8	52	b55				59	112	418	621	275	118	72
9	51	b54				59	114	423	778	257	133	72
10	50	b54				59	120	494	1,000	246	142	73
11	50	b55				58	135	589	1,260	223	120	73
12	50	56				58	167	663	1,440	210	110	73
13	50	57				58	187	707	1,520	198	102	80
14	51	58				58	184	795	1,350	187	99	79
15	59	53	b56	b56	b54	59	192	950	1,310	178	95	72
16	54	52				60	220	812	1,340	170	95	68
17	52	56		(*)		64	246	829	1,390	167	102	68
18	52				(*)	64	271	795	1,430	162	104	68
19	51					69	275	730	1,510	159	99	88
20	51					72	298	692	1,310	157	95	65
21	51		(*)			*68	294	663	1,040	149	90	65
22	*50	(*)				70	301	595	921	144	86	63
23	50					69	363	540	804	142	102	80
24	50	b56				68	432	540	684	152	118	83
25	51					66	452	663	642	149	104	84
26	51					69	452	865	670	144	99	85
27	58					66	463	1,080	601	135	97	85
28	61					65	517	1,200	557	131	95	85
29	57					65	545	1,370	500	128	92	74
30	54				-	65	511	1,220	447	122	88	72
31	56	-			-	63	-	1,000	-	122	86	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,632	61	50	52.6	3,240
November	1,709	-	-	57.0	3,390
December	1,736	-	-	56	3,440
Calendar year 1948	70,576	1,630	-	193	140,000
January	1,736	-	-	56	3,440
February	1,512	-	-	54	3,000
March	1,930	72	57	62.3	3,830
April	7,354	545	63	245	14,590
May	22,190	1,370	418	716	44,010
June	27,630	1,520	447	921	54,800
July	6,718	423	122	217	13,320
August	3,346	142	86	108	6,640
September	2,149	86	60	71.6	4,280
Water year 1948-49	79,642	1,520	-	218	158,000

Peak discharge (base, 1,200 sec.-ft.).- May 29 (4 a.m.) 1,470 sec.-ft.; June 13 (4 a.m.) 1,760 sec.-ft.

* 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., 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 1949.

Average discharge.- 22 years, 198 second-feet.

Extremes.- Maximum discharge during year, 1,450 second-feet June 13 (gage height, 3.87 feet); minimum daily, 33 second-feet Oct. 3, 4 (gage height, 0.18 foot).
1927-49: 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 or no gage-height record, 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.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	42	82	b125				225	516	1,020	131	63	70
2	38	92	b130				227	457	916	122	66	72
3	34	100	134				259	461	796	127	66	75
4	34	100	128				310	562	684	150	62	74
5	41	f90	119				376	488	453	162	56	74
6	43	92				a120	446	373	383	141	57	71
7	48	98					500	342	380	120	61	68
8	50	f102					580	308	364	117	61	68
9	50	a102					500	291	484	115	77	68
10	51	a105					465	291	615	117	84	72
11	51	a108					469	322	822	125	77	74
12	51	a110					516	367	1,120	138	71	74
13	48	f115					549	364	1,380	131	65	77
14	48	122					504	380	1,260	119	63	98
15	52	128		a110	a105	a160	465	504	1,200	106	63	86
16	52	122					512	476	1,160	103	66	76
17	51	132		(*)			566	528	1,200	97	70	74
18	52	121	b120		(*)		593	660	1,260	94	65	75
19	52	d120					610	624	1,280	91	61	76
20	56	f128					665	670	1,230	91	57	75
21	58	130	(*)			*310	642	879	999	88	57	76
22	60	119	(*)			336	620	620	755	86	56	77
23	62	136				310	670	751	410	75	60	77
24	60	*139				276	751	626	310	68	75	76
25	59	134				252	761	361	256	68	74	72
26	62	128				256	756	442	294	75	71	67
27	67	108				245	732	674	284	76	67	66
28	77	b110				223	761	1,060	238	68	70	66
29	86	b115			-	208	746	1,220	f197	66	72	87
30	89	b120			-	206	593	1,190	f148	66	74	94
31	88	-			-	220	-	1,050	-	63	74	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,712	89	34	55.2	3,400
November	3,408	139	82	114	6,760
December	3,756	-	-	121	7,450
Calendar year 1948	74,530	1,490	26	204	147,800
January	3,410	-	-	110	6,760
February	2,940	-	-	105	5,830
March	5,642	-	-	182	11,190
April	16,369	761	225	546	32,470
May	17,857	1,220	291	576	35,420
June	21,898	1,380	148	730	43,430
July	3,196	162	63	103	6,340
August	2,061	84	56	66.5	4,090
September	2,255	98	66	75.2	4,470
Water year 1948-49	84,504	1,380	34	232	167,600

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of weather records and records for Chalk Creek at Coalville and Weber River near Oakley.
b Stage-discharge relation affected by ice.
d Doubtful gage-height record; discharge computed as explained in footnote a.
f Gage height for day partly estimated.

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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 1949.

Extremes.- Maximum contents during year, 74,240 acre-feet June 7-14, 16-19, 22-25 (elevation, 5,560.2 feet); minimum contents, 7,340 acre-feet Oct. 5, 6 (elevation, 5,491.35 feet).
1930-49: Maximum contents, 74,460 acre-feet May 31, 1937 (elevation, 5,560.35 feet); no storage 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) above mean sea level. 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7,640	9,730	12,560	12,710	12,590	12,530	14,010	44,960	72,990	72,180	51,100	28,990
2	7,570	9,890	12,590	12,800	12,590	12,590	14,010	46,310	73,060	71,600	50,240	28,360
3	7,500	10,070	12,620	12,800	12,590	12,590	14,080	47,560	72,920	71,020	49,500	27,700
4	7,410	10,320	12,710	12,740	12,590	12,530	14,200	49,130	73,130	70,590	48,650	27,060
5	7,340	10,540	12,710	12,680	12,590	12,530	14,370	50,980	73,500	70,300	47,860	26,440
6	7,340	10,670	12,680	12,620	12,530	12,500	14,700	52,410	73,720	70,010	47,020	25,920
7	7,410	10,870	12,710	12,620	12,530	12,350	15,160	53,490	74,240	69,650	46,190	25,320
8	7,460	11,060	12,740	12,620	12,470	12,210	15,810	54,510	74,240	69,080	45,370	24,850
9	7,500	11,230	12,740	12,650	12,440	12,000	16,470	55,410	74,240	68,440	44,610	24,300
10	7,570	11,400	12,740	12,650	12,410	11,830	17,010	56,380	74,240	67,730	43,810	23,750
11	7,620	11,600	12,830	12,650	12,410	11,660	17,450	57,490	74,240	67,160	43,120	23,290
12	7,690	11,830	12,950	12,650	12,410	11,340	18,040	58,680	74,240	66,600	42,280	22,920
13	7,740	12,090	13,010	12,710	12,410	11,030	18,750	60,150	74,240	66,040	41,490	22,560
14	7,780	12,320	13,040	12,740	12,380	10,700	19,550	61,490	74,240	65,480	40,780	22,230
15	7,850	12,350	13,080	12,770	12,350	10,370	20,240	62,920	74,090	64,920	40,060	22,030
16	7,950	12,380	13,010	12,800	12,320	10,130	20,950	64,650	74,240	64,230	39,300	21,830
17	8,000	12,470	12,950	12,770	12,320	10,000	21,710	66,180	74,240	63,540	38,500	21,580
18	8,040	12,500	12,950	12,710	12,320	9,920	22,640	68,010	74,240	62,720	37,760	21,390
19	8,120	12,470	12,980	12,710	12,350	10,370	23,630	69,220	74,240	62,040	36,930	21,150
20	8,210	12,440	12,950	12,680	12,350	11,200	24,720	70,010	74,090	61,220	36,200	20,910
21	8,310	12,500	13,010	12,650	12,380	12,060	25,830	70,730	74,090	60,480	35,540	20,670
22	8,380	12,530	13,040	12,680	12,410	12,860	27,240	70,880	74,240	59,740	34,780	20,400
23	8,480	12,560	13,080	12,680	12,410	13,600	29,040	71,020	74,240	58,880	33,990	20,200
24	8,580	12,620	13,040	12,650	12,440	14,330	30,900	71,020	74,240	58,020	33,300	20,010
25	8,710	12,650	12,980	12,650	12,470	14,530	33,000	70,950	74,240	57,160	32,710	19,780
26	8,780	12,650	12,890	12,620	12,500	14,270	35,240	71,090	74,090	56,320	32,130	19,590
27	8,880	12,620	12,800	12,590	12,500	14,010	37,240	71,530	73,940	55,540	31,650	19,390
28	9,010	12,500	12,740	12,590	12,500	14,050	39,140	72,040	73,650	54,700	31,130	19,200
29	9,210	12,440	12,740	12,590	-	14,050	41,380	72,470	73,280	53,740	30,610	19,010
30	9,390	12,530	12,710	12,590	-	14,010	43,350	72,470	72,840	52,880	30,050	19,010
31	9,550	-	12,710	12,590	-	14,010	-	72,550	-	51,970	29,500	-

Monthly elevation and contents, water year October 1948 to September 1949

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Oct. 1	5,492.00	7,640	+2,090
Nov. 1	5,496.20	9,730	+2,830
Dec. 1	5,501.25	12,560	+150
Calendar year 1948	-	-	-10,750
Jan. 1	5,501.50	12,710	-120
Feb. 1	5,501.30	12,590	-60
Mar. 1	5,501.20	12,530	+1,480
Apr. 1	5,503.60	14,010	+30,950
May 1	5,538.10	44,960	+28,030
June 1	5,559.35	72,990	-810
July 1	5,558.80	72,180	-21,080
Aug. 1	5,543.20	51,100	-22,110
Sept. 1	5,522.65	28,990	-9,940
Oct. 1	5,510.75	19,050	-9,940
Water year 1948-49	-	-	+11,410

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 1949.

Average discharge.- 22 years, 262 second-feet.

Extremes.- Maximum discharge during year, 1,740 second-feet June 14 (gage height, 543 feet); minimum daily, 5.8 second-feet Mar. 19-22.
1927-49: 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).

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	94	39	139	141	139	137	240	60	1,250	486	491	369
2	94	39	139	141	139	155	240	61	1,310	478	470	383
3	94	39	139	141	139	184	240	61	1,060	458	454	363
4	94	39	139	141	139	192	240	61	826	420	466	380
5	72	40	139	141	139	194	272	62	664	390	470	372
6	43	40	139	141	137	229	306	62	559	380	470	355
7	43	40	139	141	137	252	306	63	685	423	482	348
8	43	40	139	141	135	252	309	63	781	478	491	348
9	43	40	139	141	135	252	312	64	798	495	491	342
10	44	40	139	141	135	252	316	64	914	478	474	312
11	44	40	147	141	135	306	319	64	1,120	454	466	290
12	44	40	155	141	135	352	319	64	1,410	443	454	272
13	44	40	155	141	135	352	325	64	1,640	443	458	257
14	44	108	155	141	135	345	325	66	1,650	450	454	227
15	44	145	155	141	135	345	325	66	1,410	470	450	201
16	44	145	155	141	135	342	329	66	1,410	474	450	201
17	45	145	155	141	135	342	332	67	1,460	482	450	201
18	46	145	155	141	135	216	335	278	1,520	486	450	201
19	40	145	155	141	135	5.8	338	573	1,620	478	439	201
20	37	145	155	141	135	5.8	342	776	1,500	486	435	192
21	37	145	155	141	135	5.8	236	1,080	1,180	495	443	229
22	37	145	155	141	135	5.8	54	1,060	950	491	446	187
23	38	145	155	141	135	6.1	55	1,050	548	491	443	187
24	38	157	155	141	137	103	55	1,030	462	486	397	187
25	38	163	155	141	137	372	56	700	524	491	376	187
26	39	163	155	141	137	443	56	630	528	491	362	187
27	39	161	155	141	137	293	58	776	507	491	345	187
28	39	147	145	141	137	243	58	1,160	499	503	352	187
29	39	139	141	139	-	243	59	1,480	491	516	358	151
30	39	139	141	139	-	243	59	1,490	511	507	358	117
31	39	-	141	139	-	240	-	1,270	-	495	358	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,518	94	37	49.0	3,010
November	2,998	163	39	99.9	5,950
December	4,585	155	139	148	9,090
Calendar year 1948	111,224.5	2,070	6.7	304	220,600
January	4,365	141	139	141	8,660
February	3,814	139	135	136	7,560
March	6,908.3	443	5.8	223	13,700
April	6,816	342	54	227	13,520
May	14,431	1,490	60	466	28,620
June	29,785	1,650	462	993	59,080
July	14,609	516	380	471	28,980
August	13,503	491	345	436	26,780
September	7,641	383	117	255	15,160
Water year 1948-49	110,973.3	1,650	5.8	304	220,100

Note.- Daily staff-gage readings used Nov. 28 to Mar. 22, May 27-30, June 7-11 when recorder was not in operation.

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 1⅝ miles downstream from Lost Creek.

Drainage area.- 1,100 square miles.

Records available.- February 1905 to September 1949.

Average discharge.- 44 years, 437 second-feet.

Extremes.- Maximum discharge during year, 1,880 second-feet June 14 (gage height, 5.20 feet); minimum, 49 second-feet Nov. 9 (gage height, 1.16 feet).
1905-49: Maximum discharge observed, 6,000 second-feet May 22, 1920; minimum, 18 second-feet Sept. 23, 1934, Mar. 6, 1948.

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 Echo Reservoir (see p. 74).

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	110	56	b154			191	361	500	1,470	522	522	387
2	110	59	b155			206	361	490	1,600	522	508	402
3	110	63	156			252	361	560	1,330	503	499	402
4	111	63	158			272	372	590	1,060	485	499	395
5	105	58	158			278	422	530	848	472	508	399
6	70	57	158			300	499	470	774	447	508	376
7	67	58	160			336	540	420	872	460	526	368
8	67	56	164			336	598	390	968	512	535	368
9	66	56	164			336	603	400	968	535	535	365
10	65	57	164		165	340	623	410	1,040	531	522	354
11	64	58	180			383	643	420	1,210	508	512	340
12	64	58	186			455	696	500	1,520	503	503	310
13	60	58	186			455	724	505	1,770	499	503	297
14	63	89	186	170		460	690	510	1,810	499	499	272
15	70	142	189			472	660	520	1,540	508	499	252
16	66	144	186			481	680	510	1,480	522	494	230
17	65	145	180			490	710	650	1,570	522	490	227
18	64	145	177	(*)		434	750	691	1,600	531	494	230
19	62	145	189		*189	147	825	992	1,730	522	481	232
20	55	151	189		184	160	932	1,210	1,650	517	468	224
21	55	154	191		184	140	860	1,480	1,310	531	477	263
22	56	154	*189		189	142	608	1,520	1,050	535	477	221
23	56	156	186		186	154	660	1,400	649	522	485	221
24	56	*168	184		189	179	710	1,400	517	517	443	221
25	56	177	184		191	464	760	1,060	569	517	410	221
26	56	177	184		194	569	700	920	574	517	399	221
27	55	182	184		191	464	670	998	559	522	380	224
28	55	175			191	368	650	1,340	545	526	380	230
29	57	149	170		-	365	640	1,710	526	545	383	206
30	57	b150		165	-	365	560	1,770	545	535	383	160
31	56	-			-	358	-	1,500	-	526	380	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	2,129	111	55	68.7	4,220
November	3,360	182	56	112	6,660
December	5,421	-	154	175	10,750
Calendar year 1948	142,673	2,640	36	390	283,000
January	5,255	-	-	170	10,420
February	4,858	-	-	174	9,640
March	10,352	569	140	334	20,530
April	18,868	932	361	629	37,420
May	26,366	1,770	390	851	52,300
June	33,654	1,810	517	1,120	66,750
July	15,913	545	447	513	31,560
August	14,702	535	380	474	29,160
September	8,598	402	160	287	17,050
Water year 1948-49	149,476	1,810	55	410	296,500

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.- No gage-height record Dec. 25 to Feb. 18, Apr. 14-18, Apr. 23 to May 17; discharge computed on basis of weather records and records for stations at Echo and at Gateway.

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 1949. October 1889 to July 1903 at site 1 mile downstream, published as Weber River near Uinta.

Average discharge.- 29 years (1920-49), 576 second-feet.

Extremes.- Maximum discharge during year, 2,700 second-feet May 22 (gage height, 5.10 feet); minimum, 178 second-feet Nov. 9.
1889-1903, 1919-49: Maximum discharge observed, 7,980 second-feet May 31, 1896; minimum, 45 second-feet Sept. 24, 1934.

Remarks.- Records excellent except those for periods of ice effect or no gage-height record, which are good. Many diversions above and below station for irrigation. Flow regulated by Echo and East Canyon Reservoirs (see pp. 74, 81).

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

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	226	181	229			352	643	1,220	2,090	626	626	470
2	223	197	226			372	660	1,190	2,250	626	626	480
3	223	210	231			427	700	1,330	2,040	637	598	485
4	223	212	234			475	724	1,420	1,690	643	587	480
5	237	199	229		b250	501	824	1,260	1,470	632	592	490
6	223	194	234			496	992	1,120	1,350	592	581	470
7	210	197	234			576	1,100	1,010	1,360	565	587	451
8	204	189	237			576	1,260	950	1,470	604	620	451
9	194	186	229			565	1,210	962	1,420	632	632	465
10	191	189	231			576	1,220	986	1,430	637	637	455
11	197	186	254		248	609	1,260	1,060	1,530	615	620	455
12	194	186	273		248	741	1,330	1,200	1,750	609	598	436
13	191	184	269		237	747	1,370	1,210	2,000	598	587	427
14	191	184	269		251	759	1,300	1,240	2,060	592	587	417
15	226	215	263		251	794	1,250	1,270	1,840	587	581	390
16	215	218	251	b250	248	854	1,290	1,200	1,700	604	592	364
17	204	226	*243		251	869	1,360	1,530	1,740	604	587	356
18	202	220	246		266	908	1,420	1,630	1,700	615	592	360
19	202	220	248		276	747	1,520	1,960	1,820	615	587	372
20	194	226	248		*282	759	1,840	2,290	1,790	604	554	372
21	189	229	254		295	649	1,710	2,520	1,540	620	565	368
22	186	226	248		292	626	1,420	2,620	1,200	632	570	376
23	186	229	248		306	654	1,550	2,280	926	609	587	364
24	184	237	248		320	554	1,740	2,310	660	609	581	372
25	181	248	b248		327	724	1,840	1,960	632	609	527	372
26	184	248	b248		343	884	1,720	1,740	672	598	521	376
27	186	240	b248		343	836	1,610	1,620	672	615	496	394
28	189	240	b248		343	700	1,570	1,860	637	620	480	390
29	194	226	b248		-	660	1,560	2,160	637	637	490	394
30	186	229	b248		-	643	1,400	2,280	632	632	485	394
31	184	--	b248		-	643	-	2,110	-	632	480	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	6,219	237	181	201	12,340
November	6,371	248	181	212	12,640
December	7,612	273	226	246	15,100
Calendar year 1948	230,685	3,970	132	630	457,600
January	7,750	-	-	250	15,370
February	7,627	343	-	272	15,130
March	20,303	908	352	655	40,270
April	39,393	1,840	643	1,310	78,130
May	49,498	2,620	950	1,600	98,180
June	42,708	2,250	632	1,420	84,710
July	19,050	643	565	615	37,790
August	17,753	637	480	573	35,210
September	12,446	490	356	415	24,690
Water year 1948-49	236,730	2,620	181	649	469,600

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice (no gage-height record during part of period; discharge computed on basis of weather records and records for other Weber River stations).

Weber River near Plain City, Utah

Location.- Water-stage recorder, 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. Prior to Aug. 30, 1949, chain gage at same site and datum.

Drainage area.- 2,060 square miles.

Records available.- May 1905 to September 1949. Records collected in 1904 by State engineer.

Extremes.- Maximum discharge observed during year, 4,170 second-feet May 23 (gage height, 16.18 feet); minimum, 34 second-feet Sept. 2 (gage height, 2.40 feet).
1904-49: 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.

Remarks.- Records fair. Gage read once daily prior to Aug. 30. 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 ppp. 74, 81, 85).

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	62	141	344	443	406	600	1,200	1,600	2,210	98	56	35
2	60	184	352	428	390	623	1,200	1,470	2,530	75	54	36
3	62	188	362	388	245	710	940	1,580	2,190	75	56	54
4	61	193	361	379	406	802	1,000	1,710	2,000	99	55	56
5	68	198	369	374	403	899	1,320	1,430	1,690	95	56	58
6	71	203	366	413	394	858	1,430	1,260	1,500	90	52	62
7	72	207	356	410	381	958	1,610	1,280	1,400	85	49	74
8	70	227	347	395	413	935	1,570	1,610	1,860	82	46	57
9	75	227	342	320	419	903	1,520	918	1,410	75	48	59
10	73	235	349	399	431	925	1,480	779	1,250	80	46	47
11	72	245	408	413	309	958	1,810	1,290	1,100	87	49	60
12	71	239	477	424	290	1,030	1,650	1,500	1,430	83	48	74
13	76	239	540	444	278	1,120	1,690	1,830	1,550	77	45	73
14	82	239	544	441	281	1,150	1,650	1,480	1,500	82	39	76
15	111	245	538	448	359	1,220	1,900	1,240	1,420	58	39	76
16	115	267	507	285	342	1,270	2,050	1,220	1,280	61	40	71
17	121	292	542	379	367	1,440	2,110	2,410	1,160	47	41	50
18	123	296	462	386	369	1,420	1,870	3,030	1,380	54	41	56
19	128	303	357	390	364	1,100	2,050	3,250	1,460	42	40	56
20	128	315	467	394	385	1,210	2,570	3,620	1,440	46	39	55
21	122	321	528	415	421	1,180	2,750	4,100	1,200	53	40	53
22	122	320	498	342	441	1,160	2,490	4,120	872	62	39	54
23	130	326	462	297	515	1,310	2,470	4,170	628	51	43	54
24	138	326	437	379	509	1,460	2,760	3,450	394	55	65	54
25	141	329	456	397	534	1,390	3,000	2,900	255	54	62	51
26	141	334	475	378	544	1,450	3,090	2,600	144	58	60	51
27	143	339	464	386	469	1,550	2,930	2,400	145	50	60	51
28	160	339	519	383	566	1,380	2,810	2,390	152	53	38	51
29	152	336	482	388	-	1,180	2,020	2,450	139	54	38	57
30	139	342	456	264	-	1,180	1,840	2,350	106	52	59	56
31	139	-	441	298	-	1,230	-	2,130	-	54	52	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	3,228	160	60	104	6,400
November	7,995	342	141	266	15,860
December	13,608	544	342	439	26,990
Calendar year 1948	250,686	4,930	27	685	497,200
January	11,880	448	264	383	23,560
February	11,231	566	245	401	22,280
March	34,601	1,550	600	1,116	68,630
April	58,780	3,090	940	1,959	116,600
May	67,567	4,170	779	2,180	134,000
June	35,795	2,530	106	1,193	71,000
July	2,087	99	42	67.3	4,140
August	1,495	65	38	48.2	2,970
September	1,717	76	35	57.2	3,410
Water year 1948-49	249,984	4,170	35	685	495,800

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 1949.

Average discharge.- 22 years (1927-49), 56.2 second-feet.

Extremes.- Maximum discharge during year, 409 second-feet May 13, 20 (gage height, 1.79 feet); minimum, 6.9 second-feet Oct. 2-4.
1927-49: 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 except those for periods of ice effect or no gage-height record, which are fair. Several diversions above station for irrigation, none below. Flow slightly regulated by Chalk Creek Reservoir (capacity, 1,200 acre-feet).

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.6	15	18			22	32	228	296	61	15	22
2	7.5	21	17		a17	18	33	228	284	63	17	21
3	7.5	24	20			22	34	312	261	67	18	20
4	7.5	25	19			22	38	374	273	75	17	18
5	8.6	19	17			22	43	304	265	82	17	18
6	8.6	17	19			25	48	232	261	73	20	18
7	8.6	22	19		b17	21	53	204	349	63	20	16
8	8.0	17	18	b17		23	63	201	304	59	19	13
9	8.6	12	17			18	63	221	304	59	21	13
10	8.0	20	20		18	25	71	277	280	57	24	16
11	8.0	22	20		18	23	80	320	273	55	19	19
12	7.5	20	21		17	26	116	336	280	48	18	17
13	7.5	20	21		18	25	148	383	277	46	18	18
14	8.0	19	21		18	24	169	370	254	43	19	22
15	8.6	22	14		19	28	151	387	221	43	19	21
16	9.2	21	13	17	19	30	163	332	198	40	20	17
17	8.6	22	17	*b17	20	33	191	362	191	34	20	17
18	8.6	14	19	b17	*20	33	198	379	201	34	20	15
19	8.6	11	19	17	19	36	207	374	204	36	21	15
20	11	18	20	17	19	42	214	387	184	36	22	15
21	11	21	*20	17	19	34	188	387	154	30	19	16
22	10	15	19	b17	21	37	204	353	134	28	19	14
23	11	22	18	17	20	38	258	308	120	26	21	13
24	12	21	18	17	20	36	320	304	113	24	24	13
25	12	18	17		19	33	328	320	103	21	24	12
26	13	16	16	b17	18	33	304	324	98	18	23	14
27	14	12	17		18	32	284	316	93	18	24	14
28	17	14	17		20	29	312	320	84	19	23	14
29	19	17	17		-	28	345	328	71	17	22	18
30	17	16	b17	a17	-	29	300	296	63	15	21	24
31	15	-	b17		-	29	-	265	-	14	20	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	318.1	19	7.5	10.3	631
November	553	25	11	18.4	1,100
December	562	21	13	18.1	1,110
Calendar year 1948	25,111.7	625	6.2	68.6	49,810
January	527	-	-	17.0	1,050
February	513	-	-	18.3	1,020
March	876	42	18	28.3	1,740
April	4,958	345	32	165	9,830
May	9,732	387	201	314	19,300
June	6,193	349	63	206	12,280
July	1,304	82	14	42.0	2,590
August	624	24	15	20.1	1,240
September	503	24	12	16.8	998
Water year 1948-49	26,663.1	387	7.5	73.0	52,890

Peak discharge (base, 400 sec.-ft.).- May 13 (1 a.m.) 409 sec.-ft.; May 20 (4:30 p.m.) 409 sec.-ft.
* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of weather records and records for other Weber River stations.
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 mile 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 1949.

Average discharge.- 10 years (1921-23, 1941-49), 34.5 second-feet.

Extremes.- Maximum discharge during year, 317 second-feet Apr. 25 (gage height, 4.34 feet); minimum, 3.8 second-feet Nov. 21.

1921-23, 1941-49: 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.4	10					14	196	104	27	12	10
2	8.4	16					16	192	95	25	13	9.6
3	8.4	16					18	226	99	25	13	9.1
4	8.8	15				a8.0	24	258	84	26	13	9.1
5	8.8	10					41	212	82	26	12	8.3
6	9.6	10					61	179	82	25	12	7.8
7	8.8	11					82	158	81	23	12	8.3
8	8.8	8.8				8.4	98	148	78	22	12	8.3
9	8.8	9.2				7.7	98	151	75	21	13	8.3
10	9.2	8.8				8.0	101	167	71	21	13	8.7
11	8.4	10				8.8	108	180	68	20	12	10
12	8.4	10				10	122	236	67	20	11	9.6
13	8.4	10				10	119	210	63	19	10	10
14	8.8	10				11	104	196	61	18	10	10
15	12	10				12	98	199	58	18	10	10
16	12	10	b10	a9.0	a8.0	15	113	184	55	18	10	9.6
17	10	11		(*)		17	132	192	52	16	10	9.6
18	9.6	8.8				20	146	205	51	16	10	10
19	9.2	6.5			(*)	29	171	209	50	16	9.1	10
20	9.2	5.6				39	214	220	48	16	9.1	10
21	9.2	5.0				31	197	206	44	15	8.7	10
22	9.2	8.0	(*)			*32	198	186	42	15	7.8	10
23	9.2	9.6				29	245	174	41	14	10	10
24	9.2	10				23	281	163	39	14	12	10
25	9.2	10				20	280	153	37	14	11	10
26	9.2	*10				19	263	145	37	13	9.6	10
27	9.6					18	263	135	34	13	9.1	10
28	12	b10				16	266	127	33	13	9.1	11
29	12				-	16	264	119	30	13	9.1	13
30	11				-	14	231	110	29	13	9.1	14
31	10	-			-	14	-	102	-	13	8.7	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	293.8	12	8.4	9.5	583
November	299.3	16	5.0	10	594
December	310	-	-	10	615
Calendar year 1948	9,940.3	310	5.0	27.2	19,710
January	279	-	-	9	553
February	224	-	-	8	444
March	483.9	39	-	15.6	960
April	4,360	281	14	145	8,650
May	5,538	258	102	179	10,980
June	1,790	104	29	60	3,550
July	568	27	13	18.3	1,130
August	330.4	13	7.8	10.7	655
September	294.3	14	7.8	9.8	584
Water year 1948-49	14,770.7	281	5.0	40.5	29,300

Peak discharge (base, 130 sec.-ft.).- Apr. 25 (1 a.m.) 317 sec.-ft.; May 4 (1 a.m.) 276 sec.-ft.; May 12 (5 a.m.) 246 sec.-ft.; May 20 (9 p.m.) 231 sec.-ft.

* Winter discharge measurement made on this day.

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

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 1949 in reports of Geological Survey. November 1931 to September 1949 in reports of Weber River water commissioner.

Extremes.- Maximum contents observed during year, 28,820 acre-feet May 22 (gage height, 141.00 feet); minimum observed, 9,880 acre-feet Mar. 27.
1931-49: 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	-	-	-	-	-	24,660	28,560	-	-	-
2	-	-	-	16,120	-	-	-	-	28,630	-	-	-
3	16,010	-	-	-	-	-	9,960	-	28,520	27,610	-	-
4	-	-	-	-	-	-	-	-	28,520	-	-	16,800
5	-	-	14,350	-	-	-	-	-	28,610	-	-	-
6	-	-	-	-	-	14,520	-	-	28,630	-	-	-
7	-	13,440	-	-	-	-	-	-	28,650	-	21,390	-
8	15,420	-	-	-	-	-	-	27,440	28,650	-	-	-
9	-	-	-	16,470	-	-	-	-	28,590	-	-	-
10	15,280	-	-	-	-	-	12,750	-	28,610	26,700	-	-
11	-	-	-	-	-	-	-	28,220	28,650	-	-	15,720
12	-	-	14,850	-	-	-	-	28,240	28,650	-	-	-
13	-	-	-	-	16,940	13,100	-	28,240	28,690	-	-	-
14	-	13,000	-	-	-	-	-	28,260	28,690	-	20,160	-
15	-	-	-	-	-	-	-	28,260	28,690	-	-	-
16	-	-	-	16,770	-	-	-	28,240	28,650	-	-	-
17	14,750	-	-	-	-	-	17,070	28,300	28,560	25,540	-	-
18	-	-	-	-	-	-	-	28,390	28,610	-	-	14,750
19	-	-	15,230	-	-	-	-	28,430	28,650	-	-	-
20	-	-	-	-	16,360	13,390	-	28,480	28,690	-	-	-
21	-	13,510	-	-	-	-	-	28,630	28,650	-	18,940	-
22	-	-	-	-	-	-	-	28,820	28,610	-	-	-
23	-	-	-	-	-	-	-	28,690	28,610	-	-	-
24	13,990	-	-	16,940	-	-	20,620	28,520	28,650	24,280	-	-
25	-	-	-	-	-	-	-	28,390	28,650	-	-	13,800
26	-	-	15,580	-	-	-	-	28,320	-	-	-	-
27	-	-	-	-	15,580	9,880	-	28,340	28,390	-	-	-
28	-	13,890	-	-	a15,430	-	-	28,300	-	-	18,140	-
29	-	-	-	-	-	-	-	28,350	-	-	-	-
30	-	a14,020	-	16,940	-	-	a24,080	28,460	a28,000	-	-	a13,230
31	13,780	-	a16,940	a16,940	-	a9,930	-	28,500	-	23,740	a17,570	-

a No gage-height record; contents interpolated.

Monthly gage height and contents, water year October 1948 to September 1949

Date	Gage height (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept.30	-	16,470	-
Oct. 31	102.84	13,780	-2,690
Nov. 30	-	14,020	+240
Dec. 31	-	16,040	+2,020
Calendar year 1948	-	-	-5,990
Jan. 31	-	16,940	+900
Feb. 28	-	15,430	-1,510
Mar. 31	-	9,930	-5,500
Apr. 30	-	24,080	+14,160
May 31	140.38	28,500	-4,420
June 30	-	28,000	-500
July 31	130.92	23,740	-4,260
Aug. 31	-	17,570	-6,170
Sept.30	-	13,230	-4,340
Water year 1948-49	-	-	-3,240

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 1949 in reports of Geological Survey. October 1931 to September 1949 in reports of Weber River water commissioner.

Average discharge.- 18 years (1931-49), 50.5 second-feet.

Extremes.- Maximum daily discharge during year, 304 second-feet May 22, minimum daily, 3.2 second-feet Nov. 20, 22, 23.
1931-49: Maximum daily discharge, 412 second-feet Apr. 23, 1936; minimum daily, that of Nov. 20, 22, 23, 1948.

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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a80	61	4.0	4.7	47	101	121	10	175	93	103	96
2	a81	60	4.0	4.7	47	114	121	10	183	93	103	94
3	81	61	4.0	4.7	47	123	86	11	175	94	103	94
4	81	62	4.0	4.7	47	121	54	16	148	98	101	94
5	83	62	4.0	8.2	47	117	48	31	134	96	101	96
6	83	a62	4.0	13	47	130	38	35	134	96	100	96
7	81	a61	4.0	13	47	144	36	35	134	96	101	94
8	75	a61	4.0	13	47	144	32	35	132	96	103	94
9	62	a61	4.0	13	47	142	34	36	107	96	103	93
10	64	a61	4.0	13	51	140	30	47	88	94	101	93
11	64	a61	4.0	13	66	140	20	125	88	98	101	94
12	64	a61	4.0	13	67	138	15	173	89	98	101	96
13	64	a61	4.0	13	68	138	16	175	93	98	98	94
14	64	32	4.0	13	72	136	17	175	96	98	101	93
15	64	3.6	4.0	13	70	129	17	175	112	98	101	91
16	66	3.6	4.0	13	66	127	15	162	116	96	101	89
17	66	3.6	4.0	13	68	125	8.2	154	86	96	100	89
18	64	3.6	4.0	13	68	125	8.2	162	64	96	98	91
19	64	3.6	4.0	13	70	125	8.2	179	66	96	98	93
20	64	3.2	4.0	12	68	125	8.2	198	86	96	98	91
21	62	3.6	4.0	12	67	125	8.9	252	91	100	98	61
22	62	3.2	4.0	12	67	125	8.9	304	73	100	100	98
23	62	3.2	4.0	12	78	125	8.9	281	51	96	98	94
24	62	4.7	4.0	16	89	125	8.9	254	40	101	98	93
25	62	4.7	4.0	23	100	123	8.9	229	70	107	96	94
26	62	4.7	4.0	22	107	123	10	200	98	105	96	96
27	62	4.7	4.0	22	105	123	10	170	93	105	94	96
28	62	4.0	4.7	22	103	125	9.6	140	94	103	96	94
29	62	4.0	4.7	22	-	123	10	130	96	103	98	96
30	62	4.0	4.7	34	-	123	10	136	94	103	98	96
31	61	-	4.7	47	-	121	-	152	-	103	96	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	2,096	83	61	67.6	4,160
November	889.0	-	3.2	29.6	1,760
December	126.8	4.7	4.0	4.09	252
Calendar year 1948	29,781.2	299	3.2	81.4	59,070
January	465.0	47	4.7	15.0	922
February	1,873	107	47	66.9	3,720
March	3,945	144	101	127	7,820
April	826.9	121	8.2	27.6	1,640
May	4,192	304	10	135	8,310
June	3,106	183	40	104	6,160
July	3,048	107	93	98.3	6,050
August	3,084	103	94	99.5	6,120
September	2,783	96	61	92.8	5,520
Water year 1948-49	26,434.7	304	3.2	72.4	52,430

a No gage-height record; discharge computed on basis of record of reservoir gate charges.

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 2⅝ miles southwest of Porterville.

Drainage area.- 24.9 square miles.

Records available.- October 1941 to September 1949. Fragmentary records December 1937 to August 1940 on file in State engineer's office.

Extremes.- Maximum discharge during year, 337 second-feet Apr. 24 (gage height, 3.19 feet); minimum recorded, 4.2 second-feet Feb. 26 (gage height, 1.26 feet).
1941-48: 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 trans-basin 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.4	7.9	7.6			8.2	13	138	133	32	12	8.5
2	6.1	12	8.5			8.8	14	145	115	32	12	8.5
3	6.1	14	8.5			9.6	16	188	100	32	12	8.2
4	6.4	11	8.5			12	22	194	93	33	11	8.2
5	9.9	8.5	8.5		a7.0	12	35	163	91	32	10	7.6
6	8.2	8.5	8.5			12	48	133	87	29	10	7.6
7	7.9	7.9	8.5			12	58	115	89	27	9.9	7.6
8	7.9	6.1	8.5			11	68	121	91	27	9.9	7.6
9	8.2	7.0	8.5			10	66	142	91	26	11	7.9
10	7.9	7.0	8.5			9.9	71	166	91	25	10	11
11	7.9	7.3	8.5			11	81	168	87	24	9.9	9.2
12	7.9	7.3	8.5			12	95	168	85	23	9.9	8.5
13	7.9	7.3	7.3			12	93	176	79	22	10	8.2
14	9.6	7.6	6.7			13	85	191	74	21	9.9	7.9
15	21	7.3	7.3			16	87	188	71	20	9.9	7.6
16	9.9	7.6	7.3	a7.0	a8.0	22	96	163	67	20	9.6	7.0
17	8.5	8.5				24	104	240	63	19	9.2	7.3
18	7.9	b8.4				28	110	250	59	18	8.8	7.6
19	7.9			(*)		34	128	234	57	17	8.5	7.3
20	*7.6				*8.2	36	163	230	54	17	8.5	7.3
21	7.6				8.2	30	152	250	49	17	8.5	7.3
22	7.6				8.5	29	163	211	46	16	8.8	7.3
23	7.6		(*)		7.3	27	196	191	44	15	10	7.3
24	7.6	a8.0	a7.0		7.3	23	254	182	42	15	9.2	7.0
25	7.6				7.0	20	237	188	41	14	9.6	7.0
26	7.6				7.3	18	196	191	39	14	8.8	7.0
27	7.6				7.6	17	199	191	36	14	8.8	7.0
28	8.2				7.6	15	208	179	35	14	8.8	7.3
29	8.2				-	14	211	171	35	13	8.5	8.2
30	7.9	(*)			-	13	166	155	34	12	8.5	7.9
31	7.9	-			-	13	-	138	-	12	8.5	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	256.5	21	6.1	8.27	509
November	247.2	14	-	8.24	490
December	234.7	-	-	7.57	466
Calendar year 1948	13,081.3	342	5.2	35.7	25,940
January	217.0	-	-	7.0	430
February	211.0	-	-	7.54	419
March	532.5	36	8.2	17.2	1,060
April	3,435	254	13	114	6,810
May	5,560	250	115	179	11,030
June	2,078	133	34	69.3	4,120
July	652	33	12	21.0	1,290
August	300.0	12	8.5	9.68	595
September	233.9	11	7.0	7.80	464
Water year 1948-49	13,957.8	254	-	38.2	27,680

Peak discharge (base, 220 sec.-ft.).- Apr. 24 (7 p.m.) 337 sec.-ft.; May 3 (7 p.m.) 230 sec.-ft.; May 13 (4 p.m.) 254 sec.-ft.; May 20 (7:30 a.m.) 285 sec.-ft.

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of discharge measurements, weather records, and records for Lost Creek near Croyden and South Fork Odgen River near Huntsville.

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 1949.

Average discharge.- 28 years, 105 second-feet.

Extremes.- Maximum discharge during year, 1,020 second-feet Apr. 24 (gage height, 4.40 feet); minimum discharge recorded, 37 second-feet Nov. 18.
1921-49: 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 or no gage-height record, which are fair. Small diversions above station.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	40	41	41			59	93	510	271	86	55	46
2	40	51	41			68	98	504	246	84	54	46
3	40	50	42			73	107	661	231	84	53	46
4	41	48	a41			80	129	711	220	84	53	45
5	42	44	a41			81	164	569	215	85	52	44
6	40	43	41		a40	79	209	465	211	80	50	42
7	40	43	41			80	253	407	205	78	50	42
8	40	41	a41			78	292	398	200	77	50	42
9	39	41	a41			75	276	429	192	78	54	44
10	39	41	a41			79	297	486	184	74	53	45
11	39	41	a41			88	324	546	176	73	50	46
12	39	41	41			92	368	665	172	72	50	45
13	39	41	43		a42	88	374	608	166	71	50	46
14	41	41	43			95	357	561	158	71	48	46
15	46	41	44			110	343	532	150	69	48	45
16	41	41	40	a40		129	377	459	145	66	48	44
17	41	42	*44			141	413	539	139	66	48	45
18	41	40	a44		a44	156	452	608	137	65	48	45
19	41	41	a45			186	536	661	136	65	48	45
20	41	41	45	(*)		190	653	653	129	64	46	43
21	41	41	46		45	168	558	596	122	63	46	43
22	40	40	46		44	160	588	543	118	62	47	44
23	40	40	45		45	146	764	490	113	62	50	44
24	40	41	b43		47	129	908	439	109	61	50	44
25	41	41	b42		47	118	899	407	107	60	49	44
26	41	40	b40		47	113	818	383	105	58	48	44
27	41	41	a41		50	107	818	360	101	58	48	43
28	43	40	a42		54	99	854	335	98	57	48	45
29	42	41	a43		-	95	832	312	93	57	47	46
30	41	41	a42		-	92	648	288	91	57	46	45
31	41	-	a41		-	91	-	269	-	55	46	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,261	46	39	40.7	2,500
November	1,259	51	40	42.0	2,500
December	1,312	46	40	42.3	2,600
Calendar year 1948	45,322	1,160	-	124	89,910
January	1,240	-	-	40	2,460
February	1,209	54	-	43.2	2,400
March	3,345	190	59	108	6,630
April	13,802	908	93	460	27,380
May	15,394	711	269	497	30,530
June	4,740	271	91	158	9,400
July	2,142	86	55	69.1	4,250
August	1,533	55	46	49.5	3,040
September	1,334	46	42	44.5	2,650
Water year 1948-49	48,571	908	-	133	96,340

Peak discharge (base, 400 sec.-ft.).- Apr. 24 (11 p.m.) 1,020 sec.-ft.; May 19 (7 a.m.) 715 sec.-ft.

* Winter discharge measurement made on this day.

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

b Stage-discharge relation affected by ice.

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 1949, 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.

Average discharge.- 12 years (1937-49), 77.5 second-feet.

Extremes.- Maximum discharge during year, 1,630 second-feet May 20 (gage height, 5.85 feet); minimum not determined, occurred during period of ice effect.
1937-49: Maximum discharge, 2,290 second-feet June 7, 1945 (gage height, 6.73 feet); minimum, 0.3 second-foot at times when reservoir gates were closed.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are 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.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.2	2.0					257	34	514	24	18	16
2	2.2	3.7					259	31	378	35	17	16
3	2.2	3.7					231	36	222	24	17	18
4	2.2	2.6					142	40	229	23	18	20
5	2.4	2.2					237	35	236	20	18	20
6	2.4	1.9					259	104	245	14	18	20
7	2.4	1.8				a1.3	276	207	323	20	18	20
8	2.3	1.5					286	33	529	24	18	19
9	2.2	1.5					290	30	80	30	17	19
10	2.2	1.7					317	111	35	26	17	16
11	2.0	1.7					332	597	40	12	17	13
12	1.9	1.6					322	786	46	28	17	13
13	1.9	1.6					337	1,030	159	27	18	12
14	2.3	1.6				83	332	700	35	26	18	12
15	4.0	1.7				152	344	410	29	28	19	12
16	2.5	1.7	b1.4	b1.4	a1.3	212	336	420	28	23	18	12
17	2.3	2.0	(*)			337	581	1,010	26	20	18	12
18	2.3	1.6				358	370	1,390	33	20	18	12
19	*2.2	1.4		(*)		227	397	1,390	32	20	18	11
20	2.2					231	577	1,480	31	18	21	11
21	2.2				(*)	274	625	1,590	28	19	23	11
22	2.3					293	629	1,570	28	21	23	11
23	2.2					460	634	1,290	28	20	20	11
24	2.2					452	731	750	26	18	18	11
25	2.2	b1.4				*449	911	736	25	18	18	11
26	2.2					429	1,020	703	24	20	18	11
27	2.3					259	996	708	23	58	16	12
28	2.3					337	625	703	23	23	16	12
29	2.3				-	274	40	624	28	14	15	12
30	2.3	(*)			-	262	38	300	24	18	18	9.7
31	2.0	-			-	256	-	232	-	18	17	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	70.8	4.0	1.9	2.3	140
November	52.9	3.7	-	1.8	105
December	43.4	-	-	1.4	86.1
Calendar year 1948	47,738	1,540	-	130	94,700
January	43.4	-	-	1.4	86.1
February	36.4	-	-	1.3	72.2
March	5,361.9	460	-	173	10,640
April	12,731	1,020	38	424	25,250
May	19,080	1,590	30	615	37,840
June	3,507	529	23	117	6,960
July	709	58	12	22.9	1,410
August	559	23	15	18.0	1,110
September	415.7	20	9.7	13.9	825
Water year 1948-49	42,610.5	1,590	-	117	84,520

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of 1 discharge measurement and weather records.
b Stage-discharge relation affected by ice (no gage-height record Jan. 25-31).

Pine View Reservoir near Ogden, Utah

Location.- Staff gage, lat. 41°15'20", long. 111°50'25", in NW¼SE¼ 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 1949.

Extremes.- Maximum contents during year, 43,580 acre-feet May 11 to June 16 (elevation, 4,872.00 feet); minimum, 1,330 acre-feet Feb. 27 (elevation, 4,828.68 feet).
1936-49: 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), above mean sea level; 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 the figures of total contents shown in the 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9,900	9,360	10,150	8,130	3,160	1,490	4,600	31,740	43,580	40,990	29,980	18,450
2	9,810	9,450	10,150	8,170	2,910	1,470	4,400	33,230	43,580	40,720	29,540	17,990
3	9,720	9,480	10,190	8,210	2,670	1,500	4,010	34,770	43,580	40,300	29,230	17,680
4	9,630	9,570	10,220	7,960	2,480	1,540	3,980	36,590	43,580	40,030	28,800	17,350
5	9,540	9,580	10,250	7,750	2,220	1,630	4,060	38,310	43,580	39,870	28,400	17,030
6	9,480	9,600	10,310	7,510	2,160	1,730	4,360	39,890	43,580	39,610	28,000	16,740
7	9,390	9,630	10,340	7,270	2,230	1,810	4,810	40,890	43,580	39,310	27,610	16,400
8	9,330	9,660	10,400	7,040	1,940	1,880	5,520	41,670	43,580	38,980	27,210	16,120
9	9,270	9,670	10,430	6,980	1,680	1,930	6,260	42,780	43,580	38,620	26,820	15,840
10	9,210	9,660	10,480	6,990	1,370	1,910	7,060	43,140	43,580	38,220	26,400	15,510
11	9,190	9,640	10,590	6,740	1,380	1,960	8,030	43,580	43,580	37,930	25,990	-
12	9,160	9,670	10,670	6,520	1,460	2,180	8,950	43,580	43,580	37,580	25,600	-
13	9,160	9,670	10,730	6,290	1,560	2,340	10,010	43,580	43,580	37,230	25,190	-
14	9,160	9,720	10,540	6,070	1,630	2,400	11,050	43,580	43,580	36,830	24,810	-
15	9,300	9,700	10,370	6,430	1,620	2,530	11,890	43,580	43,580	36,440	24,410	-
16	9,290	9,760	10,170	5,760	1,600	2,790	12,760	43,580	43,580	35,990	24,010	-
17	9,360	9,780	9,970	5,780	1,590	2,980	13,810	43,580	43,230	35,560	23,590	-
18	9,360	9,850	9,790	5,540	1,570	3,050	14,800	43,580	43,060	35,220	23,150	-
19	9,300	9,880	9,670	5,300	1,560	3,690	15,820	43,580	43,190	34,920	22,740	-
20	9,300	9,880	9,780	5,070	1,550	4,560	17,160	43,580	43,230	34,450	22,340	-
21	9,270	9,910	9,580	4,830	1,600	5,440	18,610	43,580	43,300	33,980	21,940	-
22	9,270	9,930	9,390	4,590	1,630	5,830	19,500	43,580	43,230	33,740	21,550	-
23	9,290	9,930	9,200	4,540	1,670	6,040	20,570	43,580	43,090	33,280	21,170	-
24	9,290	9,940	9,040	4,580	1,550	6,160	22,130	43,580	42,950	32,880	20,960	-
25	9,270	10,000	8,930	4,320	1,450	5,860	23,580	43,580	42,740	32,610	20,650	12,300
26	9,290	10,030	9,070	4,080	1,350	5,570	24,510	43,580	42,460	32,380	20,340	12,130
27	9,270	10,060	9,080	3,840	1,330	5,590	25,120	43,580	42,190	31,960	20,020	11,890
28	9,330	10,060	8,880	3,600	1,560	5,500	25,750	43,580	41,910	31,480	19,670	11,700
29	9,350	10,090	8,680	3,370	-	5,240	27,540	43,580	41,670	31,090	19,380	11,580
30	9,350	10,090	8,410	3,310	-	5,020	29,850	43,580	41,330	30,680	19,110	11,420
31	9,360	-	8,180	3,370	-	4,810	-	43,580	-	30,330	18,780	-

Monthly elevation and contents, water year October 1948 to September 1949

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Oct. 1	4,844.94	9,900	-540
Nov. 1	4,844.22	9,360	+790
Dec. 1	4,845.28	10,150	-2,020
Calendar year 1948	-	-	+5,220
Jan. 1	4,842.48	8,130	-4,970
Feb. 1	4,833.66	3,160	-1,670
Mar. 1	4,829.22	1,490	+3,110
Apr. 1	4,836.66	4,600	+27,140
May 1	4,864.58	31,740	+11,840
June 1	4,872.00	43,580	-2,590
July 1	4,870.50	40,990	-11,010
Aug. 1	4,863.34	29,980	-11,530
Sept. 1	4,854.13	18,450	-7,130
Oct. 1	4,846.75	11,320	-
Water year 1948-49	-	-	+1,420

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 1949.

Extremes.- Maximum discharge during year, 325 second-feet Sept. 11 (gage height, 5.00 feet); minimum daily, 84 second-feet Apr. 15.
Maximum combined discharge during year (Jordan River and Surplus Canal), 853 second-feet May 21; minimum daily, 195 second-feet Jan. 20.
1942-49: 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 second-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. 112). For records of combined flow see following page.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	198	166	166	184	*176	161	142	104	102	146	142	218
2	195	164	164	186	180	168	141	96	101	149	149	216
3	185	164	166	178	180	175	139	91	100	164	142	225
4	185	166	169	177	178	176	136	99	94	180	141	223
5	200	166	165	176	b182	173	135	112	105	194	137	225
6	206	164	165	173	b186	172	138	118	98	185	134	232
7	198	166	165	172	b190	168	131	116	100	175	136	223
8	196	166	165	172	b194	168	108	110	103	164	138	230
9	197	163	169	168	198	169	100	142	98	152	135	225
10	195	164	169	168	*199	165	87	132	100	142	147	264
11	193	166	179	169	199	162	85	145	151	131	142	295
12	189	172	183	169	211	163	86	192	161	130	142	265
13	190	170	184	172	209	159	85	188	169	120	139	268
14	190	168	181	172	209	155	85	180	157	162	145	304
15	203	161	176	172	207	153	84	202	154	209	150	309
16	200	164	173	171	208	163	87	210	146	198	150	300
17	188	169	172	168	211	176	88	207	149	184	149	275
18	186	167	172	165	215	174	93	205	151	172	151	250
19	181	164	170	162	219	174	101	166	182	165	191	213
20	178	165	170	158	234	184	110	172	169	164	178	219
21	174	167	173	162	216	169	114	205	141	166	157	218
22	149	169	170	158	195	179	104	164	129	170	161	216
23	158	168	170	169	191	178	105	133	151	167	177	215
24	169	170	168	169	158	204	118	115	162	167	239	212
25	166	174	166	166	139	192	118	108	157	162	258	214
26	163	171	164	166	120	181	107	100	157	160	247	209
27	162	167	165	168	120	179	98	105	158	150	252	194
28	164	165	175	169	144	172	99	120	150	143	245	192
29	169	166	183	169	-	154	109	120	155	145	241	222
30	170	165	182	173	-	139	123	118	150	148	237	243
31	168	-	184	176	-	152	-	100	-	139	232	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	5,665	206	149	183	11,240
November	4,997	174	161	167	9,910
December	5,323	184	164	172	10,560
Calendar year 1948	53,329	215	44	146	105,800
January	5,277	186	158	170	10,470
February	5,268	234	120	188	10,450
March	5,257	204	139	170	10,430
April	3,256	142	84	109	6,460
May	4,375	210	91	141	8,680
June	4,100	182	94	137	8,130
July	5,003	209	120	161	9,920
August	5,374	258	134	173	10,660
September	7,114	309	192	237	14,110
Water year 1948-49	61,009	309	84	167	121,000

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

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 1949. May to December 1904 and July 1913 to September 1934 at outlet of Utah Lake, 7½ miles upstream.

Average discharge.- 36 years (1913-49), 359 second-feet.

Extremes.- Maximum daily discharge during year, 870 second-feet July 15; minimum daily, 10 second-feet Dec. 28.
1913-49: 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 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	526	18	15	14	60	152	225	344	662	828	794	760
2	514	18	15	11	74	168	230	350	632	843	783	751
3	516	18	15	12	59	178	217	400	626	849	778	755
4	516	18	14	12	59	185	232	511	584	850	785	763
5	486	20	16	12	58	187	245	531	461	805	827	750
6	434	23	15	12	65	190	175	650	451	802	827	752
7	401	23	15	12	69	190	37	673	495	828	828	763
8	375	21	15	13	63	187	33	718	527	848	841	745
9	336	21	15	14	62	197	23	742	558	848	839	700
10	330	22	15	13	62	200	23	744	605	853	840	637
11	330	22	21	12	59	200	21	780	658	862	850	617
12	327	23	29	14	47	200	18	793	632	846	850	606
13	326	21	25	14	49	202	19	789	567	838	828	616
14	326	22	16	13	58	204	33	797	707	863	830	597
15	183	22	16	14	59	207	48	815	700	870	829	563
16	131	22	14	14	60	204	54	676	710	851	815	554
17	131	22	14	13	57	210	76	319	725	856	813	589
18	124	22	12	13	52	214	65	237	752	867	832	599
19	114	22	15	13	49	222	46	212	749	850	842	579
20	112	22	14	14	58	173	45	235	706	843	838	610
21	112	22	11	14	49	220	17	205	706	850	844	643
22	111	22	14	14	54	235	80	188	727	836	835	652
23	87	22	12	14	56	262	135	215	752	804	830	634
24	51	20	14	14	69	245	150	248	765	798	788	606
25	55	19	14	23	78	238	214	297	758	818	777	580
26	18	19	13	28	89	214	267	372	759	825	791	578
27	19	19	12	33	115	217	284	481	773	828	793	573
28	19	19	10	37	129	185	302	523	809	805	792	594
29	18	19	12	38	-	202	364	520	797	817	772	594
30	18	19	14	56	-	232	374	552	808	814	766	574
31	18	-	14	52	-	227	-	632	-	811	759	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	7,064	526	18	228	14,010
November	622	23	18	20.7	1,230
December	466	29	10	15.0	924
Calendar year 1948	137,056.4	918	10	374	271,800
January	582	56	11	18.8	1,150
February	1,818	129	47	64.9	3,610
March	6,347	262	152	205	12,590
April	4,052	374	17	135	8,040
May	15,547	815	188	502	30,840
June	20,161	809	451	672	39,990
July	25,908	870	798	836	51,380
August	25,216	850	759	813	50,020
September	19,332	763	554	644	38,340
Water year 1948-49	127,113	870	10	348	252,100

Combined discharge, in second-feet, of Jordan River and Surplus Canal at Salt Lake City, Utah, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	339	264	265	236	224	517	451	268	553	264	251	301
2	320	261	258	240	226	548	452	232	531	262	269	302
3	295	260	261	227	225	566	448	228	489	281	262	318
4	297	266	274	223	221	563	441	239	458	315	264	313
5	328	257	257	223	227	554	439	267	465	339	251	314
6	336	253	260	217	232	541	457	276	429	318	244	326
7	304	260	254	216	239	519	435	271	394	295	242	293
8	297	275	247	216	244	520	344	243	368	277	246	299
9	296	257	246	211	250	518	316	252	338	263	241	307
10	304	261	245	211	252	501	279	229	340	258	263	346
11	316	265	265	212	246	495	267	242	447	263	250	398
12	304	281	276	211	266	491	267	323	444	269	254	365
13	304	279	278	216	274	474	255	378	459	259	244	355
14	297	267	277	215	272	460	254	430	417	274	257	374
15	329	250	266	216	272	448	249	502	402	292	267	385
16	322	258	259	215	276	433	256	570	385	276	267	368
17	292	267	255	211	284	427	260	671	404	257	265	322
18	289	264	254	205	293	424	273	750	411	252	253	315
19	278	257	252	202	307	415	296	698	508	271	269	305
20	269	260	250	195	352	444	307	722	462	283	251	312
21	273	265	257	202	365	439	313	834	385	285	244	308
22	261	268	254	197	385	465	288	730	333	294	258	308
23	250	267	263	213	406	546	271	616	330	302	265	306
24	252	283	250	212	429	626	278	543	323	302	373	302
25	265	298	243	208	435	582	276	526	303	287	394	311
26	257	291	238	209	409	552	256	504	296	283	375	298
27	256	280	239	212	428	546	232	553	302	264	360	286
28	260	283	235	214	461	538	228	612	279	257	358	290
29	275	266	235	214	-	479	260	620	287	258	352	331
30	279	262	234	219	-	469	315	589	275	270	340	355
31	282	-	236	223	-	488	-	526	-	256	328	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	9,026	339	250	291	17,900
November	8,025	298	250	268	15,920
December	7,873	278	234	254	15,620
Calendar year 1948	112,019	870	182	306	222,200
January	6,641	240	195	214	13,170
February	8,500	461	221	304	16,860
March	15,588	626	415	503	30,920
April	9,463	457	228	315	18,770
May	14,444	834	228	466	28,650
June	11,817	553	275	394	23,440
July	8,626	339	252	278	17,110
August	8,757	394	241	282	17,370
September	9,713	398	286	324	19,270
Water year 1948-49	118,473	834	195	325	235,000

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Payson Creek above diversions, near Payson, Utah

Location.- Water-stage recorder, lat. 40°00', long. 111°42', in sec. 3, T. 10 S., R. 2 E., a quarter of a mile above diversion dam for Strawberry Water Users' Association power plant, 5 miles southeast of Payson, and 12 miles upstream from Utah Lake.

Drainage area.- 19.6 square miles.

Records available.- July 1947 to September 1949.

Extremes.- 1947: Maximum discharge during period July to September, 17 second-feet Aug. 10 (gage height, 1.26 feet); minimum, 3.0 second-feet Sept. 29.
1947-48: Maximum discharge during water year, 194 second-feet May 14 (gage height, 2.69 feet); minimum recorded, 3.0 second-feet Nov. 27, but may have been less during periods of ice effect.
1948-49: Maximum discharge during water year, 139 second-feet Apr. 27 (gage height, 2.30 feet); minimum recorded, 4.8 second-feet Nov. 19, but may have been less during periods of ice effect or no gage-height record.

Remarks.- Records good except those for periods of ice effect or doubtful or no gage-height record, which are fair. Flow regulated by several small reservoirs.

Discharge, in second-feet, 1947-49

1947

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1	13	11	7.6	11	11	10	7.9	21	10	8.9	6.8
2	14	9.6	7.6	12	11	9.3	7.9	22	11	8.2	6.8
3	13	9.3	7.4	13	11	9.3	7.6	23	11	8.2	6.2
4	12	9.3	7.4	14	11	8.9	7.6	24	d11	7.6	6
5	11	9.3	7.4	15	12	8.9	7.9	25	d11	7.6	5.4
6	12	8.6	7.4	16	12	8.6	8.2	26	d11	8.2	4.8
7	11	8.2	7.4	17	11	8.6	8.2	27	d10	8.6	4.4
8	12	9.6	7.9	18	11	8.6	7.1	28	d10	8.6	3.9
9	12	10	7.9	19	11	8.2	6.2	29	10	7.9	5.2
10	11	11	7.9	20	11	8.2	6.8	30	11	7.9	8.6
								31	11	7.9	-

Peak discharge (base, 80 sec.-ft.).- No peak above base.
d Doubtful gage-height record; discharge interpolated.

1947-48

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.6	5.2	7.1				6.0	55	27	14	11	10
2	8.2	5.4	7.1				6.0	46	30	14	11	10
3	8.2	5.4	6.5	5.0	(*)		6.0	54	32	14	11	10
4	8.2	5.7	5.7				7.6	73	30	13	12	9.3
5	8.2	5.4	5.4				8.6	84	27	13	13	9.3
6	7.9	5.7	5.2	*f5.0			8.9	106	27	13	12	9.3
7	7.9	6.0	5.4	5.0			7.9	110	26	13	11	9.6
8	7.9	6.0	5.4	5.4	5.0		7.6	84	24	13	13	9.3
9	7.9	5.7	*5.2				8.6	67	23	13	12	9.6
10	6.8	6.0					15	66	23	13	11	10
11	6.0	6.0				(*)	14	66	21	12	11	10
12	5.4	5.7					9.6	82	20	12	11	10
13	5.7	6.0					*8.9	106	20	12	11	9.6
14	5.4	6.0					10	127	19	12	11	9.3
15	5.0	5.7					14	130	19	12	11	9.3
16	5.2	5.7				6.0	21	134	18	11	11	9.3
17	5.0	5.7					34	133	18	11	11	9.6
18	5.0	5.7					35	f96	18	11	11	9.6
19	5.0	6.0					32	f96	18	11	10	10
20	5.0	6.0	5.0	5.0			38	f91	18	11	11	9.6
21	5.7	5.0					53	f78	21	11	11	9.3
22	6.0	5.0					58	65	19	11	11	9.3
23	6.2	5.0			6.0		46	57	18	11	11	9.3
24	6.0	5.0					34	48	18	11	11	9.3
25	5.7	5.0					30	45	17	11	11	9.3
26	5.4	4.8					26	42	19	11	11	9.3
27	5.4	3.5					30	38	19	11	10	9.3
28	5.7	4.1					55	34	17	12	10	9.3
29	6.2	4.1					79	32	16	12	10	8.9
30	5.7	6.2			-		71	30	15	11	10	8.6
31	5.4	-			-		-	27	-	11	10	-

Peak discharge (base, 80 sec.-ft.).- Apr. 21 (7 p.m.) 84 sec.-ft.; Apr. 28 (7 p.m.) 103 sec.-ft.; May 6 (7 p.m.) 177 sec.-ft.; May 14 (5 p.m.) 194 sec.-ft.
* Winter discharge measurement made on this day.
f Gage height for day partly estimated.
Note.- Stage-discharge relation affected by ice Nov. 21-25, Dec. 10 to Jan. 5, Jan. 9 to Apr. 3 (no gage-height record Jan. 24 to Mar. 19; discharge computed on basis of 2 discharge measurements and weather records).

Discharge, in second-feet, of Payson Creek above diversions, near Payson, Utah, 1947-49--Continued

1948-49

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.6	6.2		6.2			6.0	46	28	13	9.3	9.3
2	8.2	6.5				a5.6	6.0	70	27	13	9.3	9.3
3	8.9	7.1					6.0	77	14	14	10	9.3
4	9.3	6.8	b6.2				6.2	61	27	13	9.6	9.3
5	10	6.5				5.7	7.1	43	25	12	10	8.9
6	8.6	6.5		a6.0	b6.0	5.4	8.2	35	24	12	9.6	8.9
7	8.6	7.4				5.2	9.3	34	23	11	10	8.6
8	7.6	6.8	*6.5			5.4	10	39	22	11	10	8.6
9	6.2	6.8	6.5			5.2	11	50	22	11	10	8.2
10	6.5	6.8	6.5			5.2	12	58	21	11	10	8.6
11	6.2	6.8	6.8			5.2	14	59	22	11	9.6	8.6
12	6.2	6.8	6.5	*6.5		5.2	16	53	21	11	9.6	0.6
13	6.2	6.5	6.8	6.5		5.2	19	54	20	11	9.6	9.3
14	6.5	6.5	6.8	6.5		*5.2	18	55	20	10	8.9	8.6
15	6.5	6.5	6.5	6.2		5.4	19	53	19	10	8.6	8.6
16	6.5	6.5	6.5	6.5		5.7	23	44	19	10	8.9	8.6
17	6.5	6.8	6.5			6.0	27	81	18	10	9.3	8.6
18	6.5	6.2	6.5			6.0	31	58	18	10	9.3	8.6
19	6.5	5.7	b6.5			6.8	32	49	17	10	9.3	8.2
20	6.5	6.8	6.5	b6.0		7.1	37	50	17	9.6	9.6	7.9
21	6.5	6.8	6.8		a5.6	6.2	42	53	16	10	9.6	8.2
22	6.5	6.5	6.8	6.0		6.2	58	44	15	10	9.3	8.2
23	6.5	6.5	6.5	6.0		6.2	73	40	15	9.6	10	7.9
24	6.5	6.8	b6.5	6.0		6.0	87	37	15	10	11	7.9
25	6.5	6.5	b6.5			6.0	82	36	15	9.6	10	7.9
26	6.5	6.5	6.2			6.0	80	34	14	9.3	9.6	7.9
27	6.5	6.5	6.5	b6.0		6.0	88	34	14	9.6	9.6	7.9
28	*6.8		6.5			6.2	83	32	14	9.6	9.6	7.9
29	6.5	b6.2	6.2		-	6.2	66	29	14	9.6	9.6	8.2
30	6.5		6.2		-	6.0	46	28	13	9.3	9.6	8.2
31	6.5	-	6.2		-	5.7	-	27	-	9.3	9.6	-

Peak discharge (base, 80 sec.-ft.).- Apr. 27 (5 p.m.) 139 sec.-ft.; May 2 (5:30 p.m.) 111 sec.-ft.; May 10 (6 p.m.) 86 sec.-ft.; May 17 (10 a.m.) 109 sec.-ft.

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of discharge measurements and weather records.

b Stage-discharge relation affected by ice.

Monthly discharge, in second-feet, 1947-48

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
January	-	-	-	-	-
February	-	-	-	-	-
March	-	-	-	-	-
April	-	-	-	-	-
May	-	-	-	-	-
June	-	-	-	-	-
July 1947	350	14	10	11.3	694
August	274.1	11	7.6	8.84	544
September	209.4	8.6	3.9	6.98	415
The period	-	-	-	-	1,650
October 1947	195.9	8.6	5.0	6.32	389
November	162.7	6.2	3.5	5.42	323
December	163	7.1	-	5.26	323
Calendar year	-	-	-	-	-
January 1948	155.4	-	-	5.01	308
February	159	-	-	5.48	315
March	186	-	-	6.0	369
April	780.7	79	6.0	26.0	1,550
May	2,302	134	27	74.3	4,570
June	637	32	15	21.2	1,260
July	371	14	11	12.0	736
August	342	13	10	11.0	678
September	284.6	10	8.6	9.49	564
Water year 1947-48	5,739.3	134	-	15.7	11,380
October 1948	218.4	10	6.2	7.05	433
November	197.2	7.4	5.7	6.57	391
December	199.7	6.8	-	6.44	396
Calendar year 1948	5,833.0	134	-	15.9	11,570
January 1949	188.4	-	-	6.08	374
February	161.2	-	-	5.76	320
March	179.0	7.1	-	5.77	355
April	1,022.8	88	6.0	34.1	2,030
May	1,463	81	27	47.2	2,900
June	581	28	13	19.4	1,150
July	329.5	14	9.3	10.6	654
August	298.0	11	8.6	9.61	591
September	254.8	9.3	7.9	8.49	505
Water year 1948-49	5,093.0	88	-	14.0	10,100

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 1949 in reports of Geological Survey. January 1933 to September 1949 in reports of Spanish Fork water commissioner.

Average discharge.- 33 years (1908-25, 1933-49), 94.1 second-feet.

Extremes.- Maximum discharge during year, 710 second-feet Aug. 9 (gage height, 4.85 feet); minimum not determined, occurred during period of ice effect.
1908-25, 1933-49: 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	30	36	36	43		67	60	215	191	63	35	32
2	30	37	36	43		70	58	208	186	67	34	33
3	28	40	36			74	59	224	172	102	40	34
4	28	39	37			76	64	247	182	100	47	34
5	31	35	b33		a34	79	74	230	174	79	38	32
6	30	35	35			79	82	210	174	72	36	33
7	30	39	35	b36		80	87	195	170	68	36	32
8	29	33	36			80	95	182	159	63	44	29
9	30	34	*b28		*44	73	95	182	149	64	84	29
10	28	35	35		46	79	100	208	155	64	44	34
11	29	41	39		44	82	102	237	155	62	43	32
12	30	39	42		b42	a80	114	256	149	57	41	34
13	28	39	43	*47	b38	a76	120	256	143	52	41	37
14	28	39	42	48	b34	a78	122	268	139	47	40	39
15	28	39	39	46	b40	80	116	296	131	48	37	38
16	30	b38	b33		47	82	124	296	126	57	35	38
17	30	b40	38		48	95	135	345	120	67	32	37
18	30	*36	40		49	94	141	360	116	57	30	40
19	30	34	b35		50	94	137	321	116	54	29	40
20	30	41	41		53	93	149	316	106	47	28	38
21	29	41	43		60	79	157	308	95	49	32	34
22	29	38	b40		*62	79	174	281	89	50	33	35
23	30	42	b36		67	76	201	264	85	48	32	34
24	30	44	b30	b37	66	72	226	247	84	48	35	37
25	31	43	b25		66	64	235	247	85	46	36	44
26	32	38	b28		64	64	228	237	84	42	35	40
27	34	35	b31		64	64	228	237	85	38	34	40
28	40	30	b35		64	67	233	226	78	37	35	41
29	37	33	b37		-	64	240	217	72	39	33	46
30	36	34	b38		-	63	235	204	67	39	32	43
31	36	-	40		-	62	-	193	-	39	32	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	951	40	28	30.7	1,890
November	1,127	44	30	37.6	2,240
December	1,122	43	25	36.2	2,230
Calendar year 1948	22,421	288	23	61.3	44,490
January	1,179	-	-	38.0	2,340
February	1,320	67	-	47.1	2,620
March	2,366	95	62	76.3	4,690
April	4,191	240	58	140	8,310
May	7,713	360	182	249	15,300
June	3,837	191	67	128	7,610
July	1,765	102	37	56.9	3,500
August	1,163	84	28	37.5	2,310
September	1,089	46	29	36.3	2,160
Water year 1948-49	27,823	360	25	76.2	55,200

Peak discharge (base, 330 sec.-ft.).- May 18 (1 a.m.) 378 sec.-ft.; July 3 (6 p.m.) 350 sec.-ft.; Aug. 9 (6 p.m.) 710 sec.-ft.

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of discharge measurements, weather records, and records for station at Castilla.

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 Gold Springs, 1 mile upstream from diversion dam of Bureau of Reclamation, 1¼ 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 1949 in reports of Geological Survey. January 1933 to September 1949 in reports of Spanish Fork water commissioner.

Average discharge.- 22 years (1919-25, 1933-49), 213 second-feet.

Extremes.- Maximum discharge during year, 841 second-feet July 3 (gage height, 5.79 feet); minimum recorded, 27 second-feet Dec. 25, but may have been less during period of no gage-height record.
1919-25, 1933-49: Maximum daily discharge, 1,520 second-feet May 22, 1920; minimum, 24 second-feet Jan. 19, 1943.

Remarks.- Records good except those for periods 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, 270,000 acre-feet, revised) in Colorado River Basin into Diamond Fork for irrigation in Jordan River Basin (see p. 96).

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	149	63	63	69	a50	93	101	452	417	554	336	290
2	138	64	57	67	a50	97	99	458	408	554	321	298
3	130	71	63	43	a50	99	102	504	395	581	348	296
4	132	72	67	40	a60	102	110	465	417	404	368	268
5	140	64	54	36	a60	108	132	386	310	356	383	241
6	120	64	61	a55	a50	108	153	362	276	356	395	223
7	132	72	61	a65	a55	108	168	348	260	365	383	228
8	138	57	64	a65	a65	106	186	336	249	383	414	249
9	138	58	50	a70	75	97	184	333	233	404	411	268
10	122	64	64	a70	74	106	191	362	249	389	356	276
11	84	72	72	a80	79	106	200	395	262	374	333	220
12	63	71	74	a80	75	104	228	420	279	386	327	203
13	61	67	74	84	58	102	239	417	316	404	345	200
14	58	66	74	84	53	110	236	420	371	426	342	182
15	54	69	67	81	67	118	226	449	426	449	339	162
16	57	66	50	64	75	126	246	439	477	465	345	153
17	55	72	66	48	75	140	271	500	537	458	359	155
18	55	60	71	58	77	142	284	523	578	374	389	142
19	55	53	55	50	77	145	287	504	602	321	401	132
20	55	74	71	63	82	155	310	513	574	287	389	140
21	54	71	74	57	93	132	324	520	574	249	353	155
22	54	64	72	69	93	130	342	487	571	244	342	164
23	54	71	69	74	99	122	398	468	609	228	350	173
24	54	72	60	71	97	116	436	458	630	218	324	186
25	55	74	40	a60	97	108	445	452	633	220	282	182
26	55	66	43	a80	93	108	420	449	637	257	254	184
27	58	60	48	a80	91	108	420	439	633	290	239	183
28	74	44	58	a70	93	114	490	423	592	324	231	182
29	69	54	57	a60	-	108	500	408	578	342	241	216
30	64	54	60	a55	-	104	497	380	581	336	268	213
31	64	-	61	a50	-	102	-	374	-	327	284	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	2,591	149	54	83.6	5,140
November	1,949	74	44	65.0	3,870
December	1,920	74	40	61.9	3,810
Calendar year 1948	72,202	648	40	197	143,200
January	1,998	84	36	64.4	3,960
February	2,083	99	50	73.7	4,090
March	3,524	155	93	114	6,990
April	8,225	500	99	274	16,310
May	13,444	520	333	434	26,670
June	13,674	637	233	456	27,120
July	11,325	581	218	365	22,460
August	10,452	414	231	337	20,730
September	6,170	298	132	206	12,240
Water year 1948-49	77,335	637	36	212	153,400

a No gage-height record; discharge computed on basis of weather records and records for Spanish Fork at Thistle and Diamond Fork near Thistle.

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 1949. December 1903 to July 1907 and March 1909 to September 1925 at site 3 miles upstream.

Average discharge.- 28 years (1904-6, 1909-19, 1920-25, 1938-49), 89.1 second-feet.

Extremes.- Maximum discharge during year, 325 second-feet May 21; no flow for several periods.
1903-7, 1909-25, 1938-49: 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 ice effect or no gage-height record, which are poor. Flow regulated by many diversions for irrigation and by hydroelectric power plant. During latter part of irrigation season only waste and return waters pass gage. Station is below all diversions. Discharge includes that of overflow canal constructed in winter of 1947-48, which diverts part of high flow from river about 1 mile above gage.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.0	56	61	b55		a126	132	0	a26	2.0	0	0
2	2.3	54	60	b55		a128	128	0	a22	2.0	0	0
3	2.6	61	63			a138	127	0	a18	5.0	0	0
4	2.8	68	69	a55		a146	130	0	a14	82	0	0
5	4.8	67	74			a147	146	0	a11	5.9	0	0
					a60							
6	7.8	63	70			a141	169	0	8.5	4.5	0	0
7	10	74	63			a144	176	0	6.4	3.8	0	3.4
8	10	66	67			a140	188	0	5.3	a.4	0	.1
9	13	63	61			a133	194	15	5.1	a.1	16	0
10	7.6	65	66			a136	201	22	3.3	0	32	0
				a75								
11	9.4	69	74			136	210	28	2.3	0	4.9	0
12	16	68	78			133	227	28	2.0	0	a.4	0
13	23	66	80		a65	130	245	a22	1.6	0	a.2	0
14	32	67	77			132	249	a16	1.4	0	a.1	0
15	34	68	74			142	240	a10	1.4	0	a.1	0
16	22	65	68			146	248	4	2.0	0	a.1	0
17	23	66	70			159	260	73	2.5	0	a.1	0
18	31	63	75		a80	166	257	268	1.5	0	a.1	0
19	34	53	67			166	243	255	1.6	0	0	0
20	33	64	72			186	227	251	1.0	0	0	0
21	33	70	79			158	223	298	.8	0	0	0
22	35	64	78			160	187	311	1.0	0	0	0
23	34	67	76		a110	154	173	313	.8	0	0	0
24	36	68	70	a65		147	150	302	.8	0	0	0
25	35	70				139	106	289	.9	0	0	0
26	36	65			a114	140	a50	251	.9	0	0	0
27	40	63			a118	138	0	190	1.0	0	0	0
28	52	55	b55		a126	150	0	117	1.0	0	0	0
29	70	58			-	143	0	a50	1.8	0	0	0
30	59	59			-	140	0	a35	2.4	0	0	0
31	57	-			-	139	-	a30	-	0	0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	807.3	70	2.0	26.0	1,600
November	1,925	74	53	64.2	3,820
December	2,077	80	-	67.0	4,120
Calendar year 1948	20,475.8	305	0	55.9	40,620
January	2,065	-	-	66.6	4,100
February	2,233	-	-	79.8	4,430
March	4,483	186	126	145	8,890
April	4,886	260	0	163	9,690
May	3,178	313	0	103	6,300
June	148.3	26	.8	4.94	294
July	105.7	82	0	3.41	210
August	54.0	32	0	1.74	107
September	3.5	3.4	0	.12	6.9
Water year 1948-49	21,965.8	313	0	60.2	43,570

a No gage-height record; discharge interpolated, or computed on basis of discharge measurements, weather records, water commissioner's notes, and records for Spanish Fork at Castilla.
b Stage-discharge relation affected by ice.

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 1949, December 1907 to September 1917 at site 1 1/3 miles downstream.

Average discharge.- 12 years (1914-17, 1940-49), 108 second-feet.

Extremes.- Maximum discharge during year, 766 second-feet Aug. 8 (gage height, 3.36 feet); minimum, 1.0 second-foot Nov. 9 (gage height, 1.02 feet).
1907-17, 1940-49: Maximum discharge observed, that of Aug. 8, 1949; minimum, that of Nov. 9, 1948.

Remarks.- Records fair. Small diversions above station for irrigation. Beginning 1915, flow supplemented by water diverted by tunnel from Strawberry Reservoir in Colorado River Basin for irrigation in Jordan River Basin (see p. 96). Usable capacity of Strawberry Reservoir, 270,000 acre-feet (revised).

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	108	18	17				20	205	218	503	282	244
2	96	25	12				21	228	208	503	271	249
3	90	28	18				23	236	210	461	288	247
4	92	29	20				30	183	220	341	308	221
5	92	22	7.8	b10		b18	44	145	125	314	329	a189
6	79	17					56	132	98	317	341	a182
7	90	21					64	123	94	323	326	a189
8	98	9.5			b12		71	119	90	332	347	205
9	102	15	(*)		(*)		69	117	85	344	320	214
10	85	14				b20	71	128	98	314	311	214
11	a20	16				23	72	134	117	308	297	a155
12	a15	13				22	87	139	143	329	294	a143
13	a15	12	b17	(*)		22	85	136	190	347	305	a135
14	15	11				22	83	139	271	374	302	a115
15	15	11		b14		*23	83	143	339	389	302	a99
16	15	10				25	94	139	392	392	320	90
17	15	12				30	102	152	438	374	335	97
18	14	*9.6				32	108	145	464	302	371	85
19	14	8.3				39	117	141	464	254	380	77
20	14	20				40	128	152	452	219	365	89
21	14	19			(*)	34	128	154	479	205	331	104
22	12	17			b15	34	134	143	500	185	a306	111
23	12	17				30	154	143	a510	176	a267	122
24	11	17				28	171	141	a540	168	a266	133
25	10	16				25	176	139	a540	170	a235	130
26	10	16	b12	b11		24	166	139	a540	200	a212	133
27	10	9.5				24	171	139	a540	241	a197	132
28	15	8.3				26	220	134	512	265	a195	135
29	15	12			-	22	236	128	503	282	a212	159
30	14	11			-	21	238	121	521	271	a251	154
31	14	-			-	21	-	157	-	268	244	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,221	108	10	39.4	2,420
November	464.2	29	8.3	15.5	921
December	461.8	-	-	14.9	916
Calendar year 1948	44,153.5	565	6.5	121	87,570
January	361	-	-	11.6	716
February	375	-	-	13.4	744
March	749	40	-	24.2	1,490
April	3,222	238	20	107	6,390
May	4,574	236	117	148	9,070
June	9,901	540	85	330	19,640
July	9,471	503	168	306	18,790
August	9,110	380	195	294	18,070
September	4,552	249	77	152	9,030
Water year 1948-49	44,462.0	540	-	122	88,200

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of discharge measurements, weather records, and records for Spanish Fork at Castilla and Strawberry Tunnel at West Portal, near Thistle.
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., about 40 feet downstream from west portal of tunnel and 18 miles northeast of Thistle.

Records available.- October 1945 to September 1949. 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, 500 second-feet June 24-26; minimum daily, 4.4 second-feet (seepage) Oct. 11 through early winter months.
1922-25, 1932-49: 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 show water diverted from Strawberry Reservoir (in Colorado River Basin) plus tunnel seepage for use on lands of Strawberry project.

Cooperation.- Records furnished by Spanish Fork Water User's Association.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	91						6	63	120	475	276	236
2	77						6	92	112	467	251	239
3	77						6	78	122	401	285	236
4	77						6	15	108	288	297	202
5	67						6	6	6	277	320	176
6	62						6	6	6	289	331	169
7	77						6	6	6	294	312	176
8	80						6	6	6	303	291	202
9	80						6	6	11	312	306	202
10	55						6	6	35	276	292	203
11	4						6	6	44	276	275	142
12	4						6	6	72	303	277	130
13	4						6	6	120	328	296	122
14	4						6	6	190	362	284	102
15	4						6	6	256	376	287	86
16	4	4	4	4	5	5.5	6	6	327	383	301	83
17	4						6	6	372	354	313	88
18	4						6	6	423	266	353	67
19	4						6	6	443	218	362	64
20	4						6	6	411	199	347	83
21	4						6	6	433	180	302	93
22	4						6	6	449	168	291	107
23	4						6	6	478	150	252	111
24	4						6	6	500	142	251	118
25	4						6	6	500	157	220	113
26	4						6	6	500	205	197	116
27	4						17	6	499	242	182	107
28	4						88	6	469	265	180	108
29	4						80	6	478	276	197	140
30	4				-		84	10	493	260	236	130
31	4				-		-	71	-	256	236	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	827	92	4	26.7	1,640
November	120	-	-	4	238
December	124	-	-	4	248
Calendar year 1948	35,440	547	-	96.8	70,290
January	124	-	-	4	246
February	140	-	-	5	278
March	170	-	-	5.5	337
April	425	88	6	14.2	843
May	479	92	6	15.5	950
June	7,989	500	6	266	15,850
July	8,748	475	142	282	17,350
August	8,600	362	180	277	17,060
September	4,151	239	64	138	8,230
Water year 1948-49	31,897	500		87.4	63,270

Note.- Discharge Nov. 1 to Apr. 26 computed on basis of observed seepage when gates were closed during October and June.

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 1949.

Average discharge.- 14 years (1904-5, 1907-16, 1945-49), 56.2 second-feet.

Extremes.- Maximum discharge during year, 344 second-feet Apr. 24 (gage height, 3.90 feet); minimum, 5.5 second-feet Jan. 2.
1904-9, 1909-16, 1945-49: 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 Feb. 12, 1946.

Remarks.- Records good except those for periods of ice effect or doubtful 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	20	20	23	20	22	30	176	92	33		18
2	20	22	20	23	20	22	30	165	85	31		19
3	18	22	20	20	20	23	30	167	79	32		20
4	18	22	20	b19	20	23	34	182	82	35		19
5	21	22	20	b18	20	24	43	161	77	33		19
6	20	23	20	b17	b20	24	62	136	71	32		20
7	d20	23	20	b17	20	25	84	121	67	32		18
8	d20	23	*20	b18	*20	26	100	108	64	32	a20	19
9	d20	22	20	a19	20	24	102	97	58	33		20
10	20	22	22	a20	21	24	122	98	57	30		21
11	18	22	23	a21	21	25	140	105	58	26		22
12	18	22	23	a21	20	26	176	100	58	29		22
13	18	22	23	a22	20	26	180	89	52	29		22
14	19	22	23	*23	b20	26	165	98	47	24		22
15	19	22	23	23	22	*26	154	110	47	25		22
16	19	22	22	22	22	27	171	105	46	25	20	22
17	19	23	23	b21	22	30	193	132	43	24	21	22
18	19	22	23	20	22	32	198	140	50	24	20	22
19	20	22	22	b20	22	38	207	136	50	25	20	22
20	20	22	23	20	22	43	226	140	49	23	20	21
21	20	22	23	b20	21	38	231	142	50	22	20	20
22	18	21	23	20	21	38	231	136	43	20	20	20
23	20	22	23	21	21	38	266	126	40	20	23	20
24	20	22	22	20	21	37	299	115	38	19	22	20
25	18	22	20	b19	22	35	288	106	38		20	20
26	18	21	20	b19	22	34	251	103	36		17	20
27	19	20	22	20	21	34	242	110	37	a20	15	18
28	20	20	23	20	22	35	235	110	34		18	18
29	20	20	23	b19	-	32	226	106	30		17	19
30	21	20	23	18	-	31	209	105	31		18	20
31	20	-	23	20	-	30	-	95	-		20	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	600	21	18	19.4	1,190
November	652	23	20	21.7	1,290
December	675	23	20	21.8	1,340
Calendar year 1948	14,900	287	15	40.8	29,550
January	623	-	-	20.1	1,240
February	585	-	-	20.9	1,160
March	918	43	22	29.6	1,820
April	4,925	299	30	164	9,770
May	3,820	182	89	123	7,580
June	1,609	92	30	53.6	3,190
July	798	35	-	25.7	1,580
August	611	-	-	19.7	1,210
September	607	22	18	20.2	1,200
Water year 1948-49	16,420	299	-	45.0	32,570

Peak discharge (base, 120 sec.-ft.).- Apr. 24 (11 p.m.) 344 sec.-ft.; May 19 (1 a.m.) 150 sec.-ft.

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of weather records and records for Deer Creek near Wildwood.

b Stage-discharge relation affected by ice.

d Doubtful gage-height record; discharge computed on basis of 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 1949. October 1938 to September 1945 collected by Bureau of Reclamation, available in files of Salt Lake City district office, Geological Survey.

Average discharge.- 11 years (1938-49), 188 second-feet.

Extremes.- Maximum discharge during year, 1,330 second-feet May 15 (gage height, 3.91 feet); minimum, 13 second-feet Oct. 7.
1945-49: Maximum discharge, 1,620 second-feet May 28, 1947; minimum, that of Oct. 7, 1948.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Many diversions above station for irrigation. Records include flow of Weber-Provo diversion canal (see pp.103,104). Flow also slightly affected by small lakes near headwaters that serve as reservoirs.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	34	77	b105			110	155	461	f548	213	32	46
2	34	94	b95			110	155	f466	f461	209	34	44
3	32	94	b115	(*)		121	172	f612	383	236	34	44
4	32	86	b115			127	194	829	383	262	33	41
5	32	77	f113		a105	133	220	f796	f566	217	33	41
6	38	72	*f113			133	240	653	f554	179	33	39
7	36	77	118			136	270	543	f583	121	34	43
8	55	68	124	a115		136	315	f477	665	104	34	44
9	53	64	b90			127	311	f429	796	96	36	44
10	53	82	136		*113	133	301	577	896	92	36	48
11	55	86	146		113	146	306	842	917	70	36	50
12	53	86	143		110	155	339	1,020	952	75	38	50
13	53	92	139		b103	155	368	1,080	784	59	38	72
14	52	89	139		b100	165	339	1,090	f752	55	38	102
15	50	89	118		104	187	301	1,230	f752	48	36	89
16	52	89	94	(*)	104	224	329	1,190	f752	46	38	89
17	50	107	121		b104	270	378	1,160	f752	44	39	86
18	48	102	133		b105	262	409	1,040	f752	44	39	94
19	46	84	107		b108	288	409	f1,040	f659	46	38	96
20	50	110	136	a110	b110	292	456	1,120	520	41	38	96
21	50	113	139		113	244	434	1,090	419	38	38	92
22	46	104	130		110	236	419	959	373	38	43	92
23	44	110	107		116	217	434	653	504	48	41	86
24	41	110	116		113	194	471	f659	532	50	44	84
25	39	107			113	179	510	f1,030	498	41	44	89
26	38	104			113	176	414	f1,130	393	38	41	75
27	39	79			110	183	329	f1,120	f368	38	41	48
28	48	b78	a115		116	159	339	816	334	38	41	46
29	53	b95		a105	-	152	358	822	292	38	44	48
30	68	b87			-	152	488	739	224	36	43	55
31	72	-			-	152	-	f600	-	34	44	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,446	72	32	46.6	2,870
November	2,712	113	64	90.4	5,380
December	3,697	-	-	119	7,330
Calendar year 1948	50,190	1,010	30	-	99,550
January	3,455	-	-	111	6,850
February	3,023	116	-	108	6,000
March	5,454	292	110	176	10,820
April	10,163	510	155	339	20,160
May	26,273	1,230	429	848	52,110
June	17,364	952	224	579	34,440
July	2,694	262	34	86.9	5,340
August	1,181	44	32	38.1	2,340
September	1,975	102	39	65.8	3,920
Water year 1948-49	79,437	1,230	32	218	157,600

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of 2 discharge measurements, weather records, and records for Snake Creek near Charleston.
b Stage-discharge relation affected by ice.
f Computed on basis of partly estimated gage-height record.

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, a quarter of a mile (revised) 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 1949.

Extremes.- Maximum contents observed during year, 154,100 acre-feet May 26 (elevation, 5,417.57 feet); minimum, 100,900 acre-feet Mar. 12 (elevation, 5,394.58 feet).
1940-49: Maximum contents, 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	107,300	108,900	110,500	108,100	105,000	101,500	105,400	120,000	153,000	152,900	140,600	126,900
2	107,100	109,200	110,400	107,900	105,000	101,400	105,600	120,500	153,000	152,900	140,200	126,500
3	106,800	109,400	110,300	107,800	104,900	101,300	105,800	121,200	152,900	153,000	139,700	126,000
4	106,600	109,600	110,200	107,600	104,800	101,300	106,000	122,300	153,000	153,000	139,200	125,600
5	106,600	109,800	110,100	107,500	104,700	101,300	106,200	123,500	153,000	153,000	138,800	125,200
6	106,500	109,900	110,000	107,400	104,600	101,200	106,600	124,200	152,900	152,900	138,400	124,800
7	106,500	110,000	109,800	107,300	104,600	101,200	107,000	124,800	152,900	152,700	137,900	124,400
8	106,400	110,100	109,700	107,300	104,500	101,100	107,400	125,200	153,100	152,300	137,700	124,000
9	106,400	110,200	109,600	107,200	104,400	101,100	107,700	125,600	153,200	152,000	137,200	123,600
10	106,400	110,300	109,600	107,200	104,300	101,000	108,100	126,300	153,200	151,600	136,700	123,200
11	106,400	110,400	109,600	107,100	104,200	101,000	108,500	127,500	153,200	151,200	136,200	122,800
12	106,400	110,500	109,600	107,100	104,100	100,900	109,000	129,300	153,500	150,800	135,800	122,500
13	106,600	110,600	109,400	106,900	103,900	101,100	109,400	131,000	153,200	150,400	135,300	122,100
14	106,800	110,900	109,300	106,800	103,800	101,300	109,900	132,800	152,900	150,000	134,800	121,900
15	107,000	111,100	109,200	106,700	103,700	101,500	110,400	135,000	152,800	149,400	134,300	121,700
16	107,100	111,200	109,200	106,600	103,500	101,700	111,000	137,200	152,800	149,000	133,800	121,400
17	107,200	111,300	109,200	106,500	103,300	101,900	111,500	139,400	152,900	148,400	133,300	121,200
18	107,200	111,300	109,200	106,400	103,200	102,200	112,100	141,600	152,900	147,900	132,800	121,000
19	107,200	111,300	109,200	106,300	103,000	102,600	112,800	143,500	152,900	147,400	132,400	120,800
20	107,200	111,300	109,200	106,200	102,900	103,000	113,500	145,700	152,800	147,000	131,900	120,600
21	107,200	111,300	109,200	106,100	102,700	103,200	114,300	148,300	152,700	146,500	131,400	120,500
22	107,300	111,300	109,200	106,100	102,600	103,400	115,100	150,300	152,800	146,000	130,900	120,300
23	107,400	111,300	109,100	106,100	102,400	103,600	116,000	151,800	153,000	145,400	130,500	120,100
24	107,500	111,300	108,900	106,000	102,300	103,800	116,800	152,900	152,900	144,900	130,100	119,900
25	107,600	111,200	108,700	105,800	102,100	104,000	117,800	153,700	152,800	144,400	129,700	119,800
26	107,800	111,100	108,600	105,700	102,000	104,200	118,200	154,100	152,800	143,800	129,300	119,600
27	108,000	111,000	108,500	105,600	101,800	104,400	118,400	154,000	152,900	143,300	128,900	119,400
28	108,200	110,900	108,500	105,500	101,700	104,600	118,700	153,400	152,900	142,700	128,500	119,200
29	108,300	110,700	108,400	105,400	-	104,800	119,000	153,200	152,900	142,100	128,100	119,000
30	108,500	110,600	108,300	105,200	-	105,000	119,500	153,200	152,900	141,600	127,700	118,800
31	108,700	-	108,200	105,100	-	105,200	-	153,100	-	141,000	127,300	-

Monthly elevation and contents, water year October 1948 to September 1949

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30	5,397.85	107,500	-
Oct. 31	5,398.40	108,700	+1,200
Nov. 30	5,399.32	110,600	+1,900
Dec. 31	5,398.17	108,200	-2,400
Calendar year 1948	-	-	-16,200
Jan. 31	5,396.67	105,100	-3,100
Feb. 28	5,394.95	101,700	-3,400
Mar. 31	5,396.70	105,200	+3,500
Apr. 30	5,403.45	119,500	+14,300
May 31	5,417.20	153,100	+33,600
June 30	5,417.14	152,900	-200
July 31	5,412.58	141,000	-11,900
Aug. 31	5,406.90	127,300	-13,700
Sept. 30	5,403.15	118,800	-8,500
Water year 1948-49	-	-	+11,300

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 1949. 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, 1,440 second-feet May 27, June 12 (gage height, 4.65 feet); minimum, 44 second-feet Nov. 14.
1945-49: Maximum discharge, that of May 27, June 12, 1949; minimum, 16 second-feet Mar. 11, 1948.

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 diversions from Strawberry River drainage to Daniels Creek. Records include flow of Weber-Provo diversion canal.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	264	108	277	284	264	270	284	463	857	420	389	a377
2	264	108	277	284	264	270	284	473	752	425	389	a377
3	267	108	277	284	257	270	284	483	663	430	394	a370
4	267	108	277	284	257	270	284	483	598	430	411	a367
5	186	128	277	284	257	270	291	483	771	434	377	a364
6	155	148	277	288	253	274	291	478	993	434	377	a355
7	152	158	277	288	253	274	291	473	837	434	373	a352
8	140	166	277	288	253	274	295	458	973	448	250	a361
9	128	171	274	288	250	274	295	448	1,090	448	373	a361
10	117	174	274	288	250	274	299	398	1,160	453	377	a358
11	112	174	274	288	253	277	302	377	1,240	448	385	a349
12	112	174	274	288	253	277	310	425	1,330	448	389	a346
13	112	174	274	284	253	277	302	483	1,410	453	398	a343
14	112	97	274	284	257	277	306	498	1,290	453	394	340
15	112	185	270	284	267	277	277	503	1,080	448	394	337
16	112	185	270	281	264	281	277	514	898	448	394	333
17	112	224	270	277	267	284	277	514	939	443	394	299
18	112	247	270	277	267	284	277	478	1,000	439	398	306
19	112	244	277	274	267	288	277	443	1,000	439	398	302
20	112	247	277	277	267	284	277	360	932	430	398	302
21	112	247	277	277	267	284	277	270	797	425	394	a302
22	112	244	277	274	267	288	306	314	639	425	398	a299
23	108	247	277	274	270	288	329	360	719	425	411	a279
24	108	247	274	274	267	284	352	364	817	425	407	a297
25	108	270	274	267	267	284	389	905	758	439	389	a294
26	108	274	274	267	267	284	434	1,290	586	443	a380	a291
27	108	277	277	270	267	284	483	1,410	558	448	a374	a291
28	108	277	277	267	267	284	509	1,420	552	439	a367	a286
29	108	277	281	264	-	284	498	1,260	430	453	a367	a286
30	108	277	274	267	-	284	483	1,040	402	463	a374	a283
31	108	-	284	264	-	284	-	1,020	-	453	a374	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	4,256	267	108	137	8,440
November	5,965	277	108	199	11,830
December	8,540	284	270	275	16,940
Calendar year 1948	110,616	1,340	19	302	219,400
January	8,639	288	264	279	17,140
February	7,312	270	250	261	14,500
March	8,658	288	270	279	17,170
April	9,840	509	277	328	19,520
May	18,888	1,420	270	609	37,460
June	26,071	1,410	402	869	51,710
July	13,643	463	420	440	27,060
August	11,887	411	250	383	23,580
September	9,825	377	283	328	19,490
Water year 1948-49	133,524	1,420	108	366	264,800

a No gage-height record; discharge computed on basis of 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 1949.

Average discharge.- 37 years, 350 second-feet. (Since 1932 flow includes that of Weber-Provo diversion canal.)

Extremes.- Maximum discharge during year, 1,420 second-feet June 12 (gage height, 5.32 feet); minimum, 54 second-feet Nov. 14.
1911-49: Maximum discharge observed, 3,180 second-feet June 11, 1921; minimum, 23 second-feet Mar. 11, 1948.

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. 104).

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	262	117	288	296	275	280	305	500	871	480	427	389
2	262	119	288	291	275	286	307	511	772	483	424	389
3	265	117	288	288	275	288	307	525	687	487	424	382
4	267	117	288	288	275	291	313	525	634	490	453	379
5	190	132	288	286	275	294	318	518	759	494	424	376
6	155	159	288	294	275	291	318	511	965	490	417	367
7	153	167	291	294	273	291	324	511	824	490	414	364
8	143	176	291	296	275	288	332	494	935	497	291	373
9	132	180	291	296	275	286	332	487	1,030	494	417	373
10	119	182	291	294	273	286	332	446	1,110	497	420	370
11	113	182	296	291	275	286	338	427	1,200	490	417	361
12	113	182	291	291	278	286	344	470	1,300	487	414	358
13	113	184	291	291	278	286	341	525	1,390	494	420	355
14	113	102	291	288	275	288	330	543	1,280	490	417	352
15	115	193	291	288	275	291	318	546	1,070	487	411	347
16	115	193	291	286	275	294	313	539	905	487	411	335
17	115	232	294	278	275	294	318	543	940	483	414	310
18	115	260	291	283	275	296	318	518	985	483	417	313
19	115	260	291	283	273	299	324	494	990	483	417	310
20	115	260	291	286	273	299	324	430	945	480	414	310
21	115	260	294	286	273	302	321	335	829	477	411	310
22	117	260	291	286	273	302	355	364	691	473	414	307
23	117	260	294	283	273	305	379	411	763	470	424	305
24	117	260	291	286	273	302	408	411	834	473	417	305
25	117	278	288	283	273	299	443	811	780	483	401	302
26	117	288	291	283	273	302	483	1,200	641	490	392	299
27	117	288	294	280	273	305	518	1,370	604	490	386	299
28	119	286	294	278	273	302	546	1,390	604	490	379	294
29	117	288	291	278	-	302	536	1,260	494	490	379	294
30	117	288	291	278	-	302	518	1,040	466	494	386	291
31	117	-	294	278	-	302	-	1,010	-	483	386	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	4,377	267	113	141	8,680
November	6,270	288	102	209	12,440
December	9,023	296	288	291	17,900
Calendar year 1948	114,492	1,480	29	313	227,100
January	8,887	296	278	287	17,630
February	7,682	278	273	274	15,240
March	9,125	305	280	294	18,100
April	10,963	546	305	365	21,740
May	19,665	1,390	335	634	39,000
June	26,298	1,390	466	877	52,160
July	15,079	497	470	486	29,910
August	12,638	453	291	408	25,070
September	10,119	389	291	337	20,070
Water year 1948-49	140,126	1,390	102	384	277,900

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 1949. 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.- 13 years (1933-34, 1937-49), 165 second-feet.

Extremes.- Maximum discharge during year, 915 second-feet May 29 (gage height, 5.58 feet); minimum, 0.3 second-foot Aug. 9.

1903-5, 1933-34, 1937-49: Maximum discharge observed, 1,620 second-feet May 27, 1904; practically no flow during several periods.

Remarks.- Records good except 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.104). 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 1948-49:

Month	Diversion (acre-feet)	Month	Diversion (acre-feet)
October	434	May	725
November	540	June	732
December	459	July	713
January	434	August	694
February	448	September	564
March	496		
April	600	Water year 1948-49	6,839

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	113	268	281		312	301	53	439	3.6	1.4	1.0
2	15	108	268	283		314	301	46	314	2.8	1.4	3.4
3	14	110	268	273		314	303	39	223	2.2	2.4	5.4
4	16	122	270		a280	310	308	41	208	2.2	4.6	4.6
5	30	139	268			310	312	41	240	2.4	7.6	4.4
6	41	164	266			305	319	46	552	3.6	2.4	3.4
7	49	172	268			303	321	35	417	4.1	1.0	1.1
8	85	175	275		277	303	328	52	473	4.6	.6	.8
9	79	178	273	a280		303	324	42	552	9.8	.4	1.6
10	72	178	273		a280	303	324	23	631	10	.4	17
11	77	178	281			303	326	6.6	727	11	.4	42
12	95	178	277			303	328	3.4	780	11	.7	52
13	72	176	275			299	326	9.0	878	11	.7	f54
14	62	103	277	288		301	310	9.4	810	11	.6	a56
15	68	168	277	288		299	288	19	638	7.3	1.4	f58
16	68	167	275		a290	294	250	19	417	2.4	.6	52
17	68	191	279			296	234	119	425	2.1	.5	49
18	72	217	277			303	216	200	450	2.8	.4	54
19	73	217	275			308	207	176	473	2.8	.5	52
20	72	223	277		a300	314	210	221	414	2.1	.8	53
21	71	227	279		a305	312	196	275	317	1.6	.7	56
22	74	229	279		310	317	186	283	184	1.4	.8	60
23	76	236	277		312	317	173	310	173	1.6	3.4	60
24	72	238	275	a280	312	312	73	196	266	1.1	3.8	59
25	67	244	273		312	310	52	402	264	1.1	4.6	55
26	64	264	270		310	310	59	698	170	.8	2.4	50
27	68	268	285		310	308	57	830	120	.9	1.6	51
28	80	268	279		310	310	73	895	100	1.2	1.0	50
29	110	266	277		-	308	69	838	53	1.1	.9	56
30	110	266	279		-	303	64	591	17	1.9	.6	66
31	118	-	279		-	303	-	556	-	3.4	.5	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	2,051	118	13	66.2	4,070
November	5,783	268	103	193	11,470
December	8,519	285	266	275	16,900
Calendar year 1948	52,367.8	979	.3	143	103,900
January	8,693	-	-	280	17,240
February	8,168	-	-	292	16,200
March	9,507	317	294	307	18,860
April	6,838	328	52	228	13,560
May	7,074.4	895	3.4	228	14,030
June	11,725	878	17	391	23,260
July	124.9	11	.8	4.03	248
August	49.1	7.6	.4	1.58	97
September	1,127.7	66	.8	37.6	2,240
Water year 1948-49	69,659.1	895	.4	191	138,200

a No gage-height record; discharge computed on basis of weather records and records for station at Vivian Park.

f Fragmentary gage-height record; discharge computed from partly estimated gage heights.

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 1949 in reports of Geological Survey. 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, 537 second-feet May 16; no water diverted from Weber River for several months.
1945-49: Maximum daily discharge, 747 second-feet 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., R. 6 E., for irrigation and water supply in Jordan 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 to Apr. 27, July 12 to Sept. 30.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							0	200	15	198		
2							0	243	19	211		
3							0	308	17	209		
4							0	343	170	211		
5							0	347	310	186		
6							0	325	320	152		
7							0	301	334	130		
8							0	293	338	116		
9							0	289	347	96		
10							0	347	356	60		
11							0	433	381	27		
12							0	487	125	0		
13							0	510	34	0		
14							0	521	31	0		
15							0	529	31	0		
16							0	537	33	0		
17							0	458	32	0		
18							0	354	32	0		
19							0	356	30	0		
20							0	363	32	0		
21							0	361	30	0		
22							0	236	189	0		
23							0	4.4	320	0		
24							0	240	312	0		
25							0	448	239	0		
26							0	443	212	0		
27							0	209	211	0		
28							10	6.6	209	0		
29							127	6.1	207	0		
30							222	5.7	202	0		
31							-	5.7	-	0		

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 1946	3,188.4	201	0	8.71	6,330
January	0	0	0	0	0
February	0	0	0	0	0
March	0	0	0	0	0
April	359	222	0	12	712
May	9,509.5	537	4.4	307	18,880
June	5,098	361	15	170	10,110
July	1,596	211	0	51.5	3,170
August	0	0	0	0	0
September	0	0	0	0	0
Water year 1948-49	16,562.5	537	0	45.4	32,850

Weber-Provo diversion canal near Woodland, Utah

Location.- Water-stage recorder and Parshall flume, 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 1949.

Extremes.- Maximum daily discharge during year, 505 second-feet May 16; no water diverted from Weber River or Beaver Creek for several months.
1931-49: Maximum daily discharge, 676 second-feet 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 quantity 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. No water was diverted from Weber River or Beaver Creek on days for which no figures are given.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							-	188	10	197		
2							-	226	12	208		
3							-	289	13	208		
4							-	328	126	209		
5							-	334	295	188		
6							-	315	303	154		
7							-	293	326	128		
8							-	283	332	112		
9							-	275	339	95		
10							-	324	348	47		
11							-	401	350	26		
12							-	456	181	8.5		
13							-	473	17	-		
14							-	485	9.5	-		
15							-	498	4.1	-		
16							-	505	4.5	-		
17							-	468	7.5	-		
18							-	367	7.5	-		
19							-	370	7.0	-		
20							-	378	6.6	-		
21							-	378	6.1	-		
22							-	303	143	-		
23							-	33	303	-		
24							-	177	299	-		
25							-	419	256	-		
26							-	426	209	-		
27							-	292	211	-		
28							9.5	23	209	-		
29							77	18	208	-		
30							193	9.0	204	-		
31							-	9.5	-	-		

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	-	-	-	-	-
November	-	-	-	-	-
December	-	-	-	-	-
Calendar year 1948	2,807.9	-	-	-	5,570
January	-	-	-	-	-
February	-	-	-	-	-
March	-	-	-	-	-
April 28-30	279.5	193	9.5	93.2	554
May	9,341.5	505	9.0	301	18,530
June	4,746.8	350	4.1	158	9,420
July 1-12	1,580.5	209	8.5	132	3,130
August	-	-	-	-	-
September	-	-	-	-	-
Water year 1948-49	15,948.3	-	-	-	31,630

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 1949. 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, 90 second-feet May 20 (gage height, 2.77 feet); minimum recorded, 36 second-feet Feb. 10, but probably was less during period of no gage-height record.
1945-49: 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	45	48	45	41		39	50	46	78	50	47	44
2	45	50	45	41		40	50	48	79	54	46	43
3	46	50	44	42		41	50	44	67	58	46	43
4	47	50	44	42		41	50	50	62	58	45	44
5	49	49	45	42	a38	42	50	49	65	57	44	42
6	48	49	44	42		43	50	52	60	55	44	41
7	48	51	45	42		44	50	47	61	56	43	40
8	48	51	45	41		44	50	48	63	54	43	40
9	49	51	44	41		44	50	47	64	51	42	41
10	49	51	43	41	37	45	50	48	58	49	44	41
11		51	43	41	38	46	50	60	63	49	44	44
12		50	43	41	38	46	50	56	67	48	44	42
13		50	44	41	37	46	50	57	62	49	44	46
14		50	44	41	38	48	47	63	59	51	45	46
15		50	44	40	38	49	43	61	61	52	45	48
16		48	44	40	38	51	41	59	57	50	45	48
17		50	44		38	53	41	71	53	51	46	44
18	a52	49	43		38	53	40	77	59	52	45	44
19		48	43		38	54	40	74	64	51	45	42
20		48	43		38	55	45	81	61	49	44	41
21		48	43		38	56	46	83	64	48	43	41
22		48	43		39	56	45	82	63	50	41	41
23		47	42		39	54	45	80	61	50	41	43
24		48	42	a39	39	53	46	66	57	48	41	44
25		47	41		39	52	48	69	54	47	41	44
26	55	47	41		39	51	48	70	52	47	44	43
27	52	46	41		40	52	48	69	53	46	44	45
28	50	46	41		39	51	46	89	53	46	44	45
29	49	46	41		-	50	47	75	55	45	43	48
30	48	45	41		-	50	49	76	54	44	44	50
31	48	-	41		-	51	-	73	-	45	44	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,556	-	45	50.2	3,090
November	1,462	51	45	48.7	2,900
December	1,336	45	41	43.1	2,650
Calendar year 1948	16,735	81	36	45.9	33,320
January	1,744	42	-	40.1	2,470
February	1,[illegible]32	40	-	37.8	2,090
March	1,500	58	39	48.4	2,980
April	1,403	50	40	47.0	2,790
May	1,980	83	44	62.9	3,870
June	1,827	79	52	60.9	3,620
July	1,558	58	44	50.2	3,090
August	1,[illegible]81	47	41	43.9	2,700
September	1,[illegible]38	50	40	43.5	2,590
Water year 1948-49	17,561	83	-	48.1	34,840

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

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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 3¼ miles northwest of Wallsburg.

Drainage area.- 71.9 square miles.

Records available.- October 1945 to September 1949. 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, 115 second-feet Apr. 25 (gage height, 3.72 feet); minimum, 2.1 second-feet Oct. 3.
1945-49: Maximum discharge, 179 second-feet Apr. 21, 1946 (gage height, 3.24 feet); minimum, 1.8 second-feet Sept. 7-8, 1948.

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

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.4	4.7	10	10		11	18	75	28	4.5	3.7	3.9
2	2.2	6.8	10	12		11	17	66	20	4.3	4.1	4.1
3	2.1	6.2	10	11		12	16	75	18	4.5	4.5	4.3
4	2.2	6.8	10	10		12	17	98	18	5.5	4.3	4.1
5	2.8	6.5	9.7	8	8	12	19	84	20	5.2	4.1	3.9
6	2.4	7.1	9.7			13	23	67	18	4.7	3.7	3.7
7	2.4	9.0	9.7			13	27	57	18	4.5	3.5	3.7
8	2.4	8.0	10			13	40	51	20	4.3	3.5	3.9
9	2.2	7.7	9.4			13	47	53	19	4.7	3.5	3.9
10	2.4	8.7	10		9	13	48	61	16	5.7	3.7	5.2
11	2.2	10	10		8.3	16	50	68	16	5.5	3.3	6.2
12	2.4	10	10		7.7	17	59	66	15	5.5	3.5	5.0
13	2.5	10	11		7.1	18	63	67	14	5.5	3.7	5.2
14	2.6	10	10		8.3	20	59	75	11	5.0	3.5	5.0
15	3.0	10	9.4		9.0	30	53	83	10	4.3	3.1	4.7
16	2.6	10	9.0		9.0	35	58	81	9.7	4.3	3.1	4.3
17	2.8	14	9.4		9.4	39	64	87	9.4	4.1	3.1	3.7
18	3.0	12	9.0		9.7	35	68	96	9.0	4.1	3.1	3.5
19	3.1	10	7.1	9	9.7	43	72	99	8.0	4.3	3.1	3.5
20	3.3	11	8		9.7	40	75	98	7.7	4.3	3.0	3.5
21	3.1	11	9		10	30	75	94	6.5	4.1	2.8	3.5
22	3.1	11	8		9.7	29	76	86	6.2	4.1	3.0	3.7
23	3.3	11	8		10	31	86	75	6.2	4.1	3.1	3.9
24	3.1	12	7		11	24	100	67	5.2	3.9	3.3	3.7
25	3.1	12	7		11	23	107	65	5.5	4.5	3.1	3.7
26	3.1	12	8		11	21	94	64	6.0	5.2	3.0	3.7
27	3.3	10	9		10	20	95	58	6.2	5.0	2.8	3.7
28	4.5	10	10		10	24	96	55	6.0	4.7	3.0	3.9
29	5.0	10	9		-	21	95	51	5.7	4.7	3.0	4.3
30	4.3	9.7	8		-	19	95	46	5.5	4.1	3.3	4.3
31	4.1	-	9		-	18	-	38	-	3.5	3.7	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	91.0	5.0	2.1	2.94	180
November	287.2	14	4.7	9.57	570
December	283.4	11	7	9.14	562
Calendar year 1948	5,767.4	110	1.8	15.8	11,440
January	285	-	-	9.2	565
February	251.6	-	-	8.99	499
March	676	43	11	21.8	1,340
April	1,812	107	16	60.4	3,590
May	2,206	99	38	71.2	4,380
June	363.8	28	5.2	12.1	722
July	142.7	5.7	3.5	4.60	283
August	105.2	4.5	2.8	3.39	209
September	123.7	6.2	3.5	4.12	245
Water year 1948-49	6,627.6	107	2.1	18.2	13,140

Note.- No gage-height record Dec. 20 to Jan. 3, Jan. 5 to Feb. 9, Mar. 13-16; discharge computed on basis of discharge measurements, weather records, and records for nearby streams.

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.

Drainage area.- 26 square miles.

Records available.- October 1945 to September 1949. 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, 73 second-feet Apr. 23; minimum, 8.2 second-feet Sept. 23.
1945-49: Maximum discharge, 92 second-feet Apr. 28, 1948; minimum, 7.7 second-feet Sept. 11, 1946.

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

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	13	12	12		11	13	a44	19	11	9.0	9.3
2	10	14	11	12		11	14	43	19	11	9.3	9.6
3	10	13	12	b12		11	14	46	19	11	9.3	9.8
4	11	13	12	*b12		12	14	44	19	11	9.3	9.6
5	11	12	*11	b12	a11	12	16	37	19	11	9.3	9.6
6	11	12	11	b12		12	19	33	19	11	9.3	9.6
7	12	13	11			12	22	31	19	11	9.3	9.6
8	12	14	11			12	23	30	18	11	9.3	9.3
9	12	13	12			11	23	31	18	11	9.3	9.3
10	12	12	12		*11	12	25	29	17	10	9.3	9.6
11	11	13	12		11	12	25	28	17	10	9.0	9.3
12	11	13	12		11	12	a35	28	18	10	9.0	9.0
13	11	13	12		b11	12	a38	28	16	10	9.0	9.3
14	12	13	12		b11	12	a35	28	16	10	9.0	9.3
15	14	12	11		12	12	a33	27	16	10	9.0	9.3
16	13	12	10		12	14	a36	25	15	10	9.0	9.0
17	13	13	12		12	*14	a45	33	16	10	9.0	8.8
18	13	11	12		12	14	a48	30	16	10	8.8	8.8
19	13	11	12	a12	12	15	49	28	15	10	8.8	8.8
20	12	12	12		12	15	49	31	15	9.8	8.8	8.6
21	12	12	13		11	16	49	33	14	9.6	8.8	8.6
22	12	12	12		11	16	56	30	12	9.6	8.8	8.6
23	12	12	12		11	15	62	28	12	9.3	9.3	8.4
24	12	12	12		11	14	64	26	12	9.3	9.6	8.6
25	12	12	b12		11	14	a62	24	12	9.0	9.3	8.6
26	12	12	b12		11	14	a57	23	12	9.0	9.3	8.6
27	13	11	12		11	14	a53	22	12	9.0	9.3	8.8
28	14	b11	12		11	14	a52	22	12	9.0	9.3	9.0
29	13	11	12		-	13	a51	21	11	9.0	9.3	9.0
30	13	11	12		-	13	a50	19	11	9.0	9.3	9.0
31	13	-	12		-	13	-	19	-	9.0	9.3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	372	14	10	12.0	738
November	368	14	11	12.3	730
December	365	13	10	11.8	724
Calendar year 1948	5,684	72	8.2	15.5	11,280
January	372	-	-	12.0	738
February	314	-	-	11.2	623
March	404	16	11	13.0	801
April	1,132	64	13	37.7	2,250
May	921	46	19	29.7	1,830
June	466	19	11	15.5	924
July	309.6	11	9.0	9.99	614
August	283.7	9.6	8.8	9.15	563
September	272.7	9.8	8.4	9.09	541
Water year 1948-49	5,580	64	8.4	15.3	11,080

Peak discharge (base, 50 sec.-ft.).- Apr. 23 (7 p.m.) 73 sec.-ft.
* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of weather records and records for Hobble Creek near Springville.
b Stage-discharge relation affected by ice.

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 1949.

Average discharge.- 37 years, 30.0 second-feet.

Extremes.- Maximum discharge during year, 54 second-feet May 19 (gage height, 1.34 feet); minimum, 14 second-feet June 18, July 7.
1911-49: 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 below all diversions.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27	31	27	25	24	22	22	31	30	19	23	24
2	28	32	27	25	24	22	22	29	28	21	21	24
3	27	31	28	24	24	23	22	31	27	21	22	24
4	27	32	27	24	24	23	22	32	27	22	21	24
5	28	32	26	24	24	23	22	31	27	20	21	24
6	27	32	26	24	24	24	22	29	27	24	21	25
7	27	32	26	24	24	24	22	28	27	23	22	25
8	28	32	26	25	24	24	22	27	25	23	22	22
9	28	31	25	25	24	23	23	26	26	23	24	
10	28	30	26	25	24	23	23	27	26	23	24	
11	28	30	27	26	24	22	23	27	27	22	22	a23
12	29	30	27	26	24	22	24	24	28	22	24	
13	29	29	27	26	24	22	24	25	28	22	24	
14	29	29	27	25	24	22	24	26	22	21	24	
15	30	29	26	24	24	22	24	27	21	19	24	24
16	30	30	26	24	24	22	22	28	21	20	24	24
17	29	29	26	24	24	22	20	34	21	22	24	24
18	30	27	26	23	23	22	21	45	21	22	22	24
19	29	27	26	24	23	22	21	52	18	24	22	25
20	30	27	25	24	23	23	22	47	21	23	23	23
21	31	27	24	24	24	23	24	41	22	21	22	21
22	31	27	24	24	24	24	25	36	24	24	22	24
23	31	27	24	24	24	24	26	33	26	21	22	26
24	32	27	25	24	24	23	29	32	24	18	23	27
25	32	28	25	24	23	23	31	32	24	19	22	27
26	33	27	25	22	23	23	29	32	24	20	22	25
27	32	27	25	23	24	24	30	33	24	24	22	26
28	32	27	24	24	22	24	32	33	22	22	22	26
29	32	27	24	24	-	23	32	33	21	22	22	26
30	31	27	24	24	-	23	32	31	20	24	23	25
31	31	-	24	24	-	23	-	30	-	23	24	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	916	33	27	29.5	1,820
November	873	32	27	29.1	1,730
December	795	28	24	25.6	1,580
Calendar year 1948	10,496	45	22	28.7	20,810
January	752	26	22	24.3	1,490
February	665	24	22	23.8	1,320
March	709	24	22	22.9	1,410
April	737	32	20	24.6	1,460
May	992	52	24	32.0	1,970
June	730	30	18	24.3	1,450
July	674	24	18	21.7	1,340
August	700	24	21	22.6	1,390
September	728	27	-	24.3	1,440
Water year 1948-49	9,271	52	18	25.4	18,400

a No gage-height record; 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., 4 miles upstream from mouth of canyon, and 8 miles 8 miles northeast of American Fork, Utah.

Drainage area.- 55 square miles.

Records available.- October 1945 to September 1949. January 1927 to September 1945 available in files of Salt Lake City district office, Geological Survey.

Average discharge.- 22 years, 51.4 second-feet.

Extremes.- Maximum discharge during year, 367 second-feet May 28 (gage height, 6.73 feet); minimum daily, 14 second-feet Nov. 19, Feb. 8, 9.
1927-49: Maximum discharge, 455 second-feet May 17, 1948; 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	18	18	17	b15	16	17	142	255	157	49	28
2	20	20	18	15	15	16	17	153	223	153	48	28
3	20	19	18	b15	16	17	17	194	192	153	45	27
4	20	18	18	b15	16	18	18	199	182	147	44	26
5	22	16	17	b15	16	18	20	168	169	144	42	26
6	20	17	18	b15	b15	17	25	142	165	140	41	25
7	20	18	18	b15	15	18	30	130	167	133	40	24
8	20	17	18	b16	14	18	35	132	196	126	40	24
9	20	16	18	16	14	17	34	153	242	119	40	24
10	20	16	*18	16	15	17	39	180	272	114	39	26
11	19	17	18	16	15	17	47	196	298	110	38	26
12	19	18	18	15	15	17	59	196	310	108	37	24
13	18	18	18	16	b15	16	64	207	298	106	36	25
14	20	18	18	16	b16	16	63	230	274	105	34	24
15	21	18	17	16	18	17	67	244	265	100	33	24
16	20	18	b15	15	14	18	78	239	274	98	33	23
17	20	18	18	15	15	b18	87	270	277	94	33	23
18	20	16	18	16	15	18	90	267	282	91	32	23
19	20	14	16	15	15	20	97	260	272	88	31	23
20	20	17	18	16	15	22	106	260	244	82	30	23
21	19	18	18	15	15	21	104	237	230	78	30	23
22	18	17	17	15	15	22	114	214	228	74	29	23
23	18	18	17	16	15	22	146	201	219	70	35	23
24	18	18	16	17	16	20	168	205	201	67	37	23
25	18	17	b15	*b16	16	19	180	239	201	65	32	23
26	18	17	16	b17	16	18	172	272	196	61	30	23
27	18	16	17	18	16	18	174	306	182	57	30	23
28	18	15	17	16	16	18	188	336	179	55	29	23
29	18	16	16	b16	-	18	186	349	177	55	28	23
30	18	16	16	16	-	17	162	330	165	52	28	23
31	18	-	16	15	-	17	-	294	-	51	28	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	598	22	18	19.3	1,190
November	515	20	14	17.2	1,020
December	534	18	15	17.2	1,060
Calendar year 1948	22,364	399	12	61.1	44,360
January	488	18	15	15.7	968
February	429	18	14	15.3	851
March	561	22	16	18.1	1,110
April	2,604	188	17	86.8	5,160
May	6,945	349	130	224	13,780
June	6,835	310	165	228	13,560
July	3,053	157	51	98.5	6,060
August	1,099	49	28	35.5	2,180
September	726	28	23	24.2	1,440
Water year 1948-49	24,387	349	14	66.8	48,380

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.- No gage-height record Oct. 23-29, Nov. 8-12, 28, 29, Jan. 9-21, Mar. 8-17; discharge computed on basis of weather records and power plant records.

Dry Creek near Alpine, Utah

Location.- Water-stage recorder, lat. 40°28'30", long. 111°45'30", in NE¼ sec. 18, T. 4 S., R. 2 E., 2 miles northeast of Alpine and 3½ miles upstream from Fort Creek.

Records available.- July 1947 to September 1949.

Extremes.- Maximum discharge during year, 196 second-feet June 12 (gage height, 2.60 feet); minimum, 5.1 second-feet Oct. 1.
1947-49: Maximum discharge, that of June 12, 1949; minimum, 4.7 second-feet Sept. 14, 22, 23, 1948.

Remarks.- Records fair. Flow of Grove Creek, usually less than 1 second-foot, was diverted to Dry Creek above station from about Dec. 15 to Apr. 25. During remainder of year it is normally not included, although it may be at times.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.2	6.0	a5.6			a6.2	9.9	a50	82	42	8.0	8.4
2	5.3	6.0	a5.6			a6.6	10	a70	67	37	8.4	8.6
3	5.2	6.1	a5.6			a6.8	11	a68	61	35	8.8	8.4
4	5.5	6.0	a5.6			a7.0	13	a60	60	37	8.6	7.9
5	5.9	6.0	a5.6			a7.2	15	a50	56	37	8.4	7.9
6	5.8	6.1	a5.6			7.6	18	a44	55	32	8.2	7.7
7	5.6	6.0	a5.6			7.6	21	a40	61	30	8.2	7.6
8	5.6	b6.0	a5.6		a5.4	7.6	20	a48	79	27	9.7	7.7
9	5.5	b6.0	a5.6			7.2	19	a57	100	25	9.7	7.9
10	5.6	b6.0	*a5.6			7.4	23	a66	151	23	9.0	8.4
11	5.5	5.9	5.6			7.4	29	a66	164	22	8.6	8.4
12	5.6	5.9	5.6			7.6	35	a63	171	20	8.2	7.9
13	5.6	b5.9	5.6			7.7	34	78	151	19	8.0	8.0
14	5.9	b5.9	5.5			7.9	34	90	140	17	7.7	8.2
15	6.4	6.0	b5.5	a5.4		8.8	37	90	117	16	7.7	7.9
16	5.9	5.8	b5.5			9.2	43	78	144	15	7.7	7.7
17	5.8	b5.8	5.6			9.2	46	111	147	14	7.7	7.6
18	5.8	b5.8	b5.6			9.9	49	97	155	14	7.6	7.6
19	5.6	b5.8	b5.6			12	56	82	148	13	7.6	7.6
20	5.6	b5.8	b5.6	(*)		12	51	76	130	13	7.4	7.4
21	5.6	5.8	5.6			12	f45	70	109	12	7.2	7.4
22	5.8	5.6	5.5		a6.0	12	a62	61	114	11	7.4	7.4
23	5.8	5.8	b5.3			11	f73	58	97	11	12	7.4
24	5.8	5.6	b5.4			11	f80	60	94	10	12	7.4
25	5.8	5.6	b5.4			10	63	70	92	9.9	9.3	7.6
26	5.9	5.5	5.4			10	f67	97	85	9.2	8.4	7.6
27	5.9	b5.5				9.9	74	118	66	10	8.4	7.4
28	6.0	b5.5				10	f74	128	46	12	8.4	6.9
29	*6.0	a5.5	a5.4		-	9.9	a64	128	50	11	8.4	7.4
30	6.1	a5.5			-	9.9	a56	115	46	9.5	8.2	7.4
31	6.0	-			-	9.7	-	100	-	8.0	8.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	177.6	6.4	5.2	5.73	352
November	174.7	6.1	5.5	5.82	347
December	171.3	-	-	5.53	340
Calendar year 1948	6,995.9	144	4.8	19.1	13,870
January	167.4	-	-	5.40	332
February	159.0	-	-	5.68	315
March	278.3	12	6.2	8.98	552
April	1,231.9	80	9.9	41.1	2,440
May	2,389	128	40	77.1	4,740
June	3,038	171	46	101	6,030
July	601.6	42	8.0	19.4	1,190
August	263.1	12	7.2	8.49	522
September	232.7	8.6	6.9	7.76	462
Water year 1948-49	8,884.6	171	-	24.3	17,620

Peak discharge (base, 100 sec.-ft.).- May 17 (3 p.m.) 127 sec.-ft.; May 28 (7 p.m.) 158 sec.-ft.; June 12 (7 p.m.) 196 sec.-ft.

* 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 Fort Creek near Alpine.

b Stage-discharge relation affected by ice.

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

Fort Creek at Alpine, Utah

Location.- Water-stage recorder, lat. 40°28'00", long. 111°46'45", in SW¼ sec. 13, T. 4 S., R. 1 E., three-quarters of a mile northwest of Alpine and 1½ miles above mouth.

Drainage area.- 6.1 square miles.

Records available.- July 1947 to September 1949.

Extremes.- Maximum discharge during year, 97 second-feet May 17 (gage height, 2.84 feet); minimum daily recorded, 0.2 second-foot July 26, but may have been less during period of no gage-height record in August and September.
1947-49: Maximum discharge, 172 second-feet June 2, 1948 (gage height, 3.60 feet); minimum daily recorded, that of July 26, 1949.

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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.8	4.6				a5.6	9.1	22	18	5.8	3.5	
2	1.7	4.7				a6.0	9.7	33	11	5.7	3.6	
3	1.2	5.0	b4.5			a6.4	10	32	7.5	6.0	2.1	
4	1.5	5.0				a6.8	13	24	11	6.0	1.0	
5	2.1	5.0				a7.2	16	17	12	7.4	3.5	
6	1.8	5.0				a7.6	19	14	12	5.7	3.5	
7	1.7	5.0				7.9	20	11	14	4.9	3.4	
8	1.6	b5.0				7.5	19	17	18	3.0	3.4	
9	1.6	b5.0			a4.0	6.8	19	24	24	3.5	3.5	
10	1.9	5.0	(*)			6.8	23	30	28	4.6	.5	a3.0
11	1.8	5.0				6.8	29	30	22	4.3	2.4	
12	1.2	5.0				7.0	31	23	26	4.1	3.2	
13	1.3	5.2				7.3	30	26	24	3.8	3.1	
14	1.5	5.4				7.7	29	28	20	3.6	3.1	
15	1.7	5.4				8.6	33	24	20	3.8	3.1	
16	1.6	5.0		a3.5		9.7	40	16	18	2.8	2.4	
17	1.4	5.4				9.1	37	59	19	.4	.6	
18	1.4	5.0	b4.0			11	39	48	25	2.1	3.0	3.1
19	1.4	b4.7				15	43	35	20	3.5	3.0	.4
20	1.3			(*)		15	39	33	9.4	3.2	3.2	3.1
21	1.8				a4.5	13	36	38	10	3.2		
22	2.3					13	45	32	11	3.1		
23	2.2					12	54	28	9.4	3.2		
24	2.3					11	59	30	8.9	3.1		
25	2.3	b4.5				10	54	33	8.4	1.6		a3.5
26	2.3					9.9	51	42	7.7	.2	a3.0	
27	2.1				a4.7	9.9	48	43	7.5	2.7		
28	2.3				a5.0	9.4	44	43	7.3	3.5		
29	*2.6				-	9.1	32	42	5.0	3.5		
30	3.1				-	8.9	23	31	5.2	3.4		
31	3.5	-			-	9.1	-	23	-	3.2		-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	58.3	3.5	1.2	1.88	116
November	144.9	-	-	4.83	287
December	126.5	-	-	4.08	251
Calendar year 1948	3,102.9	63	.5	8.48	6,160
January	108.5	-	-	3.5	215
February	119.2	-	-	4.26	236
March	281.1	15	-	9.07	558
April	953.8	59	9.1	31.8	1,890
May	931	59	11	30.0	1,850
June	439.3	28	5.0	14.6	871
July	114.9	7.4	.2	3.71	228
August	88.1	-	-	2.84	175
September	92.6	-	-	3.09	184
Water year 1948-49	3,458.2	59	.2	9.47	6,860

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of 3 discharge measurements, recorded range in stage, weather records, and irrigation pattern.
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. 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 1949.

Extremes.- Maximum discharge during year, 635 second-feet May 21 (gage height, 6.42 feet); minimum daily, 37 second-feet Jan. 20.
1942-49: 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 flood water of Jordan River around Salt Lake City residential area. (See p. 89 for records of combined flow of Jordan River and Canal). Several diversions below station for irrigation.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	141	98	89	52	*48	356	309	164	451	118	109	83
2	125	97	94	54	46	380	311	136	430	113	120	86
3	110	96	95	49	45	391	309	137	389	117	120	93
4	112	100	105	46	43	387	305	140	364	135	123	90
5	128	91	92	47	b45	381	304	155	360	145	114	89
6	130	89	95	44	b46	369	319	158	331	133	110	94
7	108	94	89	44	b49	351	304	155	294	120	108	70
8	101	109	82	44	b50	352	236	133	265	113	108	69
9	99	94	77	43	*52	349	216	110	240	111	106	82
10	109	97	76	43	53	336	192	97	240	116	116	82
11	123	99	88	43	b47	333	182	97	296	132	108	103
12	115	109	93	42	b55	328	181	131	283	139	112	100
13	111	109	94	44	65	315	170	a190	290	139	105	87
14	107	99	96	43	63	305	169	a250	260	112	112	70
15	126	89	90	44	65	295	165	a300	248	83	117	78
16	122	94	86	44	68	270	169	360	239	78	117	68
17	104	98	83	43	73	251	172	484	255	73	116	47
18	103	97	82	40	78	250	180	545	260	80	102	65
19	97	93	82	40	88	241	195	532	328	106	78	92
20	91	95	80	37	118	260	197	550	293	119	73	93
21	99	98	84	40	149	270	199	629	244	119	87	90
22	112	99	84	39	190	286	184	566	204	124	97	92
23	92	99	83	44	215	368	166	483	179	135	88	91
24	83	113	82	43	271	422	160	428	161	135	134	90
25	99	124	77	42	*296	390	158	418	146	125	136	97
26	94	120	74	a43	289	371	149	404	139	123	128	89
27	94	113	74	a44	308	367	134	448	144	114	118	92
28	96	118	80	a45	317	366	129	492	129	114	113	98
29	106	100	52	a45	-	325	151	500	132	113	111	109
30	109	97	52	a46	-	330	192	471	124	122	103	112
31	114	-	52	a47	-	336	-	426	-	117	96	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	3,358	141	83	108	6,660
November	3,028	124	89	101	6,010
December	2,550	105	52	82.3	5,060
Calendar year 1948	58,687	741	52	160	116,400
January	1,364	54	37	44.0	2,710
February	3,232	317	43	115	6,410
March	10,331	422	241	333	20,490
April	6,207	319	129	207	12,310
May	10,069	629	97	325	19,970
June	7,717	451	125	257	15,310
July	3,623	145	73	117	7,190
August	3,383	136	73	109	6,710
September	2,599	112	47	86.6	5,160
Water year 1948-49	57,461	629	37	157	114,000

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of weather records and records for Jordan River at Salt Lake City.
b Stage-discharge relation affected by ice.

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 1949.

Average discharge.- 18 years(1912-13, 1914-16, 1917-18, 1922-23, 1924-27, 1939-49), 128 second-feet.

Extremes.- Maximum discharge during year, 1,060 second-feet June 11 (gage height, 4.31 feet); minimum discharge recorded, 44 second-feet Mar. 9, but may have been less during periods of ice effect or no gage-height record.

1911-28, 1939-49: 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 for several days in 1912 when water was stored in Hatchtown Reservoir, minimum daily natural flow, 43 second-feet Dec. 15, 1940.

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.

Revisions (water years).- W 960: 1939, 1940.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	56	69					59	329	520	195	101	90
2	56	68					57	345	508	202	110	88
3	56	65				a52	57	370	495	198	108	83
4	56	65					58	393	492	212	102	83
5	57	62			(*)		61	393	433	195	99	83
6	57	62				*52	64	348	453	183	101	85
7	58	62		(*)		54	68	a320	450	176	104	85
8	58	61				53	75	a300	447	171	114	85
9	58	62				51	78	a360	443	171	120	90
10	59	61	(*)			52	83	a390	457	173	106	92
11	58	62				53	85	a400	531	171	102	88
12	59	(*)59				52	93	a400	590	164	101	86
13	59	61	b56		a50	52	101	a400	568	164	101	90
14	61					53	99	a400	534	160	99	88
15	59			b50		54	101	a420	492	155	99	86
16	56					57	116	a450	457	148	97	85
17	56					57	153	a400	426	141	97	83
18	57					59	180	a410	430	137	95	83
19	58					64	157	a420	393	135	93	82
20	58					66	173	a420	351	133	93	82
21	59	b60				62	183	a420	323	128	92	80
22	61					65	193	a420	298	126	92	80
23	59					62	220	a420	287	124	95	80
24	56					59	253	a400	284	126	93	78
25	56					58	264	a430	258	122	90	78
26	57					58	275	a460	244	120	88	80
27	59				a52	59	295	a490	236	118	86	83
28	65		b50			65	307	508	225	112	86	143
29	64				-	61	323	534	210	108	88	118
30	77				-	57	332	545	200	108	86	92
31	72	-			-	57	-	531	-	104	88	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,837	77	56	59.3	3,640
November	1,839	69	-	61.3	3,650
December	1,700	-	-	54.8	3,370
Calendar year 1948	34,241	438	-	93.8	67,930
January	1,550	-	-	50	3,070
February	1,406	-	-	50.2	2,790
March	1,752	88	-	56.5	3,480
April	4,543	332	57	151	9,010
May	12,824	545	300	414	25,440
June	12,033	590	200	401	23,870
July	4,676	212	104	151	9,270
August	3,028	120	86	97.6	6,000
September	2,629	143	78	87.6	5,210
Water year 1948-49	49,815	590	-	136	98,800

Peak discharge (base, 500 sec.-ft.).- May 30 (3:30 a.m.) 568 sec.-ft.; June 11 (11 p.m.) 1,060 sec.-ft.

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of 1 discharge measurement, weather records, and records for Center Creek near Parowan.

b Stage-discharge relation affected by ice.

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 1949.

Average discharge.- 35 years, 146 second-feet.

Extremes.- Maximum discharge during year, 928 second-feet June 7 (gage height, 2.92 feet); minimum, 19 second-feet Aug. 18, 21.
1914-49: Maximum discharge, about 3,000 second-feet (including estimated flow of 360 second-feet, in overflow channel bypassing station) Mar. 4, 1938 (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 or no gage-height record, which are fair. Many diversions above station; none between station and mouth of East Fork.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a30	141				a130	174	522	299	72	21	23
2	30	123				148	160	495	295	84	22	27
3	32	129			(*)	157	170	448	295	109	23	23
4	31	126				174	177	443	522	266	22	23
5	34	118				184	201	433	474	167	21	23
6	35	118	b110		(*)	167	243	385	532	157	20	23
7	37	123				*170	239	299	736	132	21	23
8	35	112			b80	170	239	278	516	104	28	25
9	32	112	(*)		b90	160	235	254	489	88	46	23
10	37	115				170	243	247	448	81	38	27
11	37	*121	115			187	254	266	433	86	40	31
12	35	121	115			198	262	254	576	86	31	31
13	34	121	115			198	295	212	626	78	24	34
14	31	121	121			201	287	212	532	72	31	53
15	34	118				212	295	254	484	72	31	50
16	38	121				194	308	308	409	63	23	55
17	38	121				220	344	295	326	63	22	61
18	41	118				201	404	287	299	55	21	59
19	45	112	b100			201	424	278	321	57	22	59
20	46	115			a100	220	399	250	287	52	23	53
21	48	109				187	438	231	231	37	24	45
22	52	112				184	489	198	198	45	23	41
23	55	115		a80		174	549	167	184	34	25	41
24	50	121				167	642	163	180	43	25	61
25	50	121				163	582	198	160	45	22	59
26	46	118			a130	160	604	209	248	41	22	59
27	50	121	b90			151	576	243	123	25	22	68
28	63	112				174	560	258	115	27	22	72
29	86	107			-	174	560	258	101	23	21	178
30	98	118			-	157	566	308	81	21	21	141
31	138	-			-	167	-	326	-	20	25	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,448	138	30	46.7	2,870
November	3,560	141	107	119	7,060
December	3,186	-	-	103	6,320
Calendar year 1948	38,101.9	371	9.1	104	75,570
January	2,640	-	-	85.2	5,240
February	2,640	-	-	94.3	5,240
March	5,520	220	130	178	10,950
April	10,919	642	160	364	21,660
May	8,979	522	163	290	17,810
June	10,420	736	81	347	20,670
July	2,305	266	20	74.4	4,570
August	782	46	20	25.2	1,550
September	1,491	178	23	49.7	2,960
Water year 1948-49	53,890	736	20	148	106,900

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

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 1949.

Extremes.- Maximum contents during year, 74,010 acre-feet June 13, 14, 18, 20, 23 (gage height, 76.0 feet); minimum, 772 acre-feet Oct. 7, 8 (gage height, 22.6 feet).
1914-49: 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,490	6,600	17,800	28,170	34,640	40,620	55,710	65,260	65,730	69,050	46,260	21,120
2	1,340	7,310	18,040	28,320	34,800	41,160	56,120	65,030	65,730	67,610	45,710	19,930
3	1,240	7,960	18,280	28,610	35,130	41,520	56,530	64,800	65,960	67,130	45,160	18,910
4	1,140	8,630	18,660	28,910	35,290	42,060	56,930	64,340	66,650	66,890	44,610	18,160
5	1,010	9,160	19,040	29,200	35,450	42,420	57,140	63,890	67,850	66,650	44,240	17,430
6	853	9,340	19,410	29,350	35,620	42,970	57,340	63,440	68,810	66,420	43,880	16,720
7	772	9,710	19,670	29,500	35,790	43,330	57,750	63,210	70,280	66,190	43,510	16,020
8	772	10,090	19,930	a29,650	35,950	43,690	58,170	63,210	71,500	65,960	42,970	15,230
9	880	10,470	20,320	29,800	36,120	44,060	58,390	62,980	72,250	65,500	42,420	14,450
10	944	10,770	20,580	30,110	36,290	44,420	58,600	62,760	72,760	65,030	41,700	13,690
11	1,010	11,070	20,980	30,410	36,460	44,790	58,820	62,530	73,510	64,570	40,980	13,580
12	1,070	11,470	20,980	30,710	36,630	45,160	59,030	62,310	73,760	64,340	40,090	13,470
13	1,140	11,890	21,380	31,020	36,790	45,530	59,240	62,080	74,010	63,890	39,200	13,470
14	1,490	12,300	21,790	31,330	37,130	46,080	59,880	61,860	74,010	62,980	38,160	13,370
15	1,810	12,720	22,200	31,480	37,300	46,640	60,540	62,080	73,260	61,860	37,130	13,370
16	2,240	13,260	22,610	31,790	37,650	47,190	61,200	62,310	73,510	60,540	35,950	13,260
17	2,420	13,800	23,030	31,940	37,820	47,560	62,080	62,760	73,760	59,240	34,800	13,150
18	2,620	14,340	23,580	32,100	37,990	47,930	62,530	63,210	74,010	57,960	33,830	13,040
19	2,770	14,780	24,000	32,250	38,160	48,310	62,980	63,440	73,510	56,730	33,200	12,940
20	3,030	15,230	24,430	32,410	38,330	48,870	63,440	63,660	74,010	55,510	32,570	12,720
21	3,310	15,570	24,850	32,570	38,510	49,250	63,660	64,110	73,760	54,310	31,630	12,510
22	3,850	15,790	25,420	32,720	38,680	49,620	63,890	64,340	73,510	53,510	30,710	12,200
23	4,440	16,020	25,990	32,880	38,850	50,200	64,340	64,570	74,010	53,120	29,350	11,890
24	4,370	16,250	26,570	33,040	39,030	50,580	64,800	64,570	73,510	52,720	28,020	11,470
25	4,440	16,490	27,150	33,200	39,380	50,970	65,260	64,570	73,260	52,130	26,860	11,170
26	4,570	16,720	27,300	33,360	39,560	51,160	65,500	64,570	72,760	51,350	25,850	10,870
27	4,700	16,950	27,440	33,510	39,910	51,550	65,730	64,570	72,250	50,780	25,140	10,570
28	4,980	17,190	27,580	33,670	40,270	51,940	65,730	64,570	71,750	49,810	24,140	10,380
29	5,340	17,430	27,730	33,830	-	52,720	65,730	65,030	71,260	48,870	23,720	10,180
30	5,630	17,560	27,880	34,150	-	53,710	65,730	65,260	70,520	47,930	22,890	10,090
31	6,000	-	28,020	34,320	-	54,710	-	65,500	-	47,000	22,060	-

a No gage-height record; contents interpolated.

Monthly gage height and contents, water year October 1948 to September 1949

Date	Gage height (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept.30	25.2	1,640	-
Oct. 31	32.7	6,000	+4,360
Nov. 30	44.5	17,560	+11,560
Dec. 31	52.2	28,020	+10,460
Calendar year 1948	-	-	-10,490
Jan. 31	56.3	34,320	+6,300
Feb. 28	59.8	40,270	+5,950
Mar. 31	67.5	54,710	+14,440
Apr. 30	72.6	65,730	+11,020
May 31	72.5	65,500	-230
June 30	74.6	70,520	+5,020
July 31	63.5	47,000	-23,520
Aug. 31	48.0	22,060	-24,940
Sept.30	37.6	10,090	-11,970
Water year 1948-49	-	-	+8,450

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 1949.

Average discharge.- 37 years (1912-49), 247 second-feet.

Extremes.- Maximum discharge during year, 1,110 second-feet June 13 (gage height, 3.62 feet); minimum 3.5 second-feet Oct. 23.
1911-49: Maximum discharge, 2,600 second-feet May 23, 24, 1922; practically no flow at times when reservoir gates were closed.

Remarks.- Records good except those for periods of ice effect or 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	241	13	b6.9	6.0	b6.0	6.0	6.9	659	424	640	540	674
2	238	12	f6.9	b6.0	5.7	6.0	6.9	655	452	459	424	670
3	243	12	f6.9	a6.0	*5.7	6.0	6.9	610	407	606	384	636
4	281	18	f6.9	a6.0	5.7	6.0	6.9	636	229	512	345	595
5	281	58	b6.8	*6.0	5.7	6.3	6.9	625	101	466	243	566
6	275	29	b6.8	6.0	5.7	6.3	6.9	511	49	411	243	555
7	235	12	5.4	6.0	5.7	6.3	6.9	456	28	342	243	587
8	191	10	*5.2	6.0	5.7	6.3	6.9	394	186	355	278	644
9	f150	8.5	5.2	6.0	5.7	6.3	6.9	397	302	404	404	651
10	a148	14	5.2	6.0	5.7	6.3	6.9	401	266	421	448	580
11	a148	*13	5.4	6.0	5.7	6.3	6.9	428	418	391	484	519
12	f125	11	5.4	5.7	5.4	6.3	6.9	381	674	371	558	494
13	120	9.9	5.4	5.7	5.4	6.3	6.9	355	968	448	548	445
14	66	9.2	5.4	5.7	5.4	6.3	6.9	336	876	621	584	424
15	11	8.5	5.4	5.7	5.4	6.3	6.9	317	809	636	602	470
16	13	8.5	5.7	b6.0	5.4	6.3	6.9	184	555	674	666	438
17	64	8.2	5.7	b6.0	5.4	6.3	6.9	229	336	647	640	445
18	67	8.2	5.7	6.0	5.4	6.6	61	252	311	644	621	480
19	64	7.9	5.4	b6.0	5.4	6.6	194	320	438	617	628	476
20	43	7.6	5.4	6.0	5.4	6.6	197	305	494	640	636	445
21	26	7.6	5.7	6.0	5.4	6.6	327	243	311	674	663	445
22	12	7.2	5.7	6.0	5.7	6.6	308	246	202	647	716	381
23	18	6.9	5.7	6.0	5.7	6.6	314	255	241	580	736	381
24	24	7.2	b6.0	6.0	5.7	6.3	365	339	314	476	701	407
25	20	7.2	b6.0	6.0	5.7	6.3	424	253	519	404	666	381
26	21	7.2	6.0	6.0	5.7	6.3	470	428	598	438	602	384
27	19	b7.2	6.0	6.0	5.7	6.3	487	404	580	519	569	397
28	15	b7.2	6.0	b6.0	5.7	6.6	573	358	512	670	504	411
29	14	6.9	6.0	b6.0	-	6.6	647	365	498	670	494	411
30	14	b6.9	6.0	6.0	-	6.6	655	398	558	610	584	401
31	13	-	6.0	6.0	-	6.9	-	394	-	562	651	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	3,200	281	11	103	6,350
November	350.0	58	-	11.7	694
December	182.2	-	-	5.88	361
Calendar year 1948	91,095.2	792	-	249	180,700
January	184.8	-	-	5.96	367
February	156.9	-	5.4	5.60	311
March	197.4	6.9	6.0	6.37	392
April	5,139.3	655	6.9	171	10,190
May	12,263	659	184	396	24,320
June	12,656	968	28	422	25,100
July	16,755	674	342	540	33,230
August	16,405	736	243	529	32,540
September	14,793	674	381	493	29,340
Water year 1948-49	82,282.6	968	-	225	163,200

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of weather records and records for station near Sevier.
b Stage-discharge relation affected by ice.
f Fragmentary gage-height record; discharge computed from wholly or partly estimated gage-heights.

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 1949. May 1911 to September 1929 at site 0.8 mile downstream, published as Sevier River at Sevier; those for November 1916 to September 1929 include flow of Clear Creek and are not equivalent.

Average discharge.- 14 years (1912-16, 1939-49), 298 second-feet.

Extremes.- Maximum discharge during year, 1,210 second-feet June 14 (gage height, 3.73 feet); minimum, 7.0 second-feet Nov. 27.
1911-29, 1939-49: Maximum discharge, 2,800 second-feet during last week in May 1922, computed on basis of records for station near Marysvale; minimum, that of Nov. 27, 1948, (10 second-feet Nov. 27, 1919 including flow of Clear Creek).

Remarks.- Records excellent except those for periods of ice effect, which are fair. Many diversions above station for irrigation. Flow regulated by Piute and Otter Creek Reservoirs.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	278	43	b31		a29	b36	34	681	472	670	595	664
2	278	40	32		*b29	b35	35	681	500	750	549	664
3	275	40	34			34	33	664	495	786	481	659
4	278	42	30			33	32	642	444	664	418	605
5	304	58	28	(*)		32	30	648	282	595	347	574
6	301	84				31	30	610	204	495	324	539
7	290	63	b28			30	30	529	138	444	301	559
8	278	39	(*)		b27	*31	31	431	112	368	324	595
9	240	39	b29			31	30	405	315	397	380	648
10	214	36	b30			31	29	410	376	444	472	632
11	210	*36	b31			32	28	422	418	436	495	544
12	207	35	32			31	30	422	804	401	559	505
13	192	35	31			30	31	405	970	405	584	467
14	183	35	29			30	31	363	1,120	454	584	410
15	86	35	30			30	35	376	1,000	626	626	436
16	49	34	b28	b29	a26	30	36	297	892	642	654	440
17	51	33	b28	--		30	37	282	792	681	687	422
18	93	32	28			30	39	301	681	670	654	436
19	95	32				30	133	335	681	659	648	454
20	93	34	b28		a27	29	226	351	738	642	659	444
21	70	32			a28	30	282	324	659	664	664	427
22	57	32	29		b29	31	324	301	476	698	692	397
23	49	32			b30	30	328	304	462	648	744	359
24	53	31			b31	30	351	339	481	564	750	376
25	53	32			b33	29	414	380	524	467	704	376
26	48	32			b34	28	462	436	721	440	659	363
27	51	25	b29		b35	29	505	486	732	495	616	363
28	56	b27			b36	34	554	444	687	600	549	392
29	48	b28			-	40	632	431	621	727	490	392
30	45	b30			-	35	676	476	595	681	534	392
31	45	-			-	32	-	467	-	626	600	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	4,570	304	45	147	9,060
November	1,126	84	25	37.5	2,230
December	909	-	-	29.3	1,800
Calendar year 1948	104,240	823	-	285	206,800
January	899	-	-	29	1,780
February	794	-	-	28.4	1,570
March	974	36	28	31.4	1,930
April	5,468	676	28	182	10,850
May	13,643	681	282	440	27,060
June	17,392	1,120	112	580	34,500
July	17,839	786	368	575	35,380
August	17,343	750	301	559	34,400
September	14,534	664	359	484	28,830
Water year 1948-49	95,491	1,120	-	262	189,400

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of weather records and records for Sevier River near Marysvale.
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 1949.

Average discharge.- 35 years (1914-49), 112 second-feet.

Extremes.- Maximum discharge during year, 620 second-feet June 14 (gage height, 3.44 feet); minimum, 2.4 second-feet May 3-6, 30-31.
1914-49: 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. The extreme low 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	56	111	112	116	111	226	154	3.2	3.4	5.8	7.0	48
2	55	111	114	116	139	215	185	2.6	3.6	5.4	7.0	39
3	51	112	114	116	131	202	200	2.4	3.4	5.4	7.0	38
4	55	114	114	116	129	174	190	2.6	3.0	5.4	7.0	44
5	67	114	116	93	127	154	145	2.8	2.8	4.8	7.0	61
6	72	116	116	112	114	141	131	3.0	3.0	4.8	7.0	74
7	80	116	116	112	143	133	131	3.2	4.4	5.0	7.0	54
8	80	116	118	111	139	131	129	12	34	5.0	7.4	36
9	74	114	120	114	127	121	127	22	59	5.0	7.4	33
10	80	114	121	118	141	120	100	12	65	5.4	7.8	41
11	86	112	123	118	145	121	81	4.8	95	6.2	10	75
12	88	112	123	121	143	120	81	8.2	145	14	12	95
13	88	114	123	125	129	118	81	6.2	265	f19	12	98
14	87	114	120	123	123	118	81	6.2	495	h49	12	93
15	90	114	120	123	125	116	76	5.0	573	49	12	86
16	92	114	120	129	125	120	49	7.4	564	49	15	71
17	96	112	122	102	131	120	22	29	535	49	15	60
18	100	112	120	120	131	118	22	37	449	35	15	55
19	105	112	120	112	135	114	22	36	256	5.0	33	55
20	110	111	125	139	143	111	22	36	208	5.0	44	65
21	114	111	133	116	154	53	21	29	286	5.0	39	76
22	114	111	121	129	163	25	14	26	304	5.0	33	86
23	114	112	116	121	165	61	4.2	18	190	5.0	27	86
24	114	114	116	120	174	74	4.2	6.6	52	5.0	20	78
25	112	114	116	121	178	81	4.0	3.2	6.6	5.0	16	71
26	112	114	116	102	188	88	4.2	3.4	6.2	5.0	20	78
27	112	114	116	112	200	98	4.4	3.4	6.2	5.0	25	78
28	109	114	116	125	220	105	3.8	3.6	5.8	7.0	29	75
29	105	114	116	107	-	139	3.4	3.4	5.8	7.0	53	75
30	105	114	116	129	-	154	3.4	2.8	5.8	7.0	69	82
31	109	-	116	129	-	152	-	3.0	-	7.0	61	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	2,832	114	51	91.4	5,620
November	3,397	116	111	113	6,740
December	3,675	133	112	119	7,290
Calendar year 1948	39,496.7	555	1.6	108	78,350
January	3,647	139	93	118	7,230
February	4,073	220	111	145	8,080
March	3,823	226	25	123	7,580
April	2,095.6	200	3.4	69.8	4,160
May	343.8	37	2.4	11.1	682
June	4,635.0	573	2.8	154	9,190
July	395.2	49	4.8	12.7	784
August	643.6	69	7.0	20.8	1,280
September	2,006	98	33	66.9	3,980
Water year 1948-49	31,566.2	573	2.4	86.5	62,820

f Computed from partly estimated gage-height record.
h Computed from staff-gage reading.

Note.- No gage-height record Oct. 6-29, Dec. 13 to Jan. 4, July 15-21, July 23 to Aug. 4; discharge computed on basis of records for station at Gunnison, operation of Rocky Ford Reservoir, gates, and weather records.

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 1949.

Average discharge.- 32 years, 229 second-feet.

Extremes.- Maximum discharge during year, 669 second-feet June 15 (gage height, 3.50 feet); minimum, 30 second-feet July 29 (gage height, 0.97 foot).
1917-49: 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 excellent 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.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	128	275	270	a263	*b256	*423	292	156	131	82	63	162
2	137	270	268	a271	257	408	300	128	162	84	55	148
3	152	273	275	*278	273	395	333	171	165	91	88	133
4	143	262	275	*281	265	395	333	187	203	111	88	78
5	156	270	255	270	262	362	322	176	270	106	87	88
6	158	270	*262	b270	268	350	294	122	240	96	88	99
7	176	275	260	b270	260	353	283	131	292	80	84	118
8	189	273	268	b270	275	339	289	118	278	80	88	96
9	189	268	262	b270	275	313	297	124	294	98	120	79
10	171	270	265	b270	262	308	297	171	297	113	79	87
11	176	275	270	278	278	308	273	201	292	95	57	74
12	178	275	278	283	283	308	262	222	313	78	63	106
13	180	273	283	278	273	300	281	220	368	80	69	a140
14	180	273	281	281	257	297	270	203	389	111	72	a190
15	178	270	273	278	250	292	255	247	589	115	116	203
16	182	262	265	275	250	286	189	237	657	108	124	198
17	196	262	273	270	252	292	217	220	638	106	110	194
18	210	250	283	247	257	292	201	237	615	96	88	192
19	225	257	273	240	260	294	167	220	543	99	79	192
20	230	265	270	292	260	289	178	208	316	101	133	167
21	270	268	342	289	283	292	180	205	300	115	139	120
22	257	275	350	270	294	234	178	192	336	103	131	141
23	244	286	316	278	322	198	208	185	333	104	131	133
24	242	283	275	273	356	220	187	217	225	108	143	158
25	240	286	255	265	383	217	210	234	133	122	128	126
26	242	281	242	268	423	222	201	240	79	96	96	115
27	250	265	244	252	414	225	185	234	76	78	128	118
28	278	260	252	a252	395	242	189	215	78	85	99	240
29	278	262	257	a253	-	252	192	208	82	33	101	203
30	278	268	257	a254	-	278	187	194	76	43	122	160
31	278	-	260	a255	-	297	-	158	-	52	158	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	6,391	278	128	206	12,680
November	8,102	286	250	270	16,070
December	8,459	350	242	273	16,780
Calendar year 1948	98,904	895	46	270	196,200
January	8,344	292	240	269	16,550
February	8,143	423	250	291	16,150
March	9,281	423	198	299	18,410
April	7,230	333	167	241	14,340
May	5,981	247	118	193	11,860
June	8,770	657	76	292	17,400
July	2,869	122	33	92.5	5,690
August	3,127	158	55	101	6,200
September	4,258	240	74	142	8,450
Water year 1948-49	80,955	657	33	222	160,600

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of weather records and 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 1949.

Extremes.- Maximum contents during year, 214,500 acre-feet Apr. 23-26 (gage height, 77.90 feet); minimum, 85,200 acre-feet Sept. 24 (gage height, 56.90).
1914-49: 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 began 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 flashboard on spillway). No dead storage. Figures given herein represent tatal contents. Water is used for irrigation. Gage read to half-tenths between 7 and 8 a.m. daily; contents are as of that time.

Revisions (water years).- W 960: 1941.

Contents, in acre-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	112,400	122,800	136,300	154,100	169,000	185,900	204,800	209,200	170,900	146,300	116,700	99,070
2	112,600	123,400	136,900	154,900	169,000	186,700	205,300	207,700	169,800	144,200	116,200	98,690
3	112,900	124,000	137,600	155,600	169,400	187,600	205,800	205,800	167,800	143,500	115,700	98,300
4	113,100	124,500	138,200	155,900	169,800	189,000	206,200	203,000	167,000	142,900	115,200	97,920
5	113,400	124,800	138,900	156,300	170,100	190,300	206,700	201,100	165,800	142,200	114,600	96,780
6	113,400	125,100	139,500	156,700	171,800	190,800	207,200	198,300	164,700	141,500	114,100	95,630
7	113,400	125,400	140,200	157,100	172,600	191,200	207,700	196,500	164,700	140,800	113,600	94,570
8	113,400	126,000	140,800	157,800	173,400	192,000	208,200	195,200	164,300	139,500	113,400	93,870
9	113,600	126,500	141,200	157,800	173,800	192,900	208,700	192,900	163,900	138,200	113,100	93,160
10	113,600	127,100	141,500	157,800	174,200	193,400	209,200	190,800	163,900	137,600	112,600	92,100
11	114,100	127,400	141,800	158,600	175,000	193,800	209,600	189,000	163,900	136,900	112,400	91,100
12	114,400	127,700	142,600	159,300	175,400	194,700	210,100	187,600	163,100	135,600	112,200	90,090
13	114,600	128,000	143,500	160,100	175,800	195,200	210,600	186,300	163,100	135,000	111,700	89,090
14	115,200	128,300	143,800	160,800	176,200	195,600	211,100	184,600	163,100	134,400	111,400	88,100
15	115,400	128,600	144,200	161,600	176,600	196,500	211,600	182,500	163,100	133,800	111,000	87,460
16	115,700	128,800	144,900	162,000	177,400	197,000	212,000	180,800	163,900	132,500	110,300	86,810
17	116,200	129,200	145,600	162,300	177,800	197,400	212,000	179,100	163,900	131,300	109,800	86,160
18	116,400	129,500	146,300	162,700	178,300	198,300	212,500	179,100	163,900	130,700	109,400	85,520
19	116,700	129,800	147,000	163,100	179,100	198,800	212,500	177,800	164,700	129,500	108,900	85,520
20	117,200	130,100	147,400	163,100	179,500	199,300	213,000	176,600	163,900	128,300	108,400	85,520
21	117,700	130,700	148,000	163,500	179,900	199,800	213,500	175,800	164,100	127,100	107,500	85,520
22	118,200	131,300	148,400	163,900	180,800	200,200	214,000	176,200	162,300	126,000	106,800	85,520
23	118,800	131,900	149,400	164,700	181,600	200,200	214,500	176,200	160,400	124,800	105,800	85,520
24	119,300	132,200	150,200	165,400	182,000	200,600	214,500	176,600	159,300	123,700	104,900	85,200
25	119,800	132,800	150,800	165,800	182,500	201,100	214,500	176,600	158,600	122,200	104,000	85,840
26	120,100	133,400	151,200	166,600	183,300	201,600	214,500	176,200	156,300	121,500	103,200	85,840
27	120,400	134,100	151,200	167,000	184,200	202,100	214,000	175,400	153,400	120,400	102,300	86,490
28	120,900	134,700	151,200	167,400	185,000	202,600	214,000	174,600	152,000	119,300	101,500	86,490
29	121,500	135,000	152,000	167,800	-	203,000	212,500	174,200	149,800	118,200	100,900	86,810
30	122,000	135,600	152,700	168,200	-	203,900	210,600	173,400	147,700	117,700	100,300	87,780
31	122,200	-	153,400	168,600	-	204,400	-	172,600	-	117,200	99,450	-

Monthly gage height and contents, water year October 1948 to September 1949

Date	Gage height (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Oct. 1	63.95	112,400	+10,400
Nov. 1	65.95	122,800	+13,500
Dec. 1	68.2	136,300	+17,800
Calendar year 1948	-	-	-12,900
Jan. 1	70.80	154,100	+14,900
Feb. 1	72.75	169,000	+16,900
Mar. 1	74.80	185,900	+18,900
Apr. 1	76.9	204,800	+4,400
May 1	77.35	209,200	-38,300
June 1	73.0	170,900	-24,600
July 1	69.7	146,300	-29,600
Aug. 1	64.8	116,700	-17,630
Sept.1	60.9	99,070	-11,290
Oct. 1	57.7	87,780	-
Water year 1948-49	-	-	-24,300

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 1949.

Average discharge.- 38 years, 251 second-feet.

Extremes.- Maximum discharge during year, 1,290 second-feet May 4 (gage height, 5.22 feet); minimum daily, 11 second-feet Oct. 1, Sept. 29, 30.
1911-49: 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 periods of ice effect or 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	34				(*)		1,040	791	818	286	331
2	12	34					a26	1,040	817	640	286	331
3	f12	32						1,180	817	509	288	329
4	f14	32						1,290	817	402	288	445
5	74	34	b19				*28	1,270	736	399	288	610
6	113	34					28	1,250	547	399	264	640
7	111	34					28	1,130	448	480	249	636
8	111	34					28	1,050	396	547	217	632
9	109	34					28	1,130	350	547	162	628
10	55	34	19				28	1,080	353	547	219	669
11	17	36	19		(*)		28	1,010	356	547	257	695
12	17	80	19	(*)			30	1,010	361	486	259	691
13	17	102	19				30	1,000	364	454	259	495
14	15	102	19				30	1,120	316	500	259	235
15	14	102	*19	a22	a24	a26	30	1,200	283	486	342	187
16	14	102					30	1,080	288	448	417	187
17	14	102					30	913	329	445	414	187
18	14	*102					30	802	519	530	414	187
19	14	102					30	621	543	651	411	184
20	15	102					30	523	676	743	411	182
21	15	46					30	265	828	743	523	184
22	15	15					30	129	977	688	628	221
23	15	15	a21				28	122	1,090	640	647	245
24	15	15					28	122	996	640	621	245
25	15	15					28	328	939	647	554	245
26	15	15					125	467	1,010	571	557	217
27	65	15					196	467	1,070	523	436	189
28	100	19					488	467	1,060	480	331	107
29	102	b19					892	467	1,060	448	331	11
30	72	b19			-		1,010	490	1,060	451	331	11
31	34	-			-		-	654	-	358	331	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,236	113	11	39.9	2,450
November	1,461	102	15	48.7	2,900
December	621	-	-	20.0	1,230
Calendar year 1948	104,535.3	1,220	5.4	286	207,300
January	682	-	-	22	1,350
February	672	-	-	24	1,330
March	806	-	-	26	1,600
April	3,425	1,010	-	114	6,790
May	24,727	1,290	122	798	49,050
June	20,197	1,090	283	673	40,060
July	16,767	818	358	541	33,260
August	11,280	647	162	364	22,370
September	10,156	695	11	339	20,140
Water year 1948-49	92,030	1,290	11	252	182,500

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of 5 discharge measurements and records of gate operation for Sevier Bridge Reservoir.
b Stage-discharge relation affected by ice.
f Frangmentary gage-height record; discharge computed on basis of wholly of partly estimated gage-height record.

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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 1949.

Average discharge.- 11 years (1914-19, 1943-49), 233 second-feet.

Extremes.- Maximum discharge during year, 942 second-feet May 7 (gage height, 6.50 feet); minimum not determined, occurred during period of ice effect.
1914-19, 1942-49: 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.120). Several diversions between reservoir and station for irrigation.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	60	113	36			b99	82	782	403	791	309	136
2	59	92	b33			b101	79	813	527	708	328	126
3	59	87			b25	b106	77	799	566	472	326	126
4	59	85				b112	76	824	587	422	324	128
5	63	86				b117	71	911	600	298	311	144 *
6	67	86				120	67	925	598	235	306	298
7	108	87	b31			126	55	939	464	218	306	342
8	147	88			b45	117	48	919	393	233	287	331
9	155	88				113	42	793	367	317	278	340
10	156	86			(*)	113	39	735	304	324	227	381
11	155	86	31	b15		117	38	791	298	324	214	422
12	110	86	28			*120	36	711	289	320	165	449
13	79	87	28		(*)	114	35	684	287	295	153	469
14	75	130	28			110	35	681	298	247	145	419
15	74	155			b70	106	34	713	276	249	139	218
16	73	156	b28			106	34	824	227	272	148	144
17	76	158				104	33	866	208	203	155	155
18	76	153	28			98	32	782	212	289	210	165
19	76	*153	b27			98	32	662	365	313	216	177
20	75	156	b27			96	32	548	429	412	214	184
21	75	156	26			94	32	464	474	496	216	182
22	71	156				93	31	333	619	527	241	190
23	72	104	b26			95	31	140	676	522	349	201
24	71	80				99	32	113	841	469	400	230
25	70	79		b25	b90	96	53	100	855	466	405	239
26	71	78				94	72	141	757	472	363	247
27	73	57	b20			94	75	342	760	452	360	251
28	75	49				96	208	349	819	386	328	220
29	126	44			-	99	344	356	802	363	192	208
30	158	42			-	98	724	356	791	322	148	119
31	156	-			-	98	-	353	-	315	140	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	2,820	158	59	91.0	5,590
November	3,063	158	42	102	6,080
December	842	-	-	27.2	1,670
Calendar year 1948	81,963	1,060	-	224	162,600
January	575	-	-	18.5	1,140
February	1,795	-	-	64.1	3,560
March	3,249	126	93	105	6,440
April	2,579	724	31	86.0	5,120
May	18,749	939	100	605	37,190
June	15,092	855	208	503	29,930
July	11,818	791	218	381	23,440
August	7,951	405	139	256	15,770
September	7,250	469	119	242	14,380
Water year 1948-49	75,783	939	-	208	150,310

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

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 1949. May to September 1912 at site 2½ miles downstream, below all diversions.

Average discharge.- 36 years, 88.7 second-feet.

Extremes.- Maximum discharge during year, 352 second-feet May 17 (gage height, 2.46 feet); minimum recorded, 8.4 second-feet Nov. 18.
1913-49: 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, 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 following page).

Revisions (water years).- W 750: 1931, 1932.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	98	f23					24	64	215	132	67	102
2	98	18					23	14	204	126	63	102
3	98	16			(*)		23	55	195	126	64	103
4	99	18				a20	26	62	184	132	64	102
5	99	15					35	55	184	126	63	98
6	99	16		(*)			44	48	144	118	63	95
7	101	16				*22	42	45	73	112	63	95
8	118	15				22	39	45	72	105	62	95
9	69	15	(*)			21	30	50	106	101	58	152
10	60	16				22	26	51	174	101	53	278
11	60	*16			a12	22	24	51	217	96	49	281
12	64	15				22	24	50	a262	91	44	284
13	66	15				22	24	46	a275	88	41	284
14	66	20				22	24	48	a269	82	57	281
15	56	21	b10	b12		22	24	211	a257	74	101	281
16		15				21	24	349	220	71	103	278
17		15				21	24	325	129	67	105	275
18		13				20	24	253	122	62	105	275
19		20				20	25	213	126	55	106	272
20		15				20	26	153	122	131	103	211
21	a15	14				20	27	147	121	132	102	71
22		17				20	30	151	114	124	102	68
23		13				22	44	170	110	124	102	68
24		13				23	44	170	110	121	103	67
25		12			a17	23	40	176	110	110	101	68
26		12				22	30	217	110	103	101	68
27						21	44	215	81	95	98	69
28	50	b10				24	80	220	48	88	99	71
29	56				-	22	88	255	78	78	99	60
30	58				-	22	101	244	140	76	102	31
31	60	-			-	22	-	234	-	71	102	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,655	118	-	53.4	3,280
November	454	23	-	15.1	900
December	310	-	-	10	615
Calendar year 1948	40,902	390	-	112	81,120
January	372	-	-	12	738
February	376	-	-	13.4	746
March	660	-	-	21.3	1,310
April	1,083	101	23	36.1	2,150
May	4,417	349	44	142	8,760
June	4,572	275	48	152	9,070
July	3,118	132	55	101	6,180
August	2,545	106	41	82.1	5,050
September	4,585	284	31	153	9,090
Water year 1948-49	24,147	349	-	66.2	47,890

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of discharge measurements, weather records, and records for nearby stations and Otter Creek Reservoir.
b Stage-discharge relation affected by ice.
f Gage height for day partly estimated.

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 1949. 1915, 1934-45 available in files of Salt Lake City district office, Geological Survey.

Extremes.- Maximum contents observed during year, 55,000 acre-feet June 10, 20 (gage height, 37.0 feet); minimum observed, 9,400 acre-feet Oct. 10 (gage height, 12.9 feet). 1914-15, 1934-49: Maximum contents observed, 55,000 acre-feet May 1, 1946, May 20, 1948, June 10, 20, 1949 (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 heights 0.0 (bottom of outlet gate) and 36.0 feet (top of flashboards on spillway). Spillway crest is at gage height 33.5 feet. Reservoir stores water from Otter Creek and also water diverted from East Fork Sevier River, for irrigation in Sevier River Basin.

Contents, in acre-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10,100	10,100	13,300	17,500	21,000	25,140	31,400	47,840	54,500	54,250	49,760	44,720
2	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	51,500	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-
10	9,400	10,700	14,600	19,030	22,440	26,580	33,600	53,000	55,000	53,000	48,800	40,400
11	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	35,000	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-	-
20	9,500	12,650	16,000	20,100	23,880	29,100	38,720	54,750	55,000	52,000	47,120	37,800
21	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-

Monthly gage height and contents, water year October 1948 to September 1949

Date	Gage height (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Oct. 1	13.5	10,100	0
Nov. 1	13.5	10,100	+3,200
Dec. 1	16.0	13,300	+4,200
Calendar year 1948	-	-	-26,260
Jan. 1	19.0	17,500	+3,500
Feb. 1	21.0	21,000	+4,140
Mar. 1	23.3	25,140	+6,260
Apr. 1	26.7	31,400	+16,440
May 1	34.1	47,840	+6,660
June 1	36.8	54,500	-250
July 1	36.7	54,250	-4,490
Aug. 1	34.9	49,760	-5,040
Sept. 1	32.8	44,720	-7,320
Oct. 1	29.7	37,400	-
Water year 1948-49	-	-	+27,300

Clear Creek at Sevier, Utah

Location.- Water-stage recorder, lat. 38°34'55", long. 112°15'35", in SW¼NE¼ 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 1949 in reports of Geological Survey. April 1934 to September 1949 in reports of Sevier River water commissioner.

Average discharge.- 14 years (1912-17, 1940-49), 35.2 second-feet.

Extremes.- Maximum discharge during year, 167 second-feet June 12 (gage height, 2.89 feet); minimum, 2.0 second-feet Oct. 2.
1912-19, 1940-49: Maximum discharge observed, 487 second-feet Aug. 7, 1941 (gage height, 4.05 feet); no flow Aug. 26, 1913.

Remarks.- Records good. Practically entire flow is diverted above station each year during latter part of irrigation season.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.1	4.3	14	18	d17	16	29	78	109	55	3.9	3.1
2	2.0	5.9	12	16	18	17	25	77	95	57	3.9	3.0
3	2.1	12	15	11	16	18	25	84	92	70	3.9	2.8
4	2.6	13	16	12	16	18	29	88	109	77	3.9	3.0
5	2.5	8.1	11	14	16	20	35	81	102	68	3.5	3.0
6	2.5	8.5	16	16	14	17	42	67	98	57	3.5	2.8
7	2.3	11	14	16	18	19	45	60	94	50	4.3	3.0
8	2.3	9.2	15	16	16	18	49	57	88	44	5.4	3.4
9	2.2	7.8	12	16	14	15	48	57	98	67	5.2	2.8
10	2.7	9.6	15	16	17	20	57	63	108	70	4.8	2.8
11	4.1	12	15	16	19	19	61	66	115	68	3.9	2.8
12	3.7	11	15	16	18	18	71	70	157	63	3.7	2.8
13	3.9	10	15	18	16	19	74	70	158	60	3.9	3.0
14	4.1	9.6	15	18	15	19	61	74	148	59	3.5	3.0
15	7.6	10	14	18	16	21	57	83	140	54	3.2	3.0
16	8.1	9.2	13	15	18	22	61	87	137	51	4.1	3.0
17	9.2	9.2	16	16	19	25	62	83	150	50	7.0	2.8
18	8.5	8.1	16	17	18	27	61	91	157	48	3.2	2.8
19	8.1	7.0	8.8	18	18	30	58	87	146	41	3.2	3.5
20	7.8	11	14	19	17	34	57	88	134	30	3.4	2.8
21	7.3	11	18	19	18	28	57	90	114	25	3.2	2.8
22	7.0	8.5	17	20	16	31	61	84	95	20	3.1	3.0
23	7.3	12	16	19	18	29	70	84	93	21	3.2	2.7
24	7.3	11	9.2	19	19	27	78	93	91	24	3.2	2.7
25	5.4	11	9.2	17	19	26	88	103	81	24	3.2	2.7
26	2.8	11	13	16	19	26	98	115	74	21	3.2	2.7
27	3.1	8.8	16	d15	19	25	90	122	72	14	3.9	2.7
28	4.4	8.5	16	19	19	28	87	121	67	8.1	3.4	2.7
29	3.7	11	14	18	-	24	91	131	63	4.4	3.2	2.6
30	4.4	12	16	19	-	26	89	131	60	4.3	3.1	2.8
31	4.3	-	18	18	-	29	-	117	-	4.1	3.1	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	145.4	9.2	2.0	4.69	288
November	291.3	13	4.3	9.71	578
December	444.2	18	8.8	14.3	881
Calendar year 1948	14,835.5	300	1.6	40.5	29,440
January	521	20	11	16.8	1,030
February	483	19	14	17.2	958
March	711	34	15	22.9	1,410
April	1,826	98	25	60.5	3,600
May	2,702	131	57	87.2	5,360
June	3,245	158	60	108	6,440
July	1,308.9	77	4.1	42.2	2,600
August	117.2	7.0	3.1	3.78	232
September	86.6	3.5	2.6	2.89	172
Water year 1948-49	11,871.6	158	2.0	32.5	23,550

d Doubtful gage-height record; discharge computed on basis of weather records and records for Sevier River at Hatch.

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 1917 (fragmentary), October 1917 to September 1919, November 1942 to September 1949. July 1900 to April 1901 at site 5 miles upstream, published as Salina Creek near Salina.

Extremes.- Maximum discharge during year, 460 second-feet July 3 (gage height, 2.77 feet); minimum, 0.3 second-foot on several days in August and September.
1914-19, 1942-49: Maximum discharge, 926 second-feet May 15, 1948 (gage height, 3.87 feet), from rating curve extended above 400 second-feet; minimum, 0.1 second-foot Aug. 9, 1946.

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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.5	13	b18		(*)	a23	33	37	42	a3.8	a1.5	0.5
2	.8	14	b19			*a23	33	60	29	a3.8	a1.5	.9
3	.9	12	21	(*)		22	30	102	19	42	a1.5	.9
4	1.2	9.7	b21			20	30	122	81	13	a1.5	1.2
5	.9	8.6	b20			22	39	74	70	6.5	a1.3	1.0
6	.8	12	*20			17	40	43	74	3.8	1.3	.9
7	.8	15	b20			21	34	32	66	8.1	.9	.8
8	.9	8.6	b20			16	39	a32	45	1.9	1.3	.9
9	.8	*8.1	b20			13	40	a32	43	1.6	4.9	1.0
10	.9	13	b21			20	42	a70	45	3.5	3.5	.8
11	1.3	17	22		b22	18	46	130	37	3.2	1.6	1.2
12	1.2	17	22			16	62	138	45	2.5	.8	1.0
13	1.0	11	21			18	53	102	34	2.8	.6	1.0
14	1.0	11	20			17	42	115	24	2.8	.9	.6
15	1.0	10	20			19	26	206	20	1.6	.9	.6
16	.9	10	b20	b22		21	28	151	13	2.2	1.2	.5
17	1.2	13	b20			26	46	114	9.7	2.2	1.0	.6
18	1.3	9.2	20			26	54	120	9.7	1.3	.8	.6
19	1.6	9.2	b20			28	51	74	13	1.6	.8	.5
20	3.2	9.7	b20			36	54	80	7.0	1.0	.6	.5
21	8.6	14	b20			23	44	55	a6.6	.9	1.0	.6
22	8.1	18	21			32	76	45	a5.9	1.0	.9	.8
23	8.6	16	22			28	105	63	a5.5	1.0	1.3	.5
24	9.2	15				28	103	85	a5.0	1.3	.9	.4
25	9.2	17			b23	26	127	104	a4.7	3.2	.6	.6
26	9.2	15				27	98	100	a4.5	2.8	.8	.5
27	11	b15	b22			24	83	84	a4.2	a1.5	.9	.4
28	15	b15				36	104	72	a4.1	a1.5	.8	.6
29	10	16			-	24	112	100	a4.0	a1.5	.8	.8
30	15	b17			-	34	116	68	a3.9	a1.5	1.0	.8
31	16	-			-	32	-	40	-	a1.5	.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	142.1	16	0.5	4.58	282
November	389.1	18	8.1	13.0	772
December	644	-	-	20.8	1,280
Calendar year 1948	15,228.6	582	.3	41.6	30,200
January	682	-	-	22	1,350
February	624	-	-	22.3	1,240
March	736	36	13	23.7	1,460
April	1,790	127	26	59.7	3,550
May	2,650	206	32	85.5	5,260
June	774.8	81	3.9	25.8	1,540
July	126.9	42	.9	4.09	252
August	38.2	4.9	.6	1.23	75.8
September	22.0	1.2	.4	.73	43.6
Water year 1948-49	8,619.1	206	.4	23.6	17,110

Peak discharge (base, 120 sec.-ft.).- May 4 (7 a.m.) 282 sec.-ft.; May 15 (5 a.m.) 367 sec.-ft.; June 4 (11 a.m.) 194 sec.-ft.; July 3 (5:30 p.m.) 460 sec.-ft.

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of discharge measurements, weather records, and records for Clear Creek at Sevier.

b Stage-discharge relation affected by ice.

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 1949. May to July 1914 at site 1¼ miles upstream.

Extremes.- Maximum discharge during year, 135 second-feet Apr. 29; minimum daily, 5.9 second-feet Dec. 25.
1914, 1944-49: Maximum discharge, 490 second-feet May 9, 1914 (gage height, 3.40 feet, site and datum then in use); minimum daily, that of Dec. 25, 1948.

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 head of Fillmore Canal. One small irrigation diversion above gage.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	12	11	12	a12	12	23	112	75	24	15	11
2	10	12	12	11	a11	12	23	105	67	24	15	11
3	10	12	12	9.2	a11	12	22	112	63	27	15	11
4	10	12	11	7.2	a11	12	23	116	65	26	14	11
5	11	11	14	7.4	a11	12	26	105	60	24	14	11
6	11	11	12	9.0	a10	12	31	93	57	23	13	11
7	11	11	12	12	a11	13	34	85	55	22	14	11
8	11	11	12	12	a10	15	39	78	55	21	14	11
9	11	10	11	12	a11	14	37	78	57	21	16	12
10	11	11	12	12	12	15	37	88	56	21	16	11
11	11	d11	11	13	13	15	42	96	57	20	14	11
12	11	d11	11	13	13	15	52	103	57	20	14	11
13	11	d11	11	13	12	16	61	107	53	19	13	12
14	11	d11	11	13	12	15	60	113	50	19	13	12
15	12	d11	11	13	12	16	59	123	47	18	13	12
16	11	d11	10	12	12	16	64	113	45	18	13	11
17	11	d11	11	11	12	16	72	109	45	18	13	12
18	11	d11	11	12	12	17	79	104	44	18	13	12
19	12	11	8.8	18	12	20	80	104	41	18	12	11
20	11	11	11	13	12	22	80	106	38	18	12	11
21	11	12	11	13	12	20	79	100	35	17	12	11
22	11	11	11	13	13	20	87	93	33	17	12	11
23	12	11	11	13	13	20	101	92	32	17	14	11
24	11	11	8.2	12	12	19	117	95	31	17	13	11
25	12	11	5.9	10	12	19	129	102	30	16	13	11
26	12	11	8.0	10	12	18	129	105	28	16	12	12
27	12	9.7	10	12	12	19	128	100	28	16	12	12
28	12	9.4	10	a11	12	22	131	97	27	16	12	13
29	12	11	11	a10	-	21	131	91	27	15	12	12
30	12	11	12	a10	-	21	126	86	25	15	12	12
31	12	-	12	a10	-	22	-	77	-	15	11	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	347	12	10	11.2	688
November	331.1	12	9.4	11.0	657
December	335.9	14	5.9	10.8	666
Calendar year 1948	14,902.0	285	5.9	40.7	29,550
January	358.8	18	7.2	11.6	712
February	330	13	10	11.8	655
March	518	22	12	16.7	1,030
April	2,102	131	22	70.1	4,170
May	3,088	123	77	99.6	6,120
June	1,383	75	25	46.1	2,740
July	596	27	15	19.2	1,180
August	411	16	11	13.3	815
September	342	13	11	11.4	678
Water year 1948-49	10,142.8	131	5.9	27.8	20,110

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

Three Creeks near Beaver, Utah

Location.- Water-stage recorder, lat. 38°17'40", long. 112°25'30", in SE¼ sec. 9, T. 29 S., R. 5 W. Salt Lake meridian, three-quarters of a mile upstream from Merchant Creek and 16 miles east of Beaver.

Drainage area.- 19.2 square miles.

Records available.- July 1947 to September 1949.

Extremes.- Maximum discharge during year, 109 second-feet June 12 (gage height, 2.92 feet, minimum not determined, occurred during period of no gage-height record.
1947-49: Maximum discharge, 290 second-feet Aug. 9, 1947 (gage height, 4.35 feet site and datum then in use), by slope-area method; minimum not determined, occurred during period of no gage-height record.

Remarks.- Records poor. Flow affected by storage in Puffer Lake and construction of a dam a quarter of a mile above station.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.0	b5.3						26	55	36	14	8.4
2	5.4	5.3						29	54	35	14	8.2
3	5.1	5.3						34	52	35	13	8.2
4	5.3	4.9					a4.6	30	51	33	14	8.2
5	6.0	a4.6				a4.2		26	47	30	13	8.2
6	*5.8							24	49	29	13	8.2
7	6.0							24	51	28	13	8.0
8	6.0	a4.4						24	54	26	f13	8.0
9	6.0				*a3.7		a5.6	28	61	26	13	8.2
10	6.0		a4.2					30	62	24	12	8.2
11	6.0							30	67	24	12	8.0
12	5.8						*6.6	31	76	22	11	8.0
13	5.8						7.0	32	75	21	11	8.9
14	5.4						7.5	37	68	20	11	8.2
15	5.4			a3.7		a4.4	8.0	38	65	20	11	8.0
16	5.6	(*)					9.4	37	64	19	11	7.7
17	5.8						11	38	64	18	11	7.7
18	5.8						11	37	65	18	11	7.7
19	5.8						11	35	58	18	10	7.5
20	5.8						11	36	54	17	10	7.5
21	5.6	a4.2					14	36	52	16	10	7.5
22	5.6				a4.2		20	37	51	16	10	7.5
23	5.6						23	41	57	16	10	7.5
24	5.6						23	52	52	15	9.7	7.5
25	5.6		a4.0				24	68	49	15	9.7	7.7
26	b5.3					a4.6	26	76	47	15	9.4	8.0
27	b5.0						25	74	45	14	9.1	8.0
28	b4.6						26	76	44	14	9.1	8.0
29	b4.2				-		24	83	40	14	8.9	8.0
30	4.4				-		24	69	38	14	8.9	7.7
31	b5.0				-		-	60	-	14	8.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	171.3	6.0	4.2	5.53	340
November	131.4	-	-	4.38	261
December	128.0	-	-	4.13	254
Calendar year 1948	3,689	111	-	10.1	7,310
January	114.7	-	-	3.7	228
February	110.1	-	-	3.93	218
March	136.6	-	-	4.41	271
April	368.1	26	-	12.3	730
May	1,298	83	24	41.9	2,570
June	1,667	76	38	55.6	3,310
July	662	36	14	21.4	1,310
August	344.4	14	8.6	11.1	683
September	238.4	8.9	7.5	7.95	473
Water year 1948-49	5,370.0	83	-	14.7	10,650

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of 2 discharge measurements, weather records, and records for Beaver River near Beaver.
b Stage-discharge relation affected by ice.
f Computed from partly estimated gage-height record.

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 4½ miles east of Beaver.

Drainage area.- 82 square miles.

Records available.- June to September 1906, March 1914 to September 1949.

Average discharge.- 35 years (1914-49), 56.8 second-feet.

Extremes.- Maximum discharge during year, 429 second-feet May 26 (gage height, 3.71 feet); minimum daily, 15 second-feet Oct. 12, but may have been less during period of ice effect.

1914-49: 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 period of ice effect or no gage-height record, which are fair. No diversions 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	22	20	20		20	24	154	204	122	42	28
2	22	22	b20			19	23	186	191	124	42	27
3	20	24	19			19	23	207	183	135	41	27
4	19	22	18			20	23	188	188	124	41	27
5	16	19	b18			19	26	151	173	109	42	25
					a18							
6	23	20	19			20	30	131	173	101	38	23
7	23	23	b19	b18		20	30	116	168	94	39	24
8	22	19	b19			*20	30	116	176	92	43	23
9	22	22	b19			20	29	135	202	86	44	22
10	20	22	19		(*)	20	31	154	230	84	39	28
11	21	21	20	(*)	19	20	36	154	258	83	37	28
12	15	22	20		18	19	44	158	311	90	36	27
13	22	18	22	18	b17	20	49	173	333	86	36	30
14	21	19	*20	17	b17	20	50	196	311	79	36	29
15	21	19	20		b18	21	53	199	304	77	35	27
16	21	19	21		20	22	63	178	311	77	33	23
17	20	*20	21		19	22	74	193	325	77	33	23
18	21	19	20		18	22	79	193	325	76	33	23
19	21	b19	b20		19	25	71	180	297	74	40	25
20	20	20	b20		20	26	68	188	261	73	40	24
21	17	19	20		18	25	88	186	245	70	38	25
22	21	b19	20		18	25	113	191	227	68	37	25
23	22	20	b19	b18	19	25	133	215	233	65	37	22
24	20	19	b18		22	23	140	261	207	63	36	20
25	20	19	b17		20	23	147	311	188	62	36	26
26	19	19	b19		20	25	151	322	176	59	34	27
27	17	b18	20		20	23	154	301	163	58	32	28
28	18	b17	20		18	23	156	294	140	56	29	28
29	19	17	b18		-	23	166	308	144	56	28	28
30	24	20	b19		-	22	156	274	133	53	28	24
31	23	-	20		-	23	-	233	-	45	28	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	632	24	15	20.4	1,250
November	598	24	17	19.9	1,190
December	604	22	17	19.5	1,200
Calendar year 1948	17,542	385	15	47.9	34,790
January	559	-	-	18.0	1,110
February	520	-	-	18.6	1,030
March	674	26	19	21.7	1,340
April	2,260	166	23	75.3	4,480
May	6,246	322	116	201	12,390
June	6,780	333	133	226	13,450
July	2,518	135	45	81.2	4,990
August	1,133	44	28	36.5	2,250
September	766	30	20	25.5	1,520
Water year 1948-49	23,290	333	15	63.8	46,200

Peak discharge (base, 250 sec.-ft.).- May 26 (10:30 p.m.) 429 sec.-ft.; June 12 (9 p.m.) 417 sec.-ft.

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of 1 discharge measurement and weather records.

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 193 to September 1936, October 1937 to September 1949.

Average discharge.- 33 years (1914-36, 1938-49), 38.3 second-feet.

Extremes.- Maximum discharge during year, 296 second-feet June 18 (gage height, 3.28 feet); minimum, 3.8 second-feet May 3.
1913-36, 1937-49: 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 or no gage-height record, 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.1	34	41			52	50	17	118	30	7.8	7.0
2	5.5	43	42			58	48	8.2	94	28	7.0	7.4
3	5.5	41	44			63	44	11	96	50	8.6	7.0
4	5.5	42	42			74	42	18	198	73	9.0	9.0
5	6.1	41	41			83	41	24	174	46	9.9	8.6
6	7.4	44	44			89	39	12	231	32	13	7.4
7	11	46	41		(*)	92	42	10	185	29	14	7.4
8	8.6	37	47		b35	81	46	6.7	165	28	14	7.8
9	8.2	37	42			76	49	6.4	167	25	13	12
10	11	36	43	(*)		*93	44	6.4	183	22	12	14
11	8.6	39	41			109	42	7.8	185	23	11	9.5
12	8.2	38	41			114	42	7.4	217	20	11	8.2
13	8.2	38	*42			123	41	12	245	20	10	11
14	7.8	36	47			125	37	20	233	22	11	13
15	9.0	38	44			120	37	29	227	20	9.9	12
16	9.9	38	41	b30		126	37	24	235	18	11	13
17	11	38	42		a45	102	40	28	247	16	13	13
18	14	37	41			83	43	49	271	13	13	12
19	15	36	40			72	36	42	261	12	9.9	11
20	14	40	41			77	25	54	210	11	11	10
21	12	40	40			68	23	50	158	10	9.9	10
22	13	39	40			60	33	46	138	9.0	9.0	10
23	14	43	40			59	46	51	141	7.0	11	12
24	14	41	b39			65	46	61	117	7.0	11	12
25	13	42	b35		a50	59	49	117	89	8.6	8.6	13
26	9.5	41	b39			49	45	176	68	8.2	8.6	15
27	10	36	b39			46	36	174	57	9.0	8.2	15
28	20	42	b35			51	23	155	69	8.6	8.6	21
29	20	39	b30		-	48	22	181	45	8.2	7.8	15
30	29	41	b31		-	51	20	183	39	8.2	8.6	12
31	39	-	b32		-	50	-	153	-	7.8	7.4	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	374.1	39	5.5	12.1	742
November	1,183	46	34	39.4	2,350
December	1,247	47	30	40.2	2,470
Calendar year 1948	10,528.3	140	3.0	28.8	20,880
January	930	-	-	30.0	1,840
February	1,160	-	-	41.4	2,300
March	2,418	126	46	78.0	4,800
April	1,168	50	20	38.9	2,320
May	1,739.9	183	6.4	56.1	3,450
June	4,863	271	39	162	9,650
July	629.6	73	7.0	20.3	1,250
August	317.8	14	7.0	10.3	630
September	335.3	21	7.0	11.2	665
Water year 1948-49	16,365.7	271	3.0	44.8	32,470

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

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 1949.

Extremes.- Maximum contents observed during year, 18,510 acre-feet July 2 (gage height, 46.3 feet); minimum observed, 4,020 acre-feet Oct. 6 (gage height, 23.8 feet).
1937-49: 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	-	-	-	-	-		-	-	-	-
2	-	-	-	-	-	-	-		-	18,510	-	-
3	-	-	-	-	-	-	-		-	-	-	8,910
4	-	-	-	-	-	-	17,470		-	18,320	-	-
5	-	-	-	-	-	-	-		-	-	-	-
6	4,020	4,920	-	-	-	-	-		-	-	14,240	-
7	-	-	-	-	-	14,240	-		-	-	-	-
8	-	-	-	9,590	11,760	-	-		-	-	-	-
9	-	-	-	-	-	-	-		-	17,470	-	-
10	-	-	-	-	-	-	17,760		-	-	-	8,310
11	-	-	-	-	-	-	-		-	-	-	-
12	-	5,540	7,820	-	-	14,800	-		-	-	-	-
13	4,080	-	-	-	12,160	-	-		-	-	-	-
14	-	-	-	-	-	-	-		-	-	11,960	-
15	-	-	-	-	-	-	17,850		-	-	-	-
16	-	-	-	10,400	-	-	-		-	16,020	-	-
17	-	-	-	-	-	15,940	-		-	-	-	-
18	-	-	-	-	-	-	-		-	-	-	8,200
19	-	-	8,360	-	12,620	16,180	-		-	-	-	-
20	-	-	-	-	-	-	-		-	-	-	-
21	4,210	-	-	-	-	-	18,040		-	-	10,940	-
22	-	-	-	-	-	-	-		-	-	-	-
23	-	-	-	-	-	-	-		-	15,130	-	-
24	-	-	-	-	-	-	-		-	14,890	-	8,200
25	-	-	-	-	-	16,720	-		-	-	-	-
26	-	-	8,800	-	-	-	-		-	-	-	-
27	-	-	-	-	-	-	-		-	-	9,930	-
28	-	-	-	-	13,350	-	18,230		-	-	-	-
29	-	-	-	-	-	-	-		-	-	-	-
30	-	6,940	-	-	-	-	18,040		a18,400	-	-	a8,360
31	4,620	-	9,320	11,080	-	17,190	-	a14,700	-		a9,350	-

a No gage-height record; contents computed on basis of records of inflow and outflow.

Monthly gage height and contents, water year October 1948 to September 1949

Date	Gage height (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept.30	23.6	3,950	-
Oct. 31	25.3	4,620	+670
Nov. 30	30.4	6,940	+2,320
Dec. 31	34.6	9,320	+2,380
Calendar year 1948	-	-	-10,800
Jan. 31	37.2	11,080	+1,760
Feb. 28	40.3	13,350	+2,270
Mar. 31	44.9	17,190	+3,840
Apr. 30	45.8	18,040	+850
May 31	-	a14,700	-3,340
June 30	-	a18,400	+3,700
July 31	-	a14,500	-3,900
Aug. 31	-	a9,350	-5,150
Sept.30	-	a8,360	-990
Water year 1948-49	-	-	+4,410

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 4½ miles east of Minersville.

Drainage area.- 512 square miles.

Records available.- December 1913 to September 1949.

Average discharge.- 34 years (1914-36, 1937-49), 40.2 second-feet.

Extremes.- Maximum daily discharge during year, 149 second-feet June 23-25, 27; minimum daily, 4.0 second-feet Oct. 31.
1913-49: Maximum discharge, 727 second-feet June 10, 1921 (gage height, 3.53 feet); minimum, 0.3 second-foot Mar. 19, 20, 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	4.6	6.4	7.0	8.2	9.4	12	64	109	147	94	82
2	11	4.6	6.4	7.0	8.2	9.4	12	86	109	132	94	82
3	11	4.6	6.4	7.0	a8.2	10	12	94	110	112	93	82
4	9.4	4.6	6.4	6.4	a8.2	10	11	94	60	120	93	82
5	9.4	4.6	6.4	6.4	a8.2	10	11	94	12	122	93	78
6	9.4	4.6	6.4	6.4	a8.2	10	11	94	12	120	93	64
7	9.4	4.6	6.4	6.4	8.2	10	10	96	12	122	93	64
8	9.4	4.6	6.4	6.4	8.2	10	11	96	12	120	91	66
9	8.8	4.6	5.8	6.4	a8.2	10	11	96	12	120	91	66
10	8.2	4.6	5.8	6.4	a8.2	10	11	98	13	122	91	58
11	8.2	5.2	5.8	6.4	a8.2	9.4	11	107	22	116	88	54
12	7.6	5.2	5.8	6.4	a8.2	9.4	12	107	31	103	88	48
13	7.0	5.2	5.8	5.8	8.2	9.4	12	107	54	103	89	35
14	7.6	5.2	5.8	5.8	8.2	9.4	12	109	79	101	96	28
15	7.6	5.2	6.4	5.8	8.2	9.4	12	109	101	103	96	22
16	7.6	5.2	6.4	5.8	8.2	10	11	109	101	103	101	18
17	7.6	5.2	6.4	5.8	8.2	10	12	107	103	105	100	18
18	8.2	5.2	6.4	5.8	8.2	10	12	107	98	103	100	18
19	8.2	5.2	6.4	6.4	8.8	10	12	107	88	103	100	17
20	8.2	5.2	6.4	6.4	8.8	11	12	107	98	101	100	17
21	8.2	5.8	6.4	6.4	8.8	11	12	107	118	101	98	17
22	8.8	5.8	7.0	7.0	9.4	11	12	107	136	107	100	17
23	8.8	5.8	7.0	7.0	9.4	11	12	107	149	107	100	17
24	8.8	5.8	7.0	7.0	9.4	11	12	107	149	107	96	18
25	8.8	5.8	7.0	6.0	9.4	11	12	107	149	101	94	18
26	9.4	5.8	7.0	7.0	9.4	11	23	107	147	78	93	18
27	9.4	5.8	7.0	7.0	9.4	11	31	109	149	82	84	18
28	49	5.8	7.0	7.0	9.4	12	31	109	147	82	86	18
29	55	5.8	7.0	7.0	-	12	49	109	147	84	84	16
30	4.6	5.8	7.0	7.0	-	12	60	109	147	84	86	7.0
31	4.0	-	7.0	7.6	-	12	-	109	-	88	84	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	349.6	55	4.0	11.3	693
November	156.0	5.8	4.6	5.20	309
December	200.8	7.0	5.8	6.48	398
Calendar year 1948	18,045.4	128	4.0	49.3	35,800
January	203.2	7.6	5.8	6.55	403
February	239.9	9.4	8.2	8.56	476
March	321.5	12	9.4	10.4	638
April	484	60	10	16.1	960
May	3,175	109	64	102	6,300
June	2,674	149	12	89.1	5,300
July	3,299	147	78	106	6,540
August	2,889	101	84	93.2	5,730
September	1,163	82	7.0	38.8	2,310
Water year 1948-49	15,155.2	149	4.0	41.5	30,060

a No gage-height record; discharge interpolated.

North Fork North Creek above Pole Creek, near Beaver, Utah

Location.- Water-stage recorder, lat. 38°23'30", long. 112°30'35", in NE¼ sec. 10, T. 28 S., R. 6 W., 2½ miles upstream from Pole Creek, 4½ miles upstream from confluence with South Fork, and 11 miles northeast of Beaver.

Drainage area.- 6.9 square miles.

Records available.- July 1947 to September 1949 (discontinued).

Extremes.- Maximum discharge during year, 36 second-feet June 12 (gage height, 1.28 feet); minimum, 0.2 second-foot Apr. 8.
1947-49: Maximum discharge, that of June 12; minimum, that of Apr. 8.

Remarks.- Records fair except those for periods of ice effect or no gage-height record, which are poor.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.2	1.7						12	3.5		2.6	0.9
2	1.0	1.7						15	2.8		2.4	.9
3	1.0	2.1	a1.4					17	2.6	a6.0	2.4	1.2
4	1.2	1.7					a1.8	16	2.4		2.4	1.0
5	1.2	1.2						13	1.7		2.4	1.0
6	1.2	1.4						10	1.7			1.0
7	1.2	1.7						8.4	2.1			1.0
8	1.2	1.4			a1.1	(*)	1.9	8.0	3.5	a5.0	a2.3	.9
9	1.2	1.7				a1.5	3.3	6.8	5.1			1.7
10	1.2	1.7					3.8	11	5.7			1.7
11	1.2	1.7		(*)			5.4	11	7.6			1.4
12	1.2	1.7					7.6	12	19		a2.0	1.4
13	1.2	1.7	(*)				8.0	12	22	a4.5		1.9
14	1.2	1.7					7.6	14	21		1.7	1.4
15	1.2	1.7		a1.1			8.0	15	21		1.7	1.4
16	1.2	1.7					9.3	13	22		1.7	1.2
17	1.2				a1.3		9.7	13	22	a3.8	1.7	1.4
18	1.2		a1.3				8.0	16	22		1.7	1.2
19	1.2						7.6	14	18	3.8	1.7	1.2
20	1.4						6.7	13	17	3.8	1.4	1.2
21	1.4						7.1	13	14	3.3	1.4	1.2
22	1.4						9.3	14	13	3.3	1.7	1.2
23	1.4						11	14	12	3.0	1.7	1.2
24	1.4	a1.4			a1.5		13	15	a11	2.6	1.7	1.4
25	1.4					a1.8	16	13	a9.6	2.8	1.4	1.4
26	1.4						15	12		2.6	1.2	1.4
27	1.7						15	8.2		2.4	1.0	1.4
28	1.9						15	6.4	a8.0	2.4	1.0	1.2
29	1.7				-		15	8.8		2.4	1.0	1.2
30	1.9				-		13	8.4		2.4	1.0	1.0
31	1.7				-		-	5.4		2.4	1.0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	41.1	1.9	1.0	1.33	82
November	46.1	2.1	-	1.54	91
December	40.8	-	-	1.32	81
Calendar year 1948	1,418.7	22	.9	3.88	2,810
January	34.1	-	-	1.1	68
February	35.4	-	-	1.26	70
March	50.1	-	-	1.62	99
April	228.9	16	-	7.63	454
May	370.4	17	5.4	11.9	735
June	322.3	22	1.7	10.7	639
July	126.1	-	2.4	4.07	250
August	55.4	2.6	1.0	1.79	110
September	37.6	1.9	.9	1.25	75
Water year 1948-49	1,388.3	22	-	3.80	2,750

Peak discharge (base, 15 sec.-ft.).- Apr. 25 (8 a.m.) 16 sec.-ft.; May 3 (3 a.m.) 19 sec.-ft.; May 15 (7 a.m.) 16 sec.-ft.; May 25 (10:30 a.m.) 16 sec.-ft.; June 12 (1:30 a.m.) 36 sec.-ft.

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of 4 discharge measurements, weather records, and records for nearby streams.

Indian Creek near Beaver, Utah

Location.- Water-stage recorder, lat. 38°25'50", long. 112°35'20", in SE¼ sec. 25, T. 27 S., R. 7 W., 2½ miles downstream from Grassy Creek and 11 miles north of Beaver.

Drainage area.- 19.4 square miles.

Records available.- June to August 1906, July 1947 to September 1949 (discontinued).

Extremes.- Maximum discharge during year, 36 second-feet June 11 (gage height, 1.52 feet); minimum recorded, 0.9 second-foot Mar. 6, but may have been less during period of no gage-height record.
1947-49: Maximum discharge, that of June 11, 1949; minimum recorded, that of Mar. 6, 1949.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Flow affected by Beaver Dam Reservoir (capacity, about 400 acre-feet).

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.6	2.1	a2.1				3.1	16	23	12	5.5	2.0
2	1.6	2.1					2.9	15	20	12	5.5	2.0
3	1.6	2.3					2.9	16	19	13	3.6	2.0
4	1.6	2.3					3.1	16	22	12	3.6	1.9
5	1.6					a2.7	3.4	16	18	11	3.6	1.9
6	*1.7						3.8	14	16	11	3.6	2.0
7	1.7				a1.6		4.5	13	16	10	3.4	1.9
8	1.7						4.9	12	16	10	3.6	1.9
9	1.7					2.3	5.2	12	18	10	3.6	2.7
10	1.9					2.3	6.4	12	18	10	3.1	2.4
11	1.7					2.1	7.4	12	22	10	3.1	2.0
12	1.7					2.1	9.2	12	23	9.2	2.9	2.0
13	1.7					2.3	10	13	23	9.2	2.9	2.3
14	1.9		(*)			2.3	10	13	20	8.8	2.9	2.1
15	1.9				a1.6	2.6	10	14	18	8.4	2.7	2.1
16	1.9	(*)				2.7	12	14	16	8.8	2.6	2.0
17	2.0	b2.1			a2.2	2.9	14	14	15	10	2.6	2.0
18	2.0		a1.9			2.9	13	14	16	10	2.6	2.1
19	2.0					3.1	14	14	14	9.6	2.6	2.0
20	2.0					3.6	14	16	13	10	2.6	2.0
21	2.0					3.4	15	15	12	11	2.4	1.9
22	2.0					3.4	15	14	11	10	2.4	2.0
23	2.0					3.1	17	15	10	10	2.7	2.0
24	1.9					3.1	19	16	9.6	10	2.6	2.0
25	2.0				a2.7	3.1	19	22	8.4	10	2.4	2.0
26	2.0					3.1	19	28	7.7	9.6	2.4	2.0
27	2.1					3.1	18	31	7.4	9.6	2.3	2.0
28	2.6					3.1	18	30	7.4	9.6	2.3	2.1
29	3.1					3.6	17	30	7.4	6.1	2.3	2.0
30	2.4				-	3.4	16	29	9.6	5.8	2.1	2.0
31	2.3	-			-	2.9	-	26	-	5.5	2.0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	59.9	3.1	1.6	1.93	119
November	63.4	-	-	2.11	126
December	59.7	-	-	1.93	118
Calendar year 1948	1,909.4	22	-	5.22	3,790
January	49.6	-	-	1.60	98
February	57.7	-	-	2.06	114
March	88.1	3.6	-	2.84	175
April	326.8	19	2.9	10.9	648
May	534	31	12	17.2	1,060
June	456.5	23	7.4	15.2	905
July	302.2	13	5.5	9.75	599
August	92.5	5.5	2.0	2.98	183
September	61.3	2.7	1.9	2.04	122
Water year 1948-49	2,151.7	31	-	5.90	4,270

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

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 1949.

Extremes.- Maximum discharge during year, 114 second-feet July 2 (gage height, 2.72 feet), from rating curve extended above 50 second-feet; minimum, 7.2 second-feet Nov. 10, 18, Dec. 19, but may have been less during period of no gage-height record.
1942-49: Maximum discharge, 386 second-feet Aug. 5, 1945 (gage height, 4.59 feet), from rating curve extended above 52 second-feet by logarithmic plotting; minimum, 3.9 second-feet Mar. 5, 1944.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	9.8	10	11		9.4	11	42	49	56	33	20
2	13	9.8	10	10		9.1	11	52	51	63	33	20
3	12	9.4	10	8.5		9.4	11	59	51	61	33	20
4	12	9.4	8.8		a9.5	9.8	12	58	58	54	33	20
5	12	9.8	b10			9.6	15	44	53	49	31	20
6	12	8.5	12			9.8	17	34	54	48	30	20
7	12	8.8	10		9.4	9.8	15	30	51	45	33	19
8	12	8.2	12		9.8	9.8	16	34	49	43	33	20
9	11	8.5	11		9.4	9.8	16	43	51	44	32	20
10	11	8.8	11		10	9.8	17	44	46	46	29	20
11	11	8.8	12		9.8	9.8	18	43	51	44	28	19
12	12	8.2	*11		9.8	9.8	20	42	53	43	28	20
13	12	8.2	11		8.8	9.8	20	51	53	39	27	20
14	12	8.2	10		9.1	9.8	20	56	52	38	26	20
15	11	8.2	11		9.8	10	19	51	51	40	25	20
16	11	*8.2	11		11	10	20	42	47	44	25	20
17	10	8.2	11	a10	9.8	11	21	47	48	39	25	20
18	11	7.8	11		9.8	11	20	51	53	37	24	19
19	11	9.1	11		9.8	11	20	49	56	36	23	18
20	11	8.5	12		9.4	12	21	51	53	33	23	18
21	11	8.8	11		9.4	11	23	47	52	33	23	17
22	11	9.4	11		9.8	11	28	52	52	33	23	17
23	11	9.8	11		9.8	11	36	60	53	37	24	17
24	11	9.8	9.1		9.4	10	42	72	54	37	23	15
25	10	9.1	9.4		9.1	10	46	75	51	35	23	14
26	10	8.8	10		9.1	10	43	75	48	37	22	14
27	10	b9.0	11		9.1	10	46	69	52	36	22	15
28	11	b9.0	11		9.1	11	46	69	51	35	21	16
29	9.8	10	10		-	11	46	66	51	34	21	15
30	11	11	11		-	11	44	60	52	34	21	15
31	10	-	11		-	11	-	53	-	33	21	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	346.8	13	9.8	11.2	688
November	269.1	11	7.8	8.97	534
December	331.3	12	8.8	10.7	657
Calendar year 1948	7,518.9	104	7.8	20.5	14,920
January	309.5	-	-	9.98	614
February	267.5	-	-	9.55	531
March	317.7	12	9.1	10.2	630
April	740	46	11	24.7	1,470
May	1,621	75	30	52.3	3,220
June	1,548	58	47	51.6	3,070
July	1,286	63	33	41.5	2,550
August	818	33	21	26.4	1,620
September	548	20	14	18.3	1,090
Water year 1948-49	8,402.9	75	7.8	23.0	16,670

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of 1 discharge measurement and weather records.
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 1949. 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.- 13 years (1935-37, 1938-49), 34.8 second-feet.

Extremes.- Maximum discharge during year, 346 second-feet May 3 (gage height, 3.46 feet), minimum recorded, 5.2 second-feet Nov. 5, but may have been less during period of ice effect or no gage-height record.
1935-49: 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 diversions above station for irrigation.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		11				a12	11	183	123	40	15	10
2		11					13	227	121	38	18	10
3	a7	11		b8			13	274	112	45	15	10
4		9.4				*15	14	237	111	60	15	10
5		b8.0				16	22	179	116	a37	14	11
6	6.9	b8.2	b9		(*)	13	25	147	145	a35	13	11
7	7.2	9.0				14	25	164	125	a33	14	11
8	6.9	8.7				12	25	218	123	a32	14	10
9	6.9	b8.0			a8	12	25	209	120	a31	d13	12
10	7.6	b8.0		(*)		12	32	183	127	d32	d13	11
11	7.6	9.0				12	40	151	131	48	d11	11
12	7.6	b8.4	(*)			12	43	158	133	a35	d11	11
13	7.6	b8.6	7.9			14	46	189	133	a27	d11	12
14	7.6	8.7	8.3			18	47	211	127	a25	12	11
15	7.6	*9.0	b8.0			18	49	153	112	a23	12	11
16	7.6	9.0	b7.8			18	56	143	107	a22	12	11
17	7.2	9.0	7.9			22	61	172	105	a21	12	11
18	7.9	8.7	7.6			24	d60	187	98	a20	12	11
19	8.3	b8.4		a8		32	d60	164	90	20	12	11
20	7.9	b8.4				21	d61	158	78	19	11	10
21	7.9	b8.4				14	d70	160	69	18	11	10
22	7.6	b8.4			a10	16	102	168	64	19	11	9.7
23	7.6	b8.8				12	112	168	66	18	13	9.7
24	7.6	9.4				11	120	183	61	18	13	11
25	7.6	9.0	b8			11	114	179	56	17	12	11
26	7.9					11	123	174	54	17	12	12
27	8.3					11	143	189	51	16	11	13
28	9.4	b9				11	179	202	46	16	11	13
29	8.3				-	13	187	187	43	16	11	11
30	11				-	12	181	158	40	16	10	11
31	10				-	11	-	139	-	15	10	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	240.6	11	-	7.76	477
November	268.5	-	-	8.95	533
December	259.5	-	-	8.37	515
Calendar year 1948	10,697.6	277	6.9	29.8	21,610
January	248	-	-	8	492
February	250	-	-	8.93	496
March	454	32	-	14.6	900
April	2,059	187	11	68.6	4,080
May	5,614	274	139	181	11,140
June	2,887	145	40	96.2	5,730
July	829	60	15	26.7	1,640
August	385	18	10	12.4	764
September	327.4	13	9.7	10.9	649
Water year 1948-49	13,822	274	-	37.9	27,420

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of discharge measurements, weather records, and records for Center Creek near Parowan.
b Stage-discharge relation affected by ice.
d Doubtful gage-height record; discharge computed as explained in footnote a.

Baker Creek at narrows, near Baker, Nev.

Location.- Water-stage recorder, lat. 38°59', long. 114°13', in sec. 22, T. 13 N., R. 69 E., half a mile downstream from Pole Canyon, 1 mile downstream from narrows, and 4¾ miles southwest of Baker.

Records available.- December 1947 to September 1949.

Extremes.- Maximum discharge during year, 146 second-feet June 16 (gage height, 2.43 feet), from rating curve extended above 60 second-feet by logarithmic plotting; minimum recorded, 1.1 second-feet Nov. 5, but may have been less during period of ice effect.
1947-49: Maximum discharge that of June 16, 1949; minimum recorded, 0.6 second-foot Mar. 11, 1948, but may have been less during periods of ice effect.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are poor. Records not equivalent to those obtained obtained 1913-15 at site three-quarters of a mile downstream, because of channel losses.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.8	3.0					2.8	13	38	30	7.7	3.1
2	2.7	2.9					2.8	14	33	30	7.5	3.1
3	2.6	3.0					2.8	17	29	31	7.2	3.1
4	2.7	2.6		1.5			3.0	18	28	28	6.8	3.0
5	2.8	2.0	1.8				3.2	17	29	28	6.5	2.8
						1.5						
6	3.1	2.5					3.3	15	23	25	6.3	2.7
7	3.1	2.8					3.7	14	22	23	6.3	2.7
8	3.0	2.3				(*)	3.9	14	28	21	6.1	2.5
9	2.9	2.5					3.9	14	37	20	6.0	2.5
10	2.8	2.5					4.1	14	50	18	6.0	2.6
11	2.8	2.5					4.4	14	87	17	6.0	2.6
12	2.8	2.5				1.6	5.0	14	104	17	5.4	2.5
13	2.8	2.8				1.7	5.2	15	117	16	5.2	2.5
14	3.2	2.8				1.8	5.2	16	115	14	5.2	2.4
15	3.0	2.7				1.9	5.2	21	115	14	4.9	2.4
					1.5							
16	2.9	2.7				2.0	5.6	20	127	13	4.9	2.2
17	2.8	*2.7				2.3	6.3	23	124	13	4.4	2.3
18	2.8	2.0				2.3	6.5	26	112	12	4.4	2.3
19	2.9			1.5		2.4	6.5	23	95	12	4.3	2.3
20	2.9		1.7			2.4	6.6	21	74	11	4.2	2.0
21	2.9					2.3	7.0	19	66	10	3.9	2.0
22	2.9		(*)			2.5	8.1	18	61	10	3.9	2.0
23	2.9					2.4	9.7	18	55	9.7	4.1	1.9
24	2.9					2.3	10	22	52	9.3	4.1	1.9
25	2.9	2.0				2.4	10	28	52	9.1	3.8	2.0
26	2.9					2.5	10	38	52	9.1	3.6	2.3
27	2.9					2.6	11	44	48	8.5	3.6	2.7
28	2.5					2.6	12	60	42	8.5	3.5	2.4
29	2.7				-	2.6	13	67	38	8.1	3.3	2.3
30	3.0				-	2.6	13	61	32	7.9	3.2	2.3
31	2.9				-	2.8	-	51	-	7.5	3.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	88.8	3.2	2.5	2.86	176
November	70.8	3.0	-	2.36	140
December	53.7	-	-	1.73	107
Calendar year 1948	2,144.7	38	1.4	5.86	4,250
January	46.5	-	-	1.5	92
February	42.0	-	-	1.5	83
March	62.5	2.8	-	2.02	124
April	193.8	13	2.8	6.46	384
May	769	67	13	24.8	1,530
June	1,885	127	22	62.8	3,740
July	490.7	31	7.5	15.8	973
August	155.5	7.7	3.2	5.02	308
September	73.4	3.1	1.9	2.45	146
Water year 1948-49	3,931.7	127	-	10.8	7,800

Peak discharge (base, 20 sec.-ft.).- May 18 (6 a.m.) 28 sec.-ft.; May 28 (11 p.m.) 72 sec.-ft.; June 16 (11 p.m.) 146 sec.-ft.

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 9-11, Nov. 19 to Mar. 11 (no gage-height record Jan. 7 to Mar. 7; discharge computed on basis of 2 discharge measurements, weather records, and records for Lehman Creek near Baker).

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Lehman Creek near Baker, Nev.

Location.- Water-stage recorder, lat. 39°01', long. 114°13', in sec. 10, T. 13 N., R. 69 E., 4¼ miles west of Baker.

Records available.- December 1947 to September 1949.

Extremes.- Maximum discharge during year, 34 second-feet June 19 (gage height, 1.38 feet); minimum not determined, occurred during period of ice effect.
1947-49: Maximum discharge, that of June 19, 1949; minimum not determined.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are poor.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.8	2.4					2.8	6.4	18	20	8.3	4.3
2	2.8	2.4					2.8	6.7	18	19	8.3	4.3
3	2.8	2.3	b1.7	b1.4			2.8	7.0	17	19	8.0	3.9
4	2.8	2.3					3.1	7.0	17	19	7.3	3.5
5	2.8	b2.3				a2.0	3.3	6.7	17	18	7.3	3.2
6	2.8	b2.3	b1.6				3.8	6.7	16	18	7.3	3.9
7	2.8	2.3	b1.6				3.6	6.7	16	17	7.3	3.9
8	2.8		1.6			a1.4	3.8	6.7	16	17	7.3	3.7
9	2.8	b2.3	1.6			*b2.1	3.8	7.0	17	17	7.0	3.7
10	2.8		1.6			2.4	4.1	7.0	18	16	6.6	3.7
11	2.6	2.1	b1.6			2.4	4.3	7.0	20	16	6.3	3.5
12	2.6	b2.1	b1.6			b2.4	4.6	7.0	22	16	6.3	3.5
13	2.6	2.1	1.6			b2.4	4.6	7.6	25	15	6.3	3.5
14	2.8	2.1				2.6	4.3	8.0	27	14	6.3	3.2
15	2.6	2.0				2.8	4.3	9.0	26	14	6.0	3.2
			b1.6									
16	2.6	2.0				2.8	4.3	8.7	27	14	5.7	3.0
17	2.6	(*)	1.6	a1.4		3.1	4.6	9.4	27	13	5.3	3.2
18	2.6		1.6			3.1	4.6	10	28	12	5.3	3.0
19	2.6	b2.0				3.3	4.6	9.8	32	12	5.0	2.8
20	2.6					3.3	4.6	9.8	30	12	5.0	2.8
					a1.6							
21	2.4					3.3	4.6	9.8	26	12	5.0	2.8
22	2.4		(*)			3.3	5.1	9.8	25	11	5.0	2.8
23	2.4	b1.9				3.3	5.4	10	24	11	4.8	2.8
24	2.4					b3.3	5.7	11	23	11	4.8	2.8
25	2.4		b1.6			b3.2	5.7	13	22	10	4.6	2.8
					a1.8							
26	2.4					3.1	5.4	16	21	9.2	4.6	3.2
27	2.4					3.3	5.7	18	21	9.2	4.6	3.7
28	2.3	b1.7			a2.0	3.3	6.0	20	20	8.8	4.6	3.0
29	2.3				-	b3.2	6.4	20	20	8.3	4.3	3.0
30	2.4				-	b3.1	6.0	20	20	8.3	4.3	3.0
31	2.4	-			-	3.1	-	19	-	8.8	4.3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	80.4	2.8	2.3	2.59	159
November	61.6	-	-	2.05	122
December	50.1	-	-	1.62	99
Calendar year 1948	1,580.3	15	-	4.32	3,140
January	43.4	-	-	1.40	86
February	42.8	-	-	1.53	85
March	84.2	3.3	-	2.72	167
April	134.7	6.4	2.8	4.49	267
May	320.8	20	6.4	10.3	636
June	656	32	16	21.9	1,300
July	425.6	20	8.3	13.7	844
August	183.1	8.3	4.3	5.91	363
September	99.7	4.3	2.8	3.32	198
Water year 1948-49	2,182.4	32	-	5.98	4,330

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

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 1949. 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, 1948-49

Oct.	1	241.15	Feb.	1	240.15	June	30	239.85
Nov.	1	241.05	Mar.	1	239.80	Aug.	1	240.15
Dec.	1	240.95	Apr.	1	239.60		31	240.45
	31	240.75		30	239.40			
Jan.	15	240.45	June	1	239.75			

Whitewater River at Whitewater, Calif.

Location.- Water-stage recorder, lat. 33°56'50", long. 116°38'20", in NE¼ sec. 2, T. 3 S., R. 3 E., 1.6 miles north of Whitewater. Datum of gage, 1,610.98 feet above mean sea level, adjustment of 1934.

Drainage area.- 57.4 square miles.

Records available.- October 1948 to September 1949.

Extremes.- Maximum discharge during year not determined; minimum daily, 2.4 second-feet Sept. 20.
Maximum discharge known, 42,000 second-feet Mar. 2, 1938, by slope-area method, at site 2.5 miles upstream (drainage area, 51.4 square miles).

Remarks.- Records good except those for Oct. 1 to Feb. 16, which are fair. No regulation. One small diversion above station for domestic use and one for irrigation use. During year 1,000 acre-feet was removed from infiltration gallery in area of station by pumping.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						11	11	8.3	7.9	6.0	4.5	3.1
2						10	11	7.9	7.5	5.7	4.2	3.1
3						10	11	7.5	7.1	5.4	4.5	2.8
4						10	11	7.5	7.1	5.1	4.5	2.8
5					10	12	11	7.1	7.1	4.8	4.8	2.8
6						12	11	6.8	6.8	4.8	5.1	2.6
7						13	11	6.8	7.1	5.1	5.1	2.8
8						14	11	6.8	7.1	4.8	4.8	2.8
9						8.7	12	8.3	7.1	4.5	4.8	2.8
10						8.7	12	7.9	7.1	4.5	4.8	2.8
11						8.7	12	7.5	6.8	4.2	4.8	2.8
12						9.6	12	7.1	6.8	4.2	4.8	2.6
13					9.0	9.2	13	7.1	6.8	3.9	4.2	2.6
14						8.7	13	8.3	6.4	4.5	4.8	2.8
15	5.5			7.5		8.7	14	8.3	6.8	4.2	4.8	2.8
16		6.0	7.5			9.6	14	7.9	6.8	3.9	5.4	2.6
17					8.5	9.6	14	8.3	7.1	3.9	5.1	2.8
18	75				8.7	9.6	14	8.3	7.1	3.9	5.1	2.6
19	15				9.2	10	14	8.3	7.1	4.2	5.1	2.6
20	10			50	9.6	11	13	8.3	6.8	3.9	4.2	2.4
21				15	8.7	9.2	13	7.1	6.0	4.2	4.2	2.6
22				10	8.7	9.6	11	6.8	5.7	4.5	4.8	2.6
23					10	12	10	6.4	5.7	4.5	4.2	2.8
24					13	14	10	6.8	5.7	4.5	3.9	2.6
25					12	16	10	6.8	6.0	4.2	3.6	2.8
26	5.5	6.5	8.0	8.0	11	11	9.6	6.4	6.0	3.9	3.3	2.8
27					11	11	9.6	6.4	6.0	3.9	3.3	2.8
28					11	15	9.2	7.5	6.0	4.5	3.3	3.1
29					-	12	9.6	7.9	6.0	4.5	3.6	3.1
30					-	12	9.2	8.3	6.0	4.5	3.3	2.6
31					-	12	-	8.3	-	4.5	3.3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	244.0	-	-	7.87	484
November	175.0	-	-	5.83	347
December	233.0	-	-	7.52	462
Calendar year 1948	-	-	-	-	-
January	284.5	-	-	9.18	564
February	273.4	-	-	9.76	542
March	337.9	16	8.7	10.9	670
April	346.2	14	9.2	11.5	687
May	233.0	8.3	6.4	7.52	462
June	199.5	7.9	5.7	6.65	396
July	139.2	6.0	3.9	4.49	276
August	136.2	5.4	3.3	4.39	270
September	82.8	3.1	2.4	2.76	164
Water year 1948-49	2,684.7	-	2.4	7.36	5,320

Note.- No gage-height record Oct. 1 to Feb. 16; discharge computed on basis of its discharge measurements, records of Whitewater Mutual Water Co.'s 8-foot Cipolletti weir, weather records, field engineers' observations, and information furnished by water company.

Tahquitz Creek near Palm Springs, Calif.

Location.- Water-stage recorder, lat. 33°47'40", long. 116°33'45", in SW¼ sec. 22, T. 4 S., R. 4 E., 1½ miles southwest of Palm Springs, Riverside County. Altitude of gage, about 800 feet (from topographic map).

Drainage area.- Indeterminate.

Records available.- October 1947 to September 1949.

Extremes.- Maximum discharge during year, 19 second-feet Apr. 24 (gage height, 1.99 feet); no flow during several months.
1947-49: Maximum discharge, 65 second-feet July 22, 1948 (gage height, 3.92 feet); no flow during several months of each year.

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

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.3	0.6	0.6	1.0	1.9	11	4.5	0.6		
2		0	.3	.6	.7	1.0	1.8	12	4.1	.6		
3		0	.4	.6	.7	1.0	1.7	12	3.9	.6		
4		0	.3	.6	.7	1.0	1.6	11	3.8	.5		
5		0	.3	.6	.7	1.0	1.8	10	3.8	.4		
6		0	.3	.6	.7	1.0	2.2	9.7	3.7	.4		
7		0	.4	.6	.7	1.0	2.7	9.4	3.6	.3		
8		0	.4	.6	.8	1.0	2.8	9.3	3.4	.3		
9		0	.4	.6	.7	1.0	3.1	9.0	3.2	.2		
10		0	.4	.8	.7	1.0	3.7	8.5	2.9	.2		
11		0	.4	1.0	.7	1.0	4.5	8.2	2.8	.2		
12		.1	.4	1.3	.8	1.0	5.2	7.7	2.5	.2		
13		.2	.4	1.9	.8	.9	6.4	7.9	2.3	.1		
14		.3	.5	1.0	.8	1.0	7.0	8.5	2.2	.1		
15		.3	.5	.8	.7	1.1	7.6	9.6	1.9	.1		
16		.3	.5	.5	.7	1.4	7.6	9.4	1.7			
17		.3	.6	.5	.8	1.6	8.5	9.4	1.6			
18		.3	.7	.5	.8	1.7	9.1	9.1	1.6	e.05		
19		.3	.6	.5	.9	2.0	9.1	8.8	1.6			
20		.2	.6	.5	.9	2.4	9.0	8.6	1.6			
21		.2	.6	.6	.9	2.4	12	8.0	1.4	e.03		
22		.2	.6	.7	.9	2.5	14	7.5	1.3			
23		.3	.6	.8	.9	2.8	15	6.9	1.2			
24		.3	.6	.7	.9	2.2	16	6.5	1.1			
25		.3	.6	.8	1.0	1.9	15	6.4	.9			
26		.3	.5	.7	1.0	1.8	12	6.1	.9	e.02		
27		.3	1.1	.6	1.0	1.8	12	6.0	.9			
28		.3	.8	.6	1.0	2.6	12	5.9	.9			
29		.3	.6	.6	-	2.4	12	5.2	.8			
30		.3	.6	.6	-	2.0	11	5.1	.7	e.01		
31		-	.6	.6	-	2.0	-	4.9	-			

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	0	0	0	0	0
November	5.1	.3	0	.17	10
December	15.9	1.1	.3	.51	32
Calendar year 1948	215.71	4.9	0	.589	428
January	22.0	1.9	.5	.71	44
February	22.5	1.0	.6	.80	45
March	48.5	2.8	.9	1.56	96
April	228.3	16	1.6	7.61	453
May	257.6	12	4.9	8.31	511
June	66.8	4.5	.7	2.23	132
July	5.24	.6	-	.169	10
August	0	0	0	0	0
September	0	0	0	0	0
Water year 1948-49	671.94	16	0	1.84	1,330

e Daily discharge less than 0.1 second-foot.

Palm Canyon Creek near Palm Springs, Calif.

Location.- Water-stage recorder, lat. 33°44'55", long. 116°32'15", in S½ sec. 11, T. 5 S., R. 4 E., three-quarters of a mile upstream from Murray Canyon Creek and 6 miles south of Palm Springs. Former gage at same site, but at datum 0.2 foot higher. Altitude of gage, about 700 feet.

Drainage area.- 94.0 square miles.

Records available.- January 1930 to January 1942, October 1947 to September 1949.

Average discharge.- 13 years (1930-41, 1947-49), 6.67 second-feet.

Extremes.- Maximum discharge during year, 16 second-feet Jan. 21 or 23 (gage height, 2.59 feet), from velocity and mean-depth relation; no flow during several months.
1930-42, 1947-49: Maximum discharge, 3,850 second-feet Feb. 6, 1937 (gage height, 5.60 feet, datum then in use), from rating curve extended above 120 second-feet on basis of velocity-area studies; no flow for several months during most years.

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

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0.1	2.3	4.9	4.1	f1.2				
2			0	.1	2.3	4.4	3.9	f1.1				
3			0	.1	2.3	4.1	3.7	f1.2				
4			0	.1	2.4	4.1	3.7	f1.1				
5			0	.1	2.4	4.4	3.7	f1.0				
6			0	.1	2.4	4.1	3.9	f1.0				
7			0	.1	3.3	3.5	4.1	.8				
8			0	.1	4.4	3.3	4.4	.7				
9			0	.1	3.3	3.1	4.4	.6				
10			0	.2	3.1	3.1	4.4	.6				
11			0	.2	3.3	3.5	4.1	.5				
12			0	.6	4.6	3.7	4.4	.5				
13			.01	1.7	3.7	3.5	4.4	.5				
14			.04	1.7	2.9	3.3	4.6	.6				
15			.1	2.0	2.8	3.5	4.6	.9				
16			.1	1.9	2.6	3.5	4.4	.8				
17			.1	1.5	2.6	3.5	4.1	.8				
18			.1	1.4	3.1	3.5	4.1	.9				
19			.1	1.5	3.7	3.5	4.1	.9				
20			.1	5.6	4.1	4.1	3.7	1.0				
21			.1	a5.2	4.1	3.9	3.3	.6				
22			.1	a5.0	4.4	3.7	2.8	.4				
23			.1	a5.5	4.6	5.8	2.6	.3				
24			.1	a5.0	6.2	4.9	2.3	.2				
25			.1	a4.5	7.8	4.4	2.1	.1				
26			.1	a4.2	7.3	3.9	2.0	.1				
27			.2	3.9	6.9	4.1	1.7	.03				
28			.1	3.9	5.8	4.6	1.6	.06				
29			.1	3.3	-	4.6	1.4	.05				
30			.1	2.9	-	4.4	1.3	.04				
31			.1	2.4	-	4.6	-	.03				

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	0	0	0	0	0
November	0	0	0	0	0
December	1.85	.2	0	.060	3.7
Calendar year 1948	91.21	7.7	0	.250	180
January	65.0	5.6	.1	2.10	129
February	108.7	7.8	2.3	3.88	216
March	123.5	5.8	3.1	3.98	245
April	103.9	4.6	1.3	3.46	206
May	18.61	1.2	.03	.600	37
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 1948-49	421.56	7.8	0	1.15	837

Peak discharge (base, 100 sec.-ft.).- No peak above base.
a No gage-height record; discharge computed on basis of weather records and records for Tahquitz Creek near Palm Springs.
f Computed on basis of partly estimated gage-height record.

Andreas Creek near Palm Springs, Calif.

Location.- Water-stage recorder and 36-inch broad-crested weir, lat. 33°45'35", long. 116°32'55", in SE¼ sec. 3, T. 5 S., R. 4 E., at Indian Service diversion dam, 0.9 mile above mouth and 5.4 miles south of Palm Springs. Altitude of gage, 800 feet (from topographic map).

Drainage area.- 8.78 square miles.

Records available.- October 1948 to September 1949.

Extremes.- Maximum discharge during year not determined; minimum daily, 0.2 second-foot on several days in August.

Remarks.- Records good except those for Oct. 1 to Mar. 24, Apr. 13-17, which are fair. One small domestic diversion about 1 mile above station.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							2.5	3.6	1.6	0.9	0.4	0.3
2							2.8	3.6	1.4	.9	.4	.3
3							2.8	3.6	1.4	.8	.4	.3
4							2.8	3.3	1.6	.7	.4	.4
5							2.8	2.8	1.7	.7	.4	.4
6							2.8	2.4	1.7	.6	.4	.3
7							2.8	2.1	1.6	.6	.4	.4
8							3.0	1.9	1.4	.6	.3	.6
9							3.0	1.7	1.4	.6	.3	.4
10							3.3	1.7	1.2	.6	.2	.4
11							3.6	1.6	1.2	.6	.2	.4
12							3.3	1.6	1.1	.6	.2	.4
13						3.0	d3.3	1.7	1.1	.5	.2	.4
14							d3.6	1.9	1.1	.4	.2	.4
15							d3.6	1.9	.9	.4	.3	.4
16	0.7	1.1	1.5	2.5	ε.0		d3.8	2.1	.8	.4	.2	.4
17							d4.0	2.1	.7	.5	.3	.4
18							4.2	2.3	.7	.5	.3	.4
19							3.9	2.3	.8	.7	.2	.5
20							3.9	2.5	.8	.5	.2	.5
21							3.9	2.3	.8	.4	.2	.5
22							3.6	2.1	.7	.4	1.3	.4
23							3.6	1.9	.8	.4	.9	.4
24							4.2	1.7	.7	.4	.5	.4
25						f2.8	4.2	1.6	.8	.5	.4	.5
26						3.0	3.9	1.7	.8	.5	.4	.6
27						3.0	3.9	1.5	.9	.5	.4	.7
28						2.8	3.9	1.6	.9	.5	.4	.7
29					-	2.8	3.9	1.6	.8	.5	.3	.7
30					-	2.8	3.6	1.6	.8	.6	.2	.7
31		-			-	2.8	-	1.6	-	.5	.3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	21.7	-	-	0.7	43
November	33.0	-	-	1.1	65
December	46.5	-	-	1.5	92
Calendar year	-	-	-	-	-
January	77.5	-	-	2.5	154
February	56.0	-	-	2.0	111
March	92.0	-	-	2.97	182
April	104.5	4.2	2.5	3.48	207
May	65.9	3.6	1.5	2.13	131
June	32.2	1.7	.7	1.07	64
July	17.3	.9	.4	.56	34
August	11.2	1.3	.2	.36	22
September	13.6	.7	.3	.45	27
Water year 1948-49	571.4	-	-	1.57	1,130

d Doubtful gage-height record; discharge computed on basis of 1 discharge measurement, interpolation, and records for Tahquitz Creek near Palm Springs.
f Computed on basis of partly estimated gage-height record.
Note.- No gage-height record Oct. 1 to Mar. 24; discharge computed on basis of 26 discharge measurements and records for Tahquitz Creek near Palm Springs.

Deep Creek near Hesperia, Calif.

Location.- Water-stage recorder and broad-crested weir, lat. 34°20'30", long. 117°13'40", in SW¼ 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 1949.

Average discharge.- 19 years (1930-49), 63.4 second-feet.

Extremes.- Maximum discharge during year, 248 second-feet Apr. 14 (gage height, 2.58 feet); minimum daily, 0.4 second-foot on many days in August and September.
1929-49: 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 except those for discharges between 5 and 10 second-feet, which are fair. Hesperia Water Co's canal diverts water about 2 miles above station for irrigation and domestic use. Minor regulation by Lake Arrowhead (drainage area, 6.62 square miles).

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.0	1.7	1.8	5.2	11	50	55	55	4.6	2.0	1.2	0.4
2	.9	1.6	2.0	5.4	14	50	57	42	4.3	2.0	1.2	.4
3	.8	1.7	2.2	4.4	13	50	49	35	3.9	2.0	1.2	.4
4	.8	1.7	3.5	4.7	13	50	59	30	3.5	1.9	1.1	.4
5	1.0	1.8	3.9	8.8	14	69	88	27	3.6	1.9	1.1	.4
6	.9	1.8	3.1	9.0	14	57	92	24	3.7	1.9	1.1	.4
7	.9	1.8	3.1	9.0	17	50	103	20	3.2	1.9	1.0	.5
8	.9	1.8	2.8	7.7	16	45	115	19	2.9	1.8	1.0	.6
9	.8	1.8	2.1	7.0	13	44	148	18	3.5	1.7	1.0	.4
10	.8	1.8	2.6	6.8	14	47	155	17	4.2	1.7	1.0	.4
11	.9	1.9	2.0	8.0	21	75	170	15	3.1	1.6	1.1	.4
12	.9	1.9	2.0	8.2	29	88	179	14	3.1	1.6	1.1	.4
13	1.0	1.9	2.1	9.8	20	65	183	12	2.9	1.6	1.1	.4
14	1.0	1.8	2.1	8.5	16	63	183	11	2.8	1.5	1.1	.4
15	1.1	1.8	2.2	9.6	16	73	170	17	2.7	1.4	1.1	.4
16	1.1	1.8	2.2	8.9	18	75	144	14	2.7	1.4	1.0	.4
17	1.2	1.9	3.9	8.6	21	75	152	11	2.7	1.4	1.0	.4
18	2.1	1.8	4.8	8.8	26	82	144	13	2.7	1.3	1.1	.4
19	2.2	1.8	3.9	9.1	32	92	130	16	f2.7	1.3	1.1	.4
20	2.1	1.8	3.1	14	39	148	124	31	a2.7	1.2	1.0	.4
21	1.9	1.9	3.1	27	38	100	148	24	a2.7	1.1	.8	.4
22	1.7	1.8	3.3	22	39	103	155	18	a2.7	1.0	.8	.5
23	1.6	1.8	11	17	49	80	141	15	f2.7	1.0	.7	.5
24	2.1	1.8	9.8	14	65	61	124	11	2.7	1.0	.6	.4
25	2.0	1.9	8.1	15	100	47	106	8.6	2.6	1.1	.6	.4
26	1.5	1.9	9.3	14	75	42	82	6.3	2.5	1.1	.5	.4
27	1.5	1.8	21	12	69	50	65	5.7	2.4	1.1	.5	.5
28	1.5	1.8	16	12	57	92	61	5.2	2.2	1.2	.4	.5
29	1.5	1.8	10	12	-	73	61	5.1	2.1	1.2	.4	.5
30	1.5	1.8	6.0	13	-	59	65	5.1	2.0	1.3	.4	.5
31	1.6	-	5.4	12	-	63	-	4.9	-	1.3	.4	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	40.8	2.2	0.8	1.32	81
November	54.2	1.9	1.6	1.81	108
December	158.4	21	1.8	5.11	314
Calendar year 1948	5,146.2	421	.4	14.1	10,210
January	331.5	27	4.4	10.7	658
February	869	100	11	31.0	1,720
March	2,118	148	42	68.3	4,200
April	3,508	183	49	117	6,960
May	549.9	55	4.9	17.7	1,090
June	90.1	4.6	2.0	3.00	179
July	45.5	2.0	1.0	1.47	90
August	27.7	1.2	.4	.89	55
September	12.9	.6	.4	.43	26
Water year 1948-49	7,806.0	183	.4	21.4	15,480

Peak discharge (base, 400 sac.-ft.).- No peak above base.
a No gage-height record; discharge interpolated.
f Computed on basis of partly estimated gage-height record.

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 1949. February 1899 to July 1906 and November 1930 to September 1936 at site 3 miles upstream.
Average discharge.- 13 years (1936-49), 101 second-feet.
Extremes.- Maximum discharge during year, 114 second-feet Oct. 18 (gage height, 2.01 feet); minimum daily, 8.0 second-feet July 16.
1930-49: Maximum discharge, 70,600 second-feet Mar. 2, 1938 (gage height, 18.7 feet, present datum), by slope-area method; minimum daily, that of July 16, 1949.
Remarks.- Records fair. Diversions above station principally for irrigation. Minor regulation by Lake Arrowhead.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	43	37	46	50	40	37	28	26	26	19	13
2	21	40	37	46	46	37	46	31	23	23	19	9.5
3	23	34	37	43	46	34	43	31	21	21	19	11
4	21	31	40	37	46	34	43	31	21	19	15	11
5	23	34	37	40	46	37	37	28	21	17	15	9.5
6	21	40	40	43	46	37	43	26	19	19	15	17
7	23	34	40	43	50	37	37	28	19	21	15	19
8	23	37	40	43	46	43	43	26	21	19	15	19
9	23	40	40	46	50	46	40	28	21	15	15	15
10	26	34	46	50	53	46	37	26	19	13	15	17
11	34	34	40	50	50	46	40	28	21	13	15	17
12	34	34	40	50	43	46	37	28	19	17	17	17
13	34	31	40	57	43	43	34	28	21	17	17	15
14	31	31	37	57	40	37	31	37	21	15	17	15
15	31	37	37	50	40	50	34	37	21	13	19	17
16	31	40	40	50	37	40	31	37	21	8.0	17	19
17	34	40	43	53	40	40	34	40	21	11	19	19
18	77	37	40	60	40	26	34	40	21	11	17	19
19	53	37	37	60	40	23	34	43	19	13	19	21
20	46	37	37	60	40	26	31	37	19	13	19	21
21	40	37	34	64	40	23	37	37	19	11	19	19
22	34	37	26	60	43	23	31	34	19	15	19	19
23	34	31	34	57	43	28	31	34	19	13	17	19
24	37	37	31	57	46	34	28	34	19	13	15	21
25	37	34	40	60	43	34	31	31	19	15	17	19
26	40	40	43	53	43	34	28	31	21	15	17	19
27	43	37	46	57	46	34	26	28	21	15	15	21
28	43	40	46	57	46	37	26	28	23	15	17	21
29	37	37	46	53	-	37	21	31	23	15	19	21
30	40	37	43	53	-	37	23	31	21	17	17	21
31	40	-	43	50	-	50	-	28	-	17	19	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,060	77	21	34.2	2,100
November	1,092	43	31	36.4	2,170
December	1,217	46	26	39.3	2,410
Calendar year 1948	12,731	77	13	34.8	25,250
January	1,605	64	37	51.8	3,180
February	1,242	53	37	44.4	2,460
March	1,139	50	23	36.7	2,260
April	1,028	46	21	34.3	2,040
May	985	43	26	31.8	1,950
June	619	26	19	20.6	1,230
July	485.0	26	8.0	15.6	962
August	529	19	15	17.1	1,050
September	521.0	21	9.5	17.4	1,030
Water year 1948-49	11,522.0	77	8.0	31.6	22,840

Peak discharge (base, 200 sec.-ft.).- No peak above base.

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 1949.
Average discharge.- 19 years, 39.6 second-feet.
Extremes.- No flow during year.
1930-49: 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.- No flow since Mar. 23, 1947. Minor storage and many diversions above station.

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 1949.

Average discharge.- 19 years, 33.2 second-feet.

Extremes.- Maximum discharge during year, 335 second-feet Jan. 20 (gage height, 3.34 feet); no flow during several months.
1930-49: Maximum discharge, 26,100 second-feet Mar. 2, 1938, by slope-area method; no flow during several months of each year.

Remarks.- Records 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	9.4	60	43	6.2				
2			0	0	8.6	58	39	7.4				
3			0	0	9.0	56	38	6.6				
4			0	0	9.0	60	35	7.8				
5			0	0	9.8	84	30	7.4	e0.01			
6			0	0	10	67	26	6.2				
7			0	0	13	55	26	6.6				
8			0	0	15	48	26	4.6				
9			0	0	13	51	25	3.5	0			
10			0	0	12	52	25	1.0	0			
11			0	0	17	84	22	.7	0			
12			0	0	46	78	22	.6	0			
13			0	0	26	61	22	.5	0			
14			0	0	22	54	22	.5	0			
15			0	0	20	52	22	.5	0			
16			0	0	20	46	21	.5	0			
17			0	0	20	42	20	.5	0			
18			0	0	21	43	20	6.1	0			
19			0	2.0	21	48	15	15	0			
20			0	225	28	80	7.4	23	0			
21			0	22	29	64	8.2	18	0			
22			0	26	30	61	7.8	13	0			
23			0	18	34	80	6.6	7.0	0			
24			0	15	62	61	5.5	1.5	0			
25			0	23	142	51	5.2	.2	0			
26			.03	12	80	48	4.6	.1	0			
27			.03	11	99	46	4.0	.1	0			
28			0	13	70	47	3.5		0			
29			0	11	-	45	3.6		0			
30			0	12	-	41	9.2	e.05	0			
31			0	13	-	52	-		-			

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	0	0	0	0	0
November	0	0	0	0	0
December	.06	.03	0	.002	.1
Calendar year 1948	1,572.36	203	0	4.30	3,120
January	403.0	225	0	13.0	799
February	895.8	142	8.6	32.0	1,780
March	1,775	84	41	57.3	3,520
April	564.6	43	3.5	18.8	1,120
May	145.30	23	-	4.69	288
June	.08	-	0	.003	.2
July	0	0	0	0	0
August	0	0	0	0	0
September	0	0	0	0	0
Water year 1948-49	3,783.84	225	0	10.4	7,510

Peak discharge (base, 500 sec.-ft.).- No peak above base.
e Daily discharge less than 0.1 second-foot.

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 1949.

Average discharge.- 25 years (1923-37, 1938-49), 16.2 second-feet.

Extremes.- Maximum discharge during year, 26 second-feet Apr. 23 (gage height, 2.32 feet); minimum daily discharge observed, 2.4 second-feet Oct. 24-26.
1923-49: 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. There is evidence of appreciable infiltration into stream bed in the vicinity of this station.

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

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.6		2.8	3.7	4.7	6.0	9.5	16	7.8	4.3	3.3	3.3
2	2.9		2.5	3.7	4.7	6.0	9.5	14	7.8	4.3	3.3	3.3
3	2.9		3.0	4.0	4.7	6.0	9.0	14	7.8	4.3	3.3	3.3
4	2.9		3.0	4.3	4.7	6.0	9.0	13	7.8	4.0	3.0	3.3
5	2.9		3.0	4.3	5.1	6.0	9.0	12	7.8	4.0	3.0	3.3
6	2.9	3.5	3.0	4.3	5.1	6.0	9.5	12	7.8	4.0	3.0	3.3
7	2.9		3.0	4.3	5.1	6.0	10	11	7.8	4.0	3.0	3.3
8	2.9		3.0	4.3	5.1	6.0	11	10	7.3	3.7	3.0	3.3
9	2.9		3.0	4.3	5.1	5.5	11	10	7.3	3.3	3.0	3.3
10	2.9		3.0	4.3	5.1	5.5	12	11	7.3	3.3	3.0	3.3
11	2.9		3.0	4.3	6.0	6.0	14	11	6.8	3.0	3.0	3.0
12	2.9		3.0	5.1	6.4	6.0	17	11	6.8	3.0	3.0	3.0
13	2.9		3.3	5.1	6.0	6.0	21	11	6.8	3.0	3.0	3.0
14	3.2		3.3	5.1	5.5	6.0	24	11	6.4	3.0	3.0	3.0
15	3.2		3.3	5.1	5.5	6.0	23	10	6.4	3.0	3.0	3.0
16	2.9		3.3	5.1	5.5	7.3	22	10	6.0	3.0	3.0	3.0
17	3.2		3.7	5.1	5.5	7.3	21	10	6.0	3.0	3.0	3.0
18	3.2	3.3	3.3	5.1	5.1	7.3	21	9.5	6.0	3.0	3.0	3.0
19	3.2		3.3	5.5	5.1	7.8	20	9.5	6.0	3.0	3.3	3.0
20	2.9		3.3	7.8	4.7	7.8	19	9.5	6.0	3.0	3.3	2.8
21	2.6		3.0	6.4	4.7	7.3	22	9.0	6.0	3.0	3.3	2.8
22	2.6		3.0	5.5	4.7	7.3	23	9.0	5.5	3.0	3.3	2.8
23	2.6		3.0	4.7	4.7	7.3	24	9.0	5.5	3.0	3.3	2.5
24	2.4		3.0	4.3	5.1	6.8	22	8.4	5.5	3.3	3.3	2.5
25	2.4		3.0	4.0	6.0	6.8	21	7.8	5.1	3.3	3.3	2.5
26	2.4	3.7	3.0	3.7	5.5	7.3	22	7.8	5.1	3.3	3.3	2.8
27		3.7	3.7	3.7	6.0	7.8	22	7.8	5.1	3.3	3.3	2.8
28		3.0	3.0	4.0	5.5	7.8	20	7.8	5.1	3.3	3.3	2.8
29	3.0	2.8	3.0	4.0	-	10	19	7.8	5.1	3.3	3.3	2.8
30		2.8	3.3	4.3	-	10	17	7.8	4.7	3.7	3.3	2.8
31		-	3.3	4.3	-	9.5	-	7.8	-	3.7	3.3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	89.2	-	-	2.88	177
November	100.5	-	-	3.35	199
December	96.4	3.7	2.5	3.11	191
Calendar year 1948	2,143.4	45	-	5.86	4,250
January	143.7	7.8	3.7	4.64	285
February	146.9	6.4	4.7	5.25	291
March	214.4	10	5.5	6.92	425
April	513.5	24	9.0	17.1	1,020
May	315.5	16	7.8	10.2	626
June	192.4	7.8	4.7	6.41	382
July	105.4	4.3	3.0	3.40	209
August	97.8	3.3	3.0	3.15	194
September	89.9	3.3	2.5	3.00	178
Water year 1948-49	2,106.0	24	-	5.77	4,180

Peak discharge (base, 50 sec.-ft.).- No peak above base.
Note.- No gage-height record Oct. 27 to Nov. 25 except recorded range in stage; discharge computed on basis of 1 discharge measurement, weather records, and recorded range in stage.

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 1949 (1937-38, 1938-39 incomplete).

Average discharge.- 17 years (1930-37, 1939-49), 20.7 second-feet.

Extremes.- Maximum discharge during year, 37 second-feet Apr. 14 (gage height, 4.24 feet); no flow during several months.
1930-49: 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	2.0	3.2	10	14	10	2.8	0.4		
2			0	2.2	3.4	10	13	9.6	2.6	.4		
3			0	2.2	3.4	10	12	8.7	2.2	.4		
4			0	1.6	3.4	11	12	7.9	1.8	.4		
5			0	1.9	3.4	13	15	7.2	1.8	.4		
6			0	2.0	3.4	11	18	6.9	1.4	.3		
7			0	2.0	3.8	11	19	6.3	1.2	.3		
8			0	2.0	4.2	10	22	5.6	.8	.3		
9			0	2.2	4.0	9.6	25	5.0	1.3	.2		
10			0	2.6	3.8	9.1	27	4.7	1.0	.2		
11			0	2.8	5.0	13	29	4.7	.8	.2		
12			0	3.0	6.6	14	30	4.7	.8	.2		
13			0	3.2	5.3	12	33	4.2	.7	.1		
14			0	3.4	4.2	12	33	4.2	.6	.1		
15			0	3.2	4.2	14	30	4.7	.6	.1		
16			.1	3.0	4.0	15	28	4.7	.5	.1		
17			1.2	2.8	4.2	18	27	4.7	.5	.1		
18			1.4	2.8	6.6	19	23	4.7	.4	.1		
19			1.3	3.0	10.0	22	22	6.0	.5	0		
20			1.2	6.0	11	23	22	6.9	.4	0		
21			1.2	6.3	11	20	24	6.0	.4	0		
22			1.3	5.0	11	21	27	6.0	.4	0		
23			1.6	4.2	13	18	24	4.7	.4	0		
24			1.4	3.8	14	15	22	4.2	.4	0		
25			1.3	3.6	15	14	19	3.8	.4	0		
26			1.4	3.6	14	13	16	3.2	.5	0		
27			2.6	3.4	13	14	14	3.0	.5	0		
28			2.2	3.2	11	19	13	2.8	.5	0		
29			1.9	3.0	-	16	12	2.8	.5	0		
30			1.8	3.2	-	15	11	3.0	.4	0		
31			1.9	3.2	-	15	-	3.2	-	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	23.8	2.6	0	.77	47
Calendar year 1948	1,167.1	62	0	3.19	2,320
January	96.4	6.3	1.6	3.11	191
February	199.1	15	3.2	7.11	395
March	446.7	23	9.1	14.4	886
April	636	33	11	21.2	1,260
May	164.1	10	2.8	5.29	325
June	27.1	2.8	.4	.90	54
July	4.3	.4	0	.14	8.5
August	0	0	0	0	0
September	0	0	0	0	0
Water year 1948-49	1,597.5	33	0	4.38	3,170

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 1949. Records prior to September 1934 are published in Water-Supply Paper 765.

Extremes.- 1912-49: Maximum elevation observed, 6,428.1 feet July 18, 1919; minimum observed, 6,412.0 feet Sept. 29, 1949.

Cooperation.- Gage-height record furnished by city of Los Angeles.

Elevation, in feet, above mean sea level, water year October 1948 to September 1949

Oct.	1	6,414.1	Apr.	6	6,413.6
	6	6,414.0		13	6,413.6
	12	6,414.0		20	6,413.6
	18	6,413.9		27	6,413.6
	27	6,413.9	May	4	6,413.5
Nov.	2	6,413.8		11	6,413.5
	8	6,413.7		20	6,413.5
	18	6,413.8		23	6,413.5
	23	6,413.6	June	2	6,413.4
Dec.	1	6,413.5		8	6,413.4
	8	6,413.5		16	6,413.3
	15	6,413.6		23	6,413.3
	22	6,413.5		28	6,413.1
	29	6,413.6	July	6	6,413.1
Jan.	5	6,413.6		13	6,413.1
	14	6,413.6		20	6,412.9
	19	6,413.6		28	6,412.8
	22	6,413.6	Aug.	3	6,412.8
	28	6,413.6		8	6,412.7
	31	6,413.6		17	6,412.6
Feb.	9	6,413.6		24	6,412.4
	16	6,413.6	Sept.	1	6,412.4
	23	6,413.6		7	6,412.3
Mar.	2	6,413.6		16	6,412.2
	9	6,413.6		19	6,412.1
	15	6,413.6		22	6,412.1
	22	6,413.6		29	6,412.0
	30	6,413.6			

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 1949. Occasional readings prior to August 1928.

Extremes.- 1928-49: Maximum elevation observed, 4,051.8 feet Mar. 13, 1928 (Indian Service); minimum observed, 4,002.8 feet Sept. 30, 1949.
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 1948 to September 1949

Oct.	1	4,005.8	July	1	4,004.1
Mar.	31	4,004.3	Aug.	1	4,003.6
Apr.	4	4,004.3	Sept.	30	4,002.8
May	9	4,004.3			

Bridgeport Reservoir near Bridgeport, Calif.

Location.- Float gage, lat. 38°19'30", long. 119°12'50", in SE¼ sec. 34, T. 6 N., R. 25 E., at Bridgeport Dam on East Walker River and 4½ miles north of Bridgeport. Datum of gage is at mean sea level.

Drainage area.- 362 square miles.

Records available.- October 1931 to September 1949 in reports of Geological Survey. March 1926 to September 1949 in files of Walker River Irrigation District.

Extremes.- Maximum contents during year, 22,580 acre-feet Apr. 15, 16 (elevation, 6,452.00 feet); minimum, 2,130 acre-feet Sept. 30 (elevation, 6,433.22 feet).
1926-49: 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,690	5,370	7,550	9,480		-	19,980	19,520	18,350	20,070	11,030	4,710
2	3,750	5,400	7,600	9,540		-	20,160	19,240	18,260	19,800	10,790	4,580
3	3,810	5,440	7,650	9,600		-	20,340	18,960	18,180	19,610	10,550	4,480
4	3,870	5,520	7,700	9,650		-	20,620	18,690	18,090	19,420	10,380	4,350
5	3,870	5,600	7,740	9,650		-	20,820	18,260	18,090	19,330	10,090	4,250
6	3,870	5,680	7,790	9,700		-	21,110	17,920	18,010	19,240	9,820	4,120
7	3,930	5,760	7,840	9,760		-	21,400	17,490	18,010	19,060	9,600	3,990
8	3,990	5,840	7,890	9,820		-	21,800	17,230	18,090	18,520	9,210	3,870
9	4,020	5,920	7,940	9,870		-	21,990	16,980	18,260	18,610	8,950	3,780
10	4,050	6,000	7,980	9,870		-	22,190	16,740	18,440	18,350	8,640	3,630
11	4,120	6,080	8,080	9,920		-	22,190	16,420	18,610	18,090	8,490	3,510
12	4,150	6,160	8,180	9,920		-	22,380	16,110	18,960	17,660	8,280	3,400
13	4,220	6,240	8,280	9,980		-	22,480	15,870	19,060	17,150	8,030	3,290
14	4,280	6,330	8,440	10,040		-	22,480	15,630	19,420	16,980	7,790	3,180
15	4,350	6,420	8,540	10,090		-	22,580	15,630	19,700	16,820	7,550	3,100
16	4,410	6,500	8,590	10,090		-	22,580	15,630	20,070	16,580	7,360	3,000
17	4,480	6,590	8,640	10,140		-	22,290	15,790	20,250	16,110	7,170	2,920
18	4,540	6,680	8,740	10,140		-	22,290	16,260	20,530	15,790	7,120	2,800
19	4,610	6,720	8,790	10,200		-	22,190	16,260	20,720	15,400	7,120	2,760
20	4,640	6,770	8,840	10,200		-	22,480	16,500	21,010	15,250	6,900	2,680
21	4,680	6,860	8,900	10,260		-	22,480	16,820	21,210	14,580	6,900	2,640
22	4,710	6,940	8,950	-		-	22,090	16,980	21,210	14,210	6,680	2,640
23	4,780	7,030	9,000	-		-	21,890	17,150	21,210	13,850	6,280	2,590
24	4,860	7,120	9,050	-		-	21,700	17,230	21,010	13,380	6,120	2,590
25	4,930	7,220	9,100	-		-	21,400	17,400	20,910	13,040	5,840	2,540
26	5,000	7,310	9,160	-		-	20,910	17,400	20,720	12,630	5,680	2,410
27	5,080	7,360	9,210	-		18,350	20,720	17,580	20,720	12,380	5,520	2,370
28	5,110	7,410	9,270	-		18,870	20,440	17,830	20,530	12,130	5,290	2,330
29	5,150	7,460	9,320	-		18,960	20,160	18,010	20,340	11,760	5,080	2,210
30	5,220	7,500	9,380	-		19,610	19,800	18,180	20,070	11,500	4,970	2,130
31	5,330	-	9,380	-		19,880	-	18,260	-	11,260	4,860	-

Monthly elevation and contents, water year October 1948 to September 1949

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Oct. 1	6,436.40	3,690	+1,680
Nov. 1	6,438.90	5,370	+2,180
Dec. 1	6,441.45	7,550	+1,930
Calendar year 1948	-	-	-5,690
Jan. 1	6,443.35	9,480	-
Feb. 1	-	-	-
Mar. 1	-	-	-
Apr. 1	6,450.65	19,980	-460
May 1	6,450.40	19,520	-1,170
June 1	6,449.75	18,350	+1,720
July 1	6,450.70	20,070	-9,040
Aug. 1	6,444.70	11,030	-6,320
Sept. 1	6,438.02	4,710	-2,620
Oct. 1	6,433.12	2,090	-
Water year 1948-49	-	-	-1,600

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 1949. July 1911 to September 1914 at site 1½ miles upstream (gage heights only).

Average discharge.- 26 years (1922-24, 1925-49), 126 second-feet.

Extremes.- Maximum daily discharge during year, 297 second-feet June 9; minimum daily, 7.2 second-feet Nov. 15 to Dec. 9.
1921-49: 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).

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	11	7.2	8.0	8.6	8.6	19	190	229	216	163	95
2	19	11	7.2	8.0	8.6	8.6	19	190	244	200	163	95
3	19	11	7.2	8.0	8.6	8.6	19	205	244	180	161	93
4	19	11	7.2	8.0	8.6	8.6	19	221	244	180	161	93
5	19	10	7.2	8.0	8.6	8.6	19	207	244	180	161	93
6	19	9.2	7.2	8.0	8.6	8.6	19	207	241	187	161	93
7	19	8.6	7.2	8.0	8.6	8.6	19	207	241	197	161	91
8	19	8.6	7.2	8.0	8.6	8.6	19	205	273	197	170	87
9	19	8.0	7.2	8.0	8.6	8.6	28	205	297	197	180	87
10	19	8.0	7.5	8.0	8.6	8.6	52	205	279	224	161	87
11	19	7.5	7.5	8.0	8.6	8.6	53	202	267	238	161	87
12	19	7.5	7.5	8.0	8.6	8.6	59	202	267	229	161	86
13	20	7.5	7.5	8.0	8.6	8.6	77	197	267	226	161	80
14	20	7.5	7.5	8.0	8.6	9.2	84	184	267	226	161	78
15	20	7.2	7.5	8.0	8.6	9.2	128	184	267	235	161	73
16	20	7.2	7.5	8.6	8.6	9.2	161	170	267	246	154	70
17	20	7.2	7.5	8.6	8.6	9.7	161	159	261	246	141	66
18	20	7.2	7.5	8.6	8.6	9.7	161	129	244	246	141	61
19	19	7.2	7.5	8.6	8.6	9.7	161	80	241	232	139	61
20	19	7.2	7.5	8.6	8.6	9.7	161	84	238	224	139	55
21	16	7.2	7.5	8.6	8.6	9.7	170	95	238	224	139	52
22	11	7.2	7.5	8.6	8.6	9.7	218	95	238	224	139	52
23	10	7.2	7.5	8.6	8.6	9.7	221	95	238	221	139	52
24	10	7.2	7.5	8.6	8.6	9.7	218	123	216	218	139	64
25	10	7.2	7.5	8.6	8.6	9.7	213	180	202	210	136	63
26	10	7.2	7.5	8.6	8.6	14	192	180	202	184	122	52
27	10	7.2	7.5	8.6	8.6	20	192	184	205	184	113	63
28	10	7.2	8.0	8.6	8.6	19	192	224	216	182	113	68
29	10	7.2	8.0	8.6	-	19	192	224	216	177	111	63
30	10	7.2	8.0	8.6	-	19	192	224	216	168	107	59
31	11	-	8.0	8.6	-	19	-	224	-	163	97	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	513	28	10	16.5	1,020
November	241.6	11	7.2	8.05	479
December	231.8	8.0	7.2	7.48	460
Calendar year 1948	28,437.5	249	5.4	77.7	56,400
January	257.6	8.6	8.0	8.31	511
February	240.8	8.6	8.6	8.60	478
March	336.7	20	8.6	10.9	668
April	3,438	221	19	115	6,820
May	5,481	224	80	177	10,870
June	7,309	297	202	244	14,500
July	6,461	246	163	208	12,820
August	4,516	180	97	146	8,960
September	2,219	95	52	74.0	4,400
Water year 1948-49	31,245.5	297	7.2	85.6	61,990

East Walker River above Strosnider ditch, near Mason, Nev.

Location.- Water-stage recorder, lat. 38°49', long. 119°03', in sec. 14, T. 11 N., R. 26 E., 0.9 mile upstream from head of Strosnider ditch, 12 miles southeast of Mason, and 13½ miles southeast of Yerington.

Records available.- January 1947 to September 1949.

Extremes.- Maximum discharge during year, 239 second-feet June 10 (gage height, 2.37 feet); minimum not determined, occurred during period of ice effect.
1946-49: Maximum discharge, 246 second-feet May 28, 1947 (gage height, 2.30 feet); minimum, 3.1 second-feet Mar. 21, 1948.

Remarks.- Records good except those for periods of ice effect, which are fair. Diversions above and below station for irrigation. Flow regulated by Bridgeport Reservoir (capacity, 42,460 acre-feet).

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	49	25	22			29	19	147	174	178	130	78
2	48	24	22			28	19	147	178	170	141	70
3	43	24	21		16	27	19	141	190	167	132	71
4	38	23				27	21	154	194	148	130	77
5	37	23				26	21	159	188	141	122	82
6	37	23			17	25	22	154	188	139	122	74
7	36	24	20		18	25	22	154	192	141	116	78
8	34	24			19	24	21	150	198	145	116	76
9	33	25			20	24	22	148	214	139	125	76
10	29	25			20	23	22	145	233	138	132	74
11	22	26			21	22	22	150	226	156	122	71
12	19	28	19		21	23	30	154	210	169	116	73
13	19	27	19		21	24	35	159	214	167	116	71
14	21	27	17		22	24	40	159	216	163	115	64
15	22	26		14	23	23	43	159	210	161	113	62
16	26	26			25	22	59	169	206	165	113	60
17	27	26			27	22	92	169	200	170	111	57
18	26	26	16		30	22	95	156	198	172	100	57
19	26	26			31	20	90	139	192	167	97	50
20	29	26			32	19	90	115	184	145	89	48
21	29	25			33	19	97	103	182	157	89	47
22	29	22	15		34	19	115	98	188	159	92	42
23	27	22			35	17	148	92	186	159	97	36
24	26	24			37	16	148	84	190	154	97	40
25	25	26			38	16	169	90	180	156	97	39
26	23	25	14		34	16	165	130	169	159	94	50
27	23	*23			32	18	148	129	163	148	90	46
28	23				30	16	145	134	165	145	90	49
29	24	22	(*)		-	16	145	159	170	145	92	63
30	26				-	16	145	163	180	132	89	63
31	26	-			-	19	-	167	-	136	86	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	902	49	19	29.1	1,790
November	737	28	-	24.6	1,460
December	533	22	-	17.2	1,060
Calendar year 1948	24,356	193	3.4	66.5	48,320
January	434	-	-	14	861
February	700	38	-	25	1,390
March	667	29	16	21.5	1,320
April	2,229	169	19	74.3	4,420
May	4,377	169	84	141.2	8,680
June	5,778	233	163	193	11,460
July	4,791	178	132	155	9,500
August	3,371	141	86	109	6,690
September	1,844	82	36	61.5	3,660
Water year 1948-49	26,363	233	-	72.2	52,290

Peak discharge (base, 500 sec.-ft.).- No peak above base.
* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Nov. 27 to Feb. 21.

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 1949. 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.

Average discharge.- 11 years (1938-49), 246 second-feet.

Extremes.- Maximum discharge during year, 1,500 second-feet May 27 (gage height, 4.72 feet); minimum, 4.0 second-feet Nov. 18.

1938-49: 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, that of Nov. 18, 1948.

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

Remarks.- Records good except those for periods of ice effect or no gage-height record, 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.- One discharge measurement made by Sierra Pacific Power Co.

Revisions (water years).- W 880: 1917 (runoff in acre-feet).

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27	29	22	23	25	32	47	574	510	326	134	42
2	26	36	25	24	24	32	43	669	548	323	100	39
3	24	34	18	22	25	32	43	620	597	330	90	35
4	24	30	22	20	26	30	46	548	644	326	83	34
5	24	26	22	21	27	32	53	548	817	279	76	34
6	24	30	21	22	27	34	60	548	975	250	69	32
7	24	28	25	23	27	36	66	611	1,040	230	70	32
8	24	24	24	25	26	35	70	640	1,120	230	69	33
9	24	24	24	24	25	35	80	543	1,160	219	67	32
10	24	25	24	23	27	36	96	501	1,160	222	69	31
11	23	25	24	22	30	36	137	606	1,230	212	67	31
12	22	26	24	21	29	*35	194	856	1,060	196	63	34
13	27	27	22	22	27	36	219	957	1,040	196	55	42
14	32	24	21	23	25	38	244	1,070	1,020	194	53	46
15	29	22	20	25	25	38	262	768	**1,010**	182	50	41
16	27	23	21	23	26	39	296	845	957	165	49	34
17	26	21	23	21	27	39	367	851	879	146	51	34
18	25	20	25	22	28	39	399	700	746	131	48	34
19	23	25	*26	23	29	40	432	649	561	125	44	32
20	22	*20	28	24	30	40	454	543	450	114	44	32
21	22	19	29	25	29	39	530	493	470	102	46	32
22	22	26	26	26	29	38	654	548	485	93	53	34
23	22	28	24	25	30	38	741	720	481	102	54	32
24	22	29	22	24	30	37	828	939	481	103	51	31
25	24	25	21	23	31	34	784	1,090	518	98	46	30
26	24	25	23	22	*32	37	654	1,230	514	91	42	29
27	23	23	25	24	32	41	664	1,290	458	88	43	29
28	23	28	23	26	33	42	649	**1,180**	399	88	46	30
29	22	29	21	*27	-	41	583	981	357	85	44	30
30	23	26	20	26	-	44	539	715	333	82	42	29
31	24	-	22	25	-	48	-	579	-	103	42	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	752	32	22	24.3	1,490
November	777	36	19	25.9	1,540
December	717	29	18	23.1	1,420
Calendar year 1948	63,538	1,010	-	174	126,000
January	726	27	20	23.4	1,440
February	781	33	24	27.9	1,550
March	**1,153**	48	30	37.2	2,290
April	10,234	828	43	341	20,300
May	23,412	1,290	493	755	46,440
June	22,020	1,230	333	734	43,680
July	5,431	330	82	175	10,770
August	1,860	134	42	60.0	3,690
September	1,010	46	29	33.7	2,000
Water year 1948-49	68,873	1,290	18	189	136,600

Peak discharge (base, 1,120 sec.-ft.).- May 14 (4 a.m.) 1,180 sec.-ft.; May 27 (12:30 a.m.) 1,500 sec.-ft.; June 10 (11:30 p.m.) 1,490 sec.-ft.

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 14 to Feb. 17, Mar. 5, 6, 8, 9, 13. No gage-height record Jan. 4-14, 19-21, 25-28, 18-25; discharge computed on basis of weather records and records for nearby streams.

West Walker River near Hudson, Nev.

Location.- Water-stage recorder, lat. 38°49', long. 119°14', in SW¼ sec. 18, T. 11 N., R. 25 E., half a mile upstream from Wilson Canyon and 3 miles southeast of Hudson.

Records available.- May 1921 to March 1925, January 1947 to September 1949.

Extremes.- Maximum discharge during water year, 434 second-feet June 12 (gage height, 2.26 feet); minimum, 14 second-feet Jan. 4.
1921-25, 1947-49: Maximum discharge, 2,530 second-feet June 7, 1922; minimum, 14 second-feet Sept. 27 to Oct. 3, 1924, Jan. 4, 1949.

Remarks.- Records good except those for periods of ice effect, which are fair. Flow somewhat regulated by storage in Poor Lake (capacity unknown), and by off-channel storage in Topaz Reservoir (capacity, 59,440 acre-feet). Many diversions above and some below station for irrigation.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	58	41	b32			39	49	275	218	264	210	133
2	50	42	33		b30	38	45	287	232	260	218	116
3	47	41	34			37	41	295	283	249	218	106
4	46	37	b33			37	41	295	302	242	210	111
5	47	37	32			26	42	295	298	246	197	108
6	45	37	34			35	41	298	318	253	168	101
7	47	36	34			34	43	287	326	246	156	101
8	49	35	33			34	50	302	331	249	159	101
9	45	34	32		b35	34	47	318	298	272	165	98
10	43	34	32			34	47	306	298	272	168	96
11	42	34	32			34	47	291	356	275	174	108
12	47	34	31			33	45	279	369	257	156	127
13	54	35	31			32	42	306	287	228	150	124
14	58	36	31			32	46	302	291	214	141	124
15	58	35			37	32	51	364	275	218	133	133
16	58	35		b30	38	32	76	378	260	194	122	122
17	50	35	b31		41	32	114	310	257	181	111	96
18	50	35			43	32	138	228	257	194	104	98
19	50	35			*43	33	153	200	279	197	98	106
20	47	34			43	36	144	210	279	204	94	96
21	47	35	31		43	41	141	177	246	221	101	83
22	46	33	30		45	39	190	200	246	204	111	72
23	46	35			47	39	232	181	268	177	106	68
24	42	35			47	39	235	187	264	168	96	67
25	39	34			49	39	249	235	242	177	94	67
26	38	34			46	36	249	291	228	177	106	74
27	38	*b33	b30		45	34	249	298	232	174	106	68
28	39	b32			42	35	264	249	249	190	106	61
29	*39	b32	(*)		-	37	264	204	235	177	122	58
30	41	b32			-	38	275	168	253	177	136	53
31	39	-			-	46	-	141	-	184	138	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,445	58	38	46.6	2,870
November	1,057	42	-	35.2	2,100
December	971	34	-	31.3	1,930
Calendar year 1948	39,295	374	-	107	78,000
January	930	-	-	30	1,840
February	1,079	49	-	38.5	2,140
March	1,109	46	32	35.8	2,200
April	3,650	275	41	122	7,240
May	8,157	378	141	263	16,180
June	8,277	369	218	276	16,420
July	6,741	275	168	217	13,370
August	4,374	218	94	141	8,680
September	2,874	133	53	95.8	5,700
Water year 1948-49	40,664	378	-	111	80,670

Peak discharge (bsse, 500 sec.-ft.).- No peak above base.
* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

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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 1949. April to August 1910 at site 1 mile upstream.

Extremes.- Maximum discharge during year, 271 second-feet June 10 (gage height, 1.05 feet); minimum recorded, 4.9 second-feet Nov. 17, but may have been less during periods of ice effect.

1910, 1944-49: 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 recorded, that of Nov. 17, 1948.

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

Cooperation.- Results of one discharge measurement furnished by Sierra Pacific Power Co.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	14	10	10	11	13	14	61	88	61	28	16
2	9.6	14	7	9	11	13	14	70	90	61	26	16
3	9.6	12	9	8	11	13	14	64	100	61	20	14
4	9.6	9.6	9	8	11	13	17	59	104	57	16	11
5	9.6	11	8	9	11	12	17	57	117	52	15	11
6	9.6	11	10	9	12	13	19	59	142	46	14	10
7	9.6	9	9	10	12	14	20	75	164	42	18	9.6
8	9.6	9	9	9	11	13	21	77	177	42	22	9.6
9	9.1	9	9	9	11	13	*23	66	183	42	20	10
10	9.1	10	9	9	12	13	28	59	208	42	22	11
11	8.4	10	9	8	12	13	42	71	201	44	23	11
12	8.0	11	9	8	11	*13	56	86	187	41	21	12
13	11	9	8	9	11	13	56	100	190	38	18	13
14	10	8	8	10	11	13	57	136	170	38	18	13
15	8.8	6.6	8	9	11	13	54	100	170	34	18	14
16	8.4	7.4	9	8	12	13	56	128	164	34	18	12
17	7.7	7.0	10	9	12	13	59	122	148	32	18	12
18	7.7	9.6	10	9	11	14	62	102	122	29	17	13
19	7.7	8.0	*11	9	12	14	64	107	97	27	12	13
20	7.7	*8.0	12	10	11	14	66	90	88	25	8.4	12
21	8.0	10	11	10	11	14	73	84	86	24	8.4	12
22	8.0	11	9	10	12	13	86	86	79	24	11	13
23	8.0	11	9	9	13	13	95	107	77	28	12	13
24	*8.8	10	8	9	12	13	100	131	79	34	16	12
25	9.1	10	9	9	12	14	88	164	82	34	17	12
26	9.1	9	10	9	*12	16	79	187	79	31	16	11
27	9.1	11	9	10	12	16	77	197	75	28	18	11
28	9	11	8	10	13	15	75	183	70	28	19	12
29	10	10	8	*11	-	15	66	154	64	27	18	13
30	10	9	9	11	-	16	56	112	62	24	16	13
31	10	-	9	10	-	15	-	100	-	30	16	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	280.9	11	7.7	9.06	557
November	295.2	14	6.6	9.84	586
December	282	12	7	9.1	559
Calendar year 1948	11,124.1	165	-	30.4	22,060
January	287	11	8	9.3	569
February	324	13	11	11.6	643
March	423	16	12	13.6	839
April	1,554	100	14	51.8	3,080
May	3,194	197	57	103	6,340
June	3,663	208	62	122	7,270
July	1,160	61	24	37.4	2,300
August	539.8	28	8.4	17.4	1,070
September	365.2	16	9.6	12.2	724
Water year 1948-49	12,368.1	208	6.6	33.9	24,540

Peak discharge (base, 200 sec.-ft.).- May 26 (9 p.m.) 238 sec.-ft.; June 10 (10 p.m.) 271 sec.-ft.

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Oct. 28, 31, Nov. 5-14, Nov. 21 to Jan. 30, Feb. 4, 5, 8-15, Mar. 5, 6, 8, 9, 13, 14, 17, 23-25, Mar. 28 to Apr. 1.

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 1949.

Extremes.- Maximum contents observed during year, 50,910 acre-feet June 19 (elevation, 5,001.19 feet); minimum, 5,080 acre-feet Sept. 30 (elevation, 4,975.58 feet).
1931-49: 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 the diversion of water from West Walker River through a feeder canal and the construction of an outlet tunnel through a low saddle in rim of lake. 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.- Elevations furnished by Walker River Irrigation District.

Contents, in acre-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8,780	7,880	-	-	-	18,580	22,100	23,150	41,590	47,680	27,400	13,320
2	8,720	7,800	-	-	-	-	-	22,920	41,450	46,960	26,360	12,810
3	-	-	10,320	12,670	-	-	-	23,000	41,150	46,410	25,780	12,600
4	8,530	7,960	-	-	14,970	19,570	22,470	22,930	40,870	45,910	25,160	12,230
5	8,430	8,160	-	-	-	-	-	22,710	40,380	45,410	24,520	11,840
6	8,400	8,120	-	-	-	-	22,390	22,490	40,970	44,590	23,960	11,480
7	8,320	8,280	-	12,860	-	-	-	22,270	41,470	44,160	23,240	11,100
8	8,240	8,240	-	-	-	-	22,270	-	42,260	43,230	22,760	10,690
9	8,200	-	-	-	-	-	22,250	22,010	43,080	43,040	22,120	10,290
10	-	8,590	10,660	-	-	-	22,220	21,940	44,030	42,260	21,640	9,980
11	8,120	8,640	-	-	15,790	20,530	22,150	21,690	45,090	41,570	21,170	9,550
12	8,000	-	-	-	-	-	22,130	21,590	46,080	40,790	20,730	9,250
13	7,930	-	-	-	-	-	22,080	21,930	46,810	40,120	20,380	8,910
14	7,910	8,640	-	13,460	-	20,850	22,150	22,710	47,770	39,530	19,910	8,530
15	7,930	-	-	-	-	-	22,180	23,800	48,560	38,940	19,520	8,130
16	7,850	-	-	-	-	-	22,100	24,520	50,020	38,330	19,150	8,080
17	7,910	8,910	11,290	-	-	-	22,000	25,590	50,050	37,510	18,850	7,640
18	7,880	-	-	-	16,880	21,190	21,960	26,860	50,570	36,940	18,480	7,290
19	7,830	-	-	-	-	-	21,940	27,960	50,910	36,310	18,230	7,100
20	7,850	9,150	-	-	-	-	21,960	28,130	50,870	35,430	17,850	6,930
21	7,800	-	-	14,170	-	21,390	22,080	28,940	50,670	34,620	17,450	6,740
22	7,800	-	-	-	-	-	22,100	29,510	50,480	33,780	17,050	6,580
23	7,860	-	-	-	-	21,510	22,340	29,990	50,150	33,050	-	6,400
24	7,770	-	11,890	-	-	-	-	31,120	49,830	31,990	16,370	6,220
25	7,930	-	-	-	17,950	21,610	23,020	32,320	49,660	31,600	15,990	6,010
26	7,880	-	-	-	-	-	23,500	33,600	49,590	31,070	15,630	5,820
27	7,930	-	-	-	-	-	23,670	34,980	49,310	30,480	15,250	5,550
28	7,850	-	-	-	18,580	21,860	23,700	36,480	49,050	29,810	14,840	5,430
29	7,880	-	-	-	-	-	23,580	37,630	48,580	29,270	14,580	5,270
30	7,720	9,790	-	-	-	21,940	23,480	38,660	48,150	28,570	14,200	5,080
31	7,930	-	12,460	14,610	-	-	-	39,170	-	28,050	13,760	-

Monthly elevation and contents, water year October 1948 to September 1949

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept.30	4,977.95	8,830	-
Oct. 31	4,977.38	7,930	-900
Nov. 30	4,978.55	9,790	+1,860
Dec. 31	4,980.20	12,460	+2,670
Calendar year 1948	-	-	-4,340
Jan. 31	4,981.52	14,610	+2,150
Feb. 28	4,983.92	18,580	+3,970
Mar. 31	-	-	-
Apr. 30	4,986.82	23,480	-
May 31	4,995.55	39,170	+15,690
June 30	4,999.91	48,150	+8,980
July 31	4,989.47	28,050	-20,100
Aug. 31	4,981.00	13,760	-14,290
Sept.30	4,975.58	5,080	-8,680
Water year 1948-49	-	-	-3,750

East Fork Carson River above Soda Springs ranger station, near Markleeville, Calif.

Location.- Water-stage recorder, lat. 38°30', long. 119°41', in sec. 28, T. 8 N., R. 21 E., half a mile downstream from Murray Canyon Creek, 2 miles southwest of Soda Springs ranger station, and 14 miles southeast of Markleeville.
Drainage area.- 30 square miles.
Records available.- September 1946 to September 1949.
Extremes.- Maximum discharge during year, 480 second-feet May 26 (gage height, 3.91 feet); minimum, 4.5 second-feet Sept. 25.
1946-49: Maximum discharge, 528 second-feet May 26, 1948 (gage height, 4.06 feet); minimum, that of Sept. 25, 1949.
Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. No diversion above station.

Rating table, water year 1948-49, except period of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Aug. 3 to Sept. 30)

0.7	4.1	1.5	27	2.4	129
1.0	7.8	1.7	42	2.8	199
1.2	12	1.9	63	3.2	285
1.4	22	2.1	87	3.5	361

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.6	18	7.5	8.5			a9	199	148	65	17	6.4
2	9.1	18	7.5	8.5			a9	215	157	62	14	6.3
3	8.9	19	7.3	8			a10	184	167	61	12	6.3
4	9.4	12	7.7	8			a12	164	182	61	11	6.3
5	8.7	11	7.7	8.3		a8	a18	169	221	51	10	5.9
6	7.3	11	8.5	8.5			*a20	171	253	46	9.9	5.7
7	7.4	9.9	8.3	8.5			a19	186	283	44	9.9	5.7
8	7.3	*7.3	8.0	8.5	a7.5		a20	184	294	42	9.9	5.8
9	7.3	8.5	8.0	8.5			a30	148	307	39	10	5.5
10	7.3	8.7	8.0	8.3			a50	143	340	38	11	5.5
11	7.3	8.7	8.2	8.2			83	211	306	37	11	5.8
12	7.4	8.5	8.0	8.2			80	249	273	34	11	5.9
13	8.5	8.5	7.8	8.2			88	269	272	32	9.4	7.3
14	10	8.5	b7.5	8.2			99	278	267	30	9.2	6.3
15	9.1	8.3	b7	7.8		a8.5	99	211	252	29	8.7	5.8
16	8.9	8.7	b7.5	7.7			116	297	230	25	9.1	5.4
17	8.3	7.8	b7.5	7.7			129	253	199	25	9.2	5.4
18	8.0	7.5	8.0	7.8			132	188	167	23	8.3	5.2
19	8.0	8.9	8.0	7.7			140	160	131	21	8.0	5.2
20	7.8	7.4	8.3	7.7			148	139	122	20	7.5	5.2
21	7.7	7.0	8.5	7.8			191	132	118	18	7.4	4.9
22	7.7	8.2	8.0	8.0	a8		239	143	114	18	7.8	5.2
23	7.7	8.3	8.0	8.0		a9	247	188	110	17	7.8	4.9
24	7.8	8.3	7.8	8.0			262	246	106	16	7.4	4.7
25	7.8	6.4	8.0				234	303	108	16	7.2	4.5
26	7.8	b6.8	8.0				211	348	101	15	7.2	4.7
27	7.5	7.0	8.3		a7.5		219	348	91	14	7.2	4.9
28	7.2	8.0	8.5			a9.5	223	309	82	14	8.0	5.2
29	7.4	7.8	8.3		-		199	251	75	13	7.5	5.3
30	8.0	7.4	8.2		-		184	188	70	14	7.0	5.2
31	9.1	-	7.8		-		-	160	-	20	6.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	251.3	10	7.2	8.11	498
November	281.4	19	6.4	9.38	558
December	245.7	8.5	7	7.93	487
Calendar year 1948	19,934.6	348	-	54.5	39,530
January	247.1	-	-	7.97	490
February	216.5	-	-	7.73	429
March	267.0	-	-	8.61	530
April	3,520	262	9	117	6,980
May	6,634	348	132	214	13,160
June	5,546	340	70	185	11,000
July	960	65	13	31.0	1,900
August	287.2	17	6.6	9.26	570
September	166.4	7.3	4.5	5.55	330
Water year 1948-49	18,622.6	348	-	51.0	36,930

Peak discharge (base, 300 sec.-ft.).- Apr. 24 (7:30 p.m.) 338 sec.-ft.; May 12 (10 p.m.) 330 sec.-ft.; May 16 (6 a.m.) 322 sec.-ft.; May 26 (8 to 9 p.m.) 480 sec.-ft.; June 10 (8 p.m.) 474 sec.-ft.
* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of 1 discharge measurement, weather records, and records for nearby streams.
b Stage-discharge relation affected by ice.

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 1949. April 1890 to December 1893, October 1900 to December 1906, June to October 1917, December 1924 to September 1929, and October 1935 to December 1937 at site 2 miles downstream; March 1908 to December 1910 at site 2 miles upstream.

Average discharge.- 22 years (1890-93, 1901-3, 1908-10, 1925-28, 1935-37, 1939-49), 402 second-feet.

Extremes.- Maximum discharge during year, 1,870 second-feet Apr. 24 (gage height, 4.04 feet); minimum, 26 second-feet Nov. 27.

1890-93, 1900-1906, 1908-10, 1917, 1924-29, 1935-37, 1939-49: 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 or no gage-height record, 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 1948-49, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1-12, Nov. 3 to Dec. 15, Feb. 28 to Mar. 27)

0.7	39	1.4	178	3.0	950
.8	51	1.7	274	3.4	1,260
.9	66	2.0	390	4.0	1,830
1.0	83	2.3	529		
1.2	125	2.7	752		

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	57	63	60	50	54	89	118	1,020	765	271	158	68
2	51	128	*52	54	52	99	145	1,150	777	257	97	57
3	49	99	57	50	56	97	150	1,060	790	247	93	58
4	50	95	41	46	58	89	181	972	802	237	89	60
5	51	71	54	46	62	80	218	950	901	221	85	57
6	51	68	54	50	60	78	250	887	972	211	78	52
7	51	66	57	54	62	89	260	950	1,040	202	76	51
8	51	57	62	58	60	78	271	1,000	1,080	193	76	49
9	50	51	57	54	64	87	299	834	1,070	187	73	51
10	50	56	62	60	66	87	382	802	1,130	178	81	47
11	51	62	58	48	66	91	492	1,100	1,120	170	87	47
12	51	60	57	48	64	91	614	1,360	980	158	83	46
13	51	60	62	50	62	85	667	1,370	915	158	64	49
14	69	58	57	52	62	*95	692	1,760	887	142	60	50
15	66	58	50	56	64	112	686	1,300	854	130	56	45
16	60	57	48	50	66	123	740	1,600	815	118	62	41
17	57	60	52	48	68	123	841	1,400	746	110	80	40
18	56	51	58	50	70	138	822	1,160	635	105	76	41
19	54	57	54	52	72	150	901	1,050	571	101	68	41
20	54	58	52	54	74	140	867	887	495	93	64	41
21	54	52	58	56	80	142	1,010	822	466	93	66	41
22	54	45	56	60	90	156	1,260	854	439	121	66	44
23	52	57	54	58	100	128	1,430	980	412	118	66	45
24	52	60	52	54	*110	116	1,490	1,180	390	114	64	43
25	52	52	50	52	120	107	1,440	1,340	390	107	60	40
26	54	47	52	52	125	114	1,200	1,480	378	116	63	41
27	54	43	54	58	120	148	1,200	1,500	353	110	58	41
28	52	58	52	*62	97	170	1,190	1,380	318	103	63	45
29	51	58	50	60	-	128	1,080	1,240	303	103	64	49
30	52	49	48	58	-	130	995	1,000	288	99	62	49
31	56	-	46	56	-	125	-	860	-	125	63	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,663	69	49	53.6	3,300
November	1,856	128	43	61.9	3,680
December	1,676	62	41	54.1	3,320
Calendar year 1948	94,062	1,570	39	257	186,600
January	1,646	62	46	53.1	3,260
February	2,104	125	52	75.1	4,170
March	3,485	170	78	112	6,910
April	21,891	1,490	118	730	43,420
May	35,248	1,760	802	1,137	69,910
June	21,082	1,130	288	703	41,820
July	4,698	271	93	152	9,320
August	2,301	158	56	74.2	4,560
September	1,429	68	40	47.6	2,830
Water year 1948-49	99,079	1,760	40	271	196,500

Peak discharge (base, 1,300 sec.-ft.).- Apr. 24 (12 p.m.) 1,870 sec.-ft.; May 2 (2 to 3 a.m.) 1,300 sec.-ft.; May 14 (7:30 a.m.) 1,860 sec.-ft.; May 27 (1:30 a.m.) 1,790 sec.-ft.; June 11 (2 to 4 a.m.) 1,300 sec.-ft.

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 15 to Feb. 27 (no gage-height record Dec. 30 to Jan. 6, Jan. 9-11, 16, 17, 22, 23, 25-27, 29-31, Feb. 6-8; discharge computed on basis of 1 discharge measurement and weather records).

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, 2¼ 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 1949.

Average discharge.- 10 years, 377 second-feet.

Extremes.- Maximum discharge during year, 2,420 second-feet May 17 (gage height, 4.52 feet); minimum, 7.8 second-feet Sept. 5, 6.
1939-49: 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 periods of ice effect or no gage-height record, 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27	52	72	80	80	257	178	920	653	92	18	12
2	27	54	75	82	80	234	178	1,040	537	89	14	10
3	26	61	82	84	78	234	180	1,080	537	79	11	10
4	24	80	79	80	80	268	189	1,000	579	66	10	9.1
5	25	74	78	74	84	268	211	898	579	59	9.7	8.6
6	26	75	97	74	86	234	237	789	596	50	9.7	8.3
7	27	66	95	78	88	208	250	789	613	47	11	9.7
8	26	62	97	82	86	198	234	942	624	48	15	9.7
9	24	65	97	84	*85	180	227	898	690	45	18	11
10	22	74	92	82	90	180	240	782	768	39	13	11
11	25	69	94	80	96	186	292	824	890	36	9.7	11
12	29	66	98	76	100	189	336	1,140	824	37	10	13
13	29	67	97	76	96	195	433	1,350	697	34	12	16
14	34	69	95	78	92	189	512	1,600	641	32	19	16
15	34	72	89	80	90	189	537	2,200	585	31	19	12
16	35	75	79	82	98	192	574	2,280	564	27	18	10
17	34	73	75	80	105	195	613	2,390	508	22	21	9.7
18	38	73	86	78	120	202	666	2,030	429	17	21	8.8
19	44	76	86	80	160	208	742	1,670	442	15	24	11
20	46	76	83	82	200	208	755	1,500	387	14	19	13
21	42	78	98	84	247	202	831	1,290	292	13	17	13
22	42	76	105	86	282	205	1,010	1,120	257	15	17	12
23	42	76	90	88	375	208	1,250	1,110	166	14	17	12
24	39	*80	86	86	399	180	1,400	1,160	164	21	13	11
25	39	83	80	80	*359	169	1,550	1,290	175	20	12	10
26	44	83	76	76	348	161	1,480	1,380	161	16	13	11
27	46	74	82	76	325	166	1,260	1,440	140	14	12	15
28	47	70	86	82	299	195	1,260	1,400	120	17	15	17
29	48	70	*82	86	-	211	1,190	1,240	109	14	21	21
30	49	73	80	82	-	183	1,050	1,040	98	13	16	20
31	50	-	78	80	-	189	-	868	-	14	13	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,090	50	22	35.2	2,160
November	2,142	83	52	71.4	4,250
December	2,689	105	72	86.7	5,330
Calendar year 1948	83,778.4	1,740	9.4	229	166,200
January	2,498	88	74	80.6	4,950
February	4,628	399	78	165	9,180
March	6,283	268	161	203	12,460
April	19,865	1,550	178	662	39,400
May	39,460	2,390	782	1,273	78,270
June	13,825	890	98	461	27,420
July	1,050	92	13	33.9	2,080
August	468.1	24	9.7	15.1	928
September	361.9	20	8.3	12.6	718
Water year 1948-49	94,360.0	2,390	8.3	259	187,100

Peak discharge (base, 1,600 sec.-ft.).- Apr. 25 (8 to 10 p.m.) 1,680 sec.-ft.; May 17 (9:30 a.m. to 12:30 p.m.) 2,420 sec.-ft.
* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 24 to Feb. 20 (no gage-height record Jan. 3 to Feb. 6; discharge computed on basis of weather records).

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 1949. April 1911 to December 1933 at site 8 miles upstream.

Average discharge.- 38 years (1911-49), 356 second-feet.

Extremes.- Maximum daily discharge during year, 2,040 second-feet May 18; no flow Oct. 1 to Nov. 4, June 30 to Sept. 30.
1911-49: 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	106	132	65	308	183	845	730			
2		0	114	126	67	277	179	738	523			
3		0	116	120	68	255	163	934	444			
4		0	122	114	70	259	173	997	456			
5		7	132	108	71	281	179	830	462			
6		18	122	102	73	281	196	754	473			
7		42	128	97	75	255	219	676	503			
8		49	132	91	80	228	210	730	503			
9		56	132	85	85	219	214	830	516			
10		69	134	70	90	210	207	770	568			
11		80	134	78	93	210	210	690	655			
12		70	136	74	100	210	246	785	730			
13		67	136	74	130	210	277	1,100	690			
14		64	139	74	150	210	366	1,320	588			
15		63	136	72	160	200	411	1,600	523			
16		64	132	72	170	200	450	1,840	490			
17		66	132	70	171	203	490	2,000	473			
18		69	122	70	172	207	544	2,040	439			
19		80	118	69	175	207	533	1,840	411			
20		83	128	69	180	210	588	1,670	402			
21		85	122	69	200	203	620	1,410	366			
22		87	134	67	250	196	690	1,200	299			
23		89	141	67	315	193	845	1,080	246			
24		89	118	66	370	193	1,060	1,080	193			
25		89	120	66	350	179	1,200	1,160	154			
26		91	128	64	360	168	1,370	1,280	139			
27		93	128	64	350	163	1,280	1,330	128			
28		95	114	63	340	163	1,160	1,360	99			
29		99	120	62	-	176	1,060	1,270	56			
30		100	132	60	-	196	952	1,120	0			
31		-	132	60	-	171	-	877	-			

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	0	0	0	0	0
November	1,864	100	0	62.1	3,700
December	3,940	141	106	127	7,810
Calendar year 1948	75,439	1,520	0	206	149,600
January	2,475	132	60	79.8	4,910
February	4,780	370	65	171	9,480
March	6,641	308	163	214	13,170
April	16,275	1,370	163	542	32,280
May	36,156	2,040	676	1,166	71,710
June	12,259	730	0	409	24,320
July	0	0	0	0	0
August	0	0	0	0	0
September	0	0	0	0	0
Water year 1948-49	84,390	2,040	0	231	167,400

Silver King Creek near Coleville, Calif.

Location.- Water-stage recorder, lat. 38°31', long. 119°36', in sec. 30, T. 8 N., R. 22 E., a quarter of a mile downstream from Poison Valley, 2½ miles east of Soda Springs ranger stalon, and 6½ miles southwest of Coleville.

Drainage area.- 30 square miles.

Records available.- September 1946 to September 1949.

Extremes.- Maximum discharge during year, 214 second-feet Apr. 24 (gage height, 2.61 feet); minimum recorded, 2.5 second-feet Oct. 28, Nov. 8, but may have been less during period of ice effect.
1946-49: Maximum discharge, that of Apr. 24, 1949; minimum recorded, that of Oct. 28, Nov. 8, 1948.

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

Rating table, water year 1948-49, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

1.0	5.0	1.4	26	1.8	72
1.1	8.5	1.5	35	2.0	103
1.3	20	1.6	46	2.5	193

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	19					9	128	98	42	17	10
2	10	16					9	124	95	40	16	10
3	9.5	16					10	113	93	38	15	9.5
4	10	10					11	106	93	35	15	10
5	10	9					12	103	101	33	14	10
6	*10						*14	100	112	33	14	10
7	10						14	101	120	32	14	10
8	10						14	100	125	31	15	10
9	10	(*)					18	90	133	30	17	10
10	10						21	95	140	29	18	9.5
11	10						26	113	134	26	18	9.5
12	10						37	115	125	26	16	10
13	14						53	122	120	26	15	11
14	14						54	142	118	26	14	10
15	12		8	8	7.5	8	54	133	115	25	14	9.0
16	12						62	176	110	23	16	8.5
17	11						69	152	100	22	14	8.5
18	11	9					75	125	92	22	13	9.0
19	10						84	118	80	20	12	9.0
20	10						90	115	74	20	12	8.5
21	11						106	106	66	19	12	9.5
22	11						134	103	64	18	13	9.0
23	11						149	108	61	18	12	8.5
24	10						161	118	59	18	11	8.2
25	10						145	131	58	18	10	8.2
26	10						141	147	56	18	11	8.5
27	9.0						134	149	52	17	12	8.5
28	8.5						132	143	49	18	12	9.5
29	9				-		124	134	47	16	12	10
30	10				-		118	117	44	20	10	10
31	12				-		-	103	-	20	10	10

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	325.0	14	8.5	10.5	645
November	295	-	-	9.8	585
December	248	-	-	8	492
Calendar year 1948	10,608.5	122	-	29.0	21,040
January	248	-	-	8	492
February	210.0	-	-	7.5	417
March	248	-	-	8	492
April	2,080	161	-	69.3	4,130
May	3,730	176	90	120	7,400
June	2,734	140	44	91.1	5,420
July	779	42	16	25.1	1,550
August	424	17	10	13.7	841
September	281.9	11	8.2	9.40	559
Water year 1948-49	11,602.9	176	-	31.8	23,020

Peak discharge (base, 100 sec.-ft.).- Apr. 24 (5 to 6 p.m.) 214 sec.-ft.; May 1 (6 p.m.) 163 sec.-ft.; May 16 (3 a.m.) 199 sec.-ft.; May 26 (5 p.m.) 169 sec.-ft.; June 10 (4 p.m.) 158 sec.-ft.
* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Oct. 28-31, Nov. 5 to Feb. 12. No gage-height record Feb. 13 to Apr. 5 (stage-discharge relation affected by ice during much of period); discharge computed on basis of weather records and records for Silver Creek near Markleeville.

Wolf Creek near Markleeville, Calif.

Location.- Water-stage recorder, lat. 38°32', long. 119°43', in sec. 24, T. 8 N., R. 20 E., three-quarters of a mile downstream from Bull Canyon Creek and 12 miles southwest of Markleeville.

Drainage area.- 9.8 square miles.

Records available.- September 1946 to September 1949.

Extremes.- Maximum discharge during year, 192 second-feet May 26 (gage height, 3.70 feet); minimum, 1.0 second-foot Sept. 30.
1946-49: Maximum discharge, 224 second-feet May 26, 1948; maximum gage height, 3.90 feet May 3, 1947; minimum discharge, that of Sept. 30, 1949.

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

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.9	13	5.6	b6.5	5.9			80	68	30	12	4.7
2	5.6	13	6.1	b6.5	6.1			86	76	29	9.8	5.0
3	5.9	12	b6.5	b6.5	6		a8	80	74	30	8.7	5.0
4	5.9	8.4	b6	b6.5	6			78	82	28	8.4	5.0
5	6.1	7.9	b6.5	b6	6			74	97	27	7.9	4.7
6	5.9	7.6	b6.5	b6	6	a6		76	110	25	7.9	4.7
7	5.9	7.1	b6.5	b6	5.5			84	121	24	7.9	4.7
8	5.9	5.6	b6.5	6.1	5.5		a10	82	124	23	7.6	4.7
9	6.3	5.9	6.3	b6	5.5			64	127	22	8.2	4.5
10	6.3	*6.3	6.3	b6	5.9			67	137	21	7.6	4.7
11	6.3	6.3	6.3	b6				112	131	20	7.9	4.7
12	6.3	6.6	6.3	b6				129	113	20	6.8	5.6
13	7.1	6.8	b6	b6			a20	130	111	20	6.8	6.1
14	7.9	6.6	b6	6.1				131	110	19	6.6	5.6
15	7.1	6.8	b6	5.9				113	105	17	6.6	5.0
16	6.6	7.1	b6	6.1				149	97	16	7.9	4.7
17	6.3	6.8	b6.5	6.1				117	88	15	6.6	5.0
18	6.3	6.6	b6.5	5.9		a7	a30	89	69	14	5.6	4.7
19	6.3	6.8	6.3	b6				72	56	13	5.6	4.3
20	6.1	7.1	6.3	b6			52	63	53	12	5.6	4.5
21	6.1	6.1	6.3	6.3	a6		60	61	51	11	5.4	4.7
22	6.1	6.6	b6	b6.5			78	70	48	11	6.1	4.7
23	6.1	7.1	b6	b6.5			88	88	47	11	5.9	4.7
24	6.1	6.8	b6	6.1			110	110	46	11	5.6	4.5
25	6.1	5.9	6.3	6.3			86	133	46	10	5.4	4.5
26	6.1	b6	b6.5	6.6			84	149	46	10	5.2	4.5
27	6.1	b6	b6.5	5.9			87	147	39	10	5.9	4.7
28	5.2	6.6	b6.5	5.6			85	130	37	9.8	6.1	5.0
29	5.4	6.6	6.1	5.9	-	a9	74	110	34	9.0	5.6	5.0
30	6.3	5.9	6.3	5.6	-		71	92	33	9.8	5.4	4.7
31	7.3	-	6.1	5.9	-		-	72	-	12	5.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	192.9	7.9	5.2	6.22	383
November	217.9	13	5.6	7.26	432
December	193.6	6.5	5.6	6.25	384
Calendar year 1948	9,628.5	170	-	26.3	19,100
January	189.4	6.6	5.6	6.11	376
February	166.4	-	-	5.94	330
March	219	-	-	7.1	434
April	1,185	110	-	39.5	2,350
May	3,038	149	61	98.0	6,030
June	2,376	137	33	79.2	4,710
July	539.6	30	9.0	17.4	1,070
August	213.8	12	5.2	6.90	424
September	144.9	6.1	4.3	4.83	287
Water year 1948-49	8,676.5	149	-	23.8	17,210

Peak discharge (base, 150 sec.-ft.).- May 12 (6 p.m.) 158 sec.-ft.; May 16 (2 to 4 a.m.) 151 sec.-ft.; May 26 (6 p.m.) 192 sec.-ft.; June 10 (6 p.m.) 174 sec.-ft.

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of weather records and records for Silver Creek below Pennsylvania Creek, near Markleeville.

b Stage-discharge relation affected by ice.

Silver Creek below Pennsylvania Creek, near Markleeville, Calif.

Location.- Water-stage recorder, lat. 38°56', long. 119°47', in sec. 28, T. 9 N., R. 20 E., a quarter of a mile downstream from Pennsylvania Creek, and 6½ miles south of Markleeville.

Drainage area.- 20 square miles.

Records available.- December 1946 to September 1949.

Extremes.- Maximum discharge during year, 358 second-feet May 26 (gage height, 3.68 feet); minimum, 1.7 second-feet Nov. 8.
1946-49: Maximum discharge, 411 second-feet May 26, 1948 (gage height, 3.84 feet); minimum, that of Nov. 8, 1948.

Remarks.- Records good except those for periods of ice effect, which are fair. No diversions above station. Flow partly regulated by three small reservoirs (total capacity, about 1,700 acre-feet).

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.4	11	3.4	3.8	3.6	a4.3	6.2	141	111	33	21	2.9
2	3.2	12	3.2	3.8	b3.5	a4.4	6.8	146	121	32	17	2.7
3	3.2	13	b3.6	3.8	b3.6	a4.4	7.0	139	128	30	27	2.6
4	3.5	5.7	b3.5	3.8	b3.6	a4.3	8.9	137	146	28	25	2.5
5	3.4	5.5	b3.6	3.7	b3.7	a4.3	15	134	156	36	23	2.4
6	3.4	5.0	3.6	3.6	b3.7	a4.4	17	130	161	44	22	2.3
7	3.2	*4.1	3.7	3.6	b3.5	a4.5	14	144	184	44	20	2.3
8	3.2	2.8	3.5	3.7	3.4	a4.5	15	137	187	41	20	2.3
9	3.1	3.6	3.5	3.6	3.4	a4.5	22	119	187	40	19	2.3
10	3.2	3.7	3.4	3.6	b3.5	a4.5	39	119	200	38	17	2.2
11	3.2	3.6	*3.4	3.6	b3.5	a4.5	54	202	179	36	14	2.1
12	3.2	3.6	3.4	3.6	3.5	a4.5	63	208	161	34	7.7	2.6
13	4.0	3.8	3.4	3.6	3.5	4.5	69	224	151	28	5.7	3.1
14	4.1	3.6	b3.4	3.6	3.4	4.8	67	238	134	15	5.0	2.8
15	3.7	3.5	b3.2	3.5	3.4	5.0	75	192	137	14	5.0	2.6
16	3.5	3.7	b3.4	3.5	3.5	5.0	94	284	132	13	5.7	2.6
17	3.4	3.4	3.6	3.5	3.7	5.0	92	208	115	12	5.0	2.5
18	3.4	3.2	3.5	3.6	4.0	5.3	105	156	90	10	4.3	2.4
19	3.2	3.8	3.5	3.7	4.1	5.7	107	132	73	9.9	4.1	2.4
20	3.1	3.5	3.6	3.7	4.0	5.3	115	111	68	9.2	4.0	2.4
21	3.1	2.9	3.6	b3.7	3.8	5.7	138	105	65	28	3.7	2.4
22	3.1	3.6	b3.6	3.8	4.1	6.2	189	123	61	43	3.8	2.4
23	3.1	4.0	b3.5	3.7	3.8	5.7	197	166	57	42	3.7	2.4
24	3.2	3.6	b3.6	3.6	3.8	5.5	220	205	58	34	3.6	2.4
25	3.2	3.1	3.6	3.6	4.3	5.3	171	234	56	33	3.5	2.3
26	3.2	b3	3.7	3.6	4.3	*5.9	156	261	54	32	3.5	2.3
27	3.1	b3.6	3.8	3.6	a4.3	8.3	158	247	46	32	3.6	2.4
28	3.0	3.5	3.7	3.6	a4.3	7.0	146	210	42	30	4.1	2.4
29	3.0	3.4	3.6	3.6	-	6.6	137	179	38	30	3.5	2.4
30	3.4	3.4	3.6	3.6	-	6.2	125	151	34	29	3.4	2.4
31	3.7	-	3.7	3.6	-	6.2	-	123	-	45	3.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	102.7	4.1	3.0	3.31	204
November	136.2	13	2.8	4.54	270
December	109.4	3.8	3.2	3.53	217
Calendar year 1948	13,393.9	274	2.8	36.6	26,560
January	112.9	3.8	3.5	3.64	224
February	104.8	4.3	3.4	3.74	208
March	162.3	8.3	4.3	5.24	322
April	2,628.9	220	6.2	87.6	5,210
May	5,305	284	105	171	10,520
June	3,332	200	34	111	6,610
July	925.1	45	9.2	29.8	1,830
August	311.1	27	3.2	10.0	617
September	73.8	3.1	2.1	2.46	146
Water year 1948-49	13,304.2	284	2.1	36.4	26,380

Peak discharge (base, 190 sec.-ft.).- Apr. 24 (6 p.m.) 297 sec.-ft.; May 1 (6 p.m.) 194 sec.-ft.; May 13 (8 p.m.) 291 sec.-ft.; May 16 (4 a.m.) 317 sec.-ft.; May 26 (5 p.m.) 358 sec.-ft.; June 10 (6 to 7 p.m.) 278 sec.-ft.

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of recorded range in stage and weather records.

b Stage-discharge relation affected by ice.

Markleeville Creek above Grover Hot Springs, near Markleeville, Calif.

Location.- Water-stage recorder, lat. 38°42', long. 119°51', in SE¼NE¼ sec. 23, T. 10 N., R. 19 E., half a mile upstream from Buck Creek, 4 miles upstream from mouth, and 4 miles west of Markleeville.

Drainage area.- 14 square miles.

Records available.- October 1946 to September 1949.

Extremes.- Maximum discharge during year, 318 second-feet May 13 (gage height, 4.93 feet); minimum, 0.2 second-foot part of each day Aug. 20, 23, Sept. 1-5.
1946-49: Maximum discharge, 399 second-feet May 26, 1948 (gage height, 5.17 feet); minimum, that of Aug. 20, 23, Sept. 1-5, 1949.

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

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.5	5.4	0.9	1.4	1.5	2.8	5.4	123	72	12	3.9	0.3
2	.5	6.5	.9	1.3	1.5	2.9	5.6	129	74	12	d2	.3
3	.5	5.2	.9	1.3	1.6	2.9	5.9	120	72	12	d1.5	.3
4	.5	2.6	.7	b1.3	1.6	2.9	7.0	116	78	10	d1.2	.3
5	.5	1.9	1.0	b1.3	1.5	*2.9	10	112	83	8.7	d1	.3
6	.6	1.7	1.1	b1.4	1.5	2.9	12	110	85	8.4	d.9	.4
7	.6	1.4	1.2	b1.4	1.4	3.0	12	117	87	8.2	d.8	.5
8	.5	.9	1.3	1.5	1.3	3.0	14	116	82	7.4	d.7	.5
9	.5	1.2	1.3	1.5	1.4	3.0	17	95	76	7.0	d.7	.5
10	.5	1.2	1.3	1.5	1.4	3.0	22	101	79	6.7	d.7	.5
11	.5	1.2	1.4	1.5	1.5	3.2	29	158	70	5.6	d.7	.7
12	.5	1.2	1.3	1.6	1.5	3.2	34	160	60	4.8	d.6	.8
13	.8	1.2	1.4	1.6	1.5	3.2	37	186	58	4.7	d.6	1.1
14	.9	1.2	1.3	1.4	1.6	3.4	38	252	55	4.3	d.6	.7
15	1.0	1.1	1.3	1.4	1.6	*3.8	40	165	52	3.4	d.8	.5
16	.9	1.3	1.3	1.3	1.7	4.3	48	176	48	2.8	d.7	.4
17	.9	1.2	1.4	1.4	1.9	4.5	50	141	41	2.7	.6	.5
18	.9	1.0	1.4	1.4	2.0	5.0	58	112	36	2.2	.6	.5
19	.8	1.2	1.4	1.5	2.0	5.2	57	95	32	2.0	.6	.4
20	.8	1.2	*1.4	1.4	2.0	5.0	63	81	30	1.9	.5	.4
21	.8	1.0	1.4	1.4	2.0	5.2	104	80	28	1.7	.5	.5
22	.8	1.0	1.3	1.4	2.3	5.4	136	96	27	1.6	.6	.5
23	.8	1.1	1.3	1.3	2.4	5.0	152	123	26	1.5	.5	.5
24	.9	1.2	1.3	1.3	2.4	4.8	164	142	25	1.4	.5	.5
25	.9	.9	1.3	1.4	2.8	4.7	150	153	24	1.4	.5	.6
26	.9	.8	b1.3	1.6	2.8	5.2	139	159	22	1.3	.5	.6
27	1.0	.7	b1.4	1.6	2.7	7.4	139	149	20	1.3	.5	.7
28	.8	.9	b1.4	1.5	2.7	7.0	133	133	18	1.3	.6	.7
29	.8	.9	1.4	1.5	-	6.1	114	116	16	1.2	.5	.7
30	1.0	.9	1.4	1.5	-	5.6	107	96	14	1.2	.4	.6
31	1.4	-	1.4	1.5	-	5.4	-	80	-	18	.3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	23.3	1.4	0.5	0.75	46
November	49.2	6.5	.7	1.64	98
December	39.1	1.4	.7	1.26	78
Calendar year 1948	8,107.0	245	.5	22.2	16,080
January	44.4	1.6	1.3	1.43	88
February	52.1	2.8	1.3	1.86	103
March	131.9	7.4	2.8	4.25	262
April	1,902.9	164	5.4	63.4	3,770
May	3,992	252	80	129	7,920
June	1,490	87	14	49.7	2,960
July	158.7	18	1.2	5.12	315
August	25.1	3.9	.3	.81	50
September	15.8	1.1	.3	.53	31
Water year 1948-49	7,924.5	252	.3	21.7	15,720

Peak discharge (base, 175 sec.-ft.).- Apr. 24 (5 p.m.) 211 sec.-ft.; May 13 (8 to 9 p.m.) 318 sec.-ft.; May 26 (7 p.m.) 208 sec.-ft.

* Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
d Doubtful gage-height record; discharge computed on basis of records for nearby streams.

Pleasant Valley Creek above Raymond Canyon Creek, near Markleeville, Calif.

Location.- Water-stage recorder, lat. 38°39', long. 119°50', in SE¼ sec. 12, T. 9 N., R. 19 E., 1½ miles upstream from Raymond Canyon Creek, 4½ miles above mouth, and 5 miles southwest of Markleeville.

Drainage area.- 16 square miles.

Records available.- October 1946 to September 1949.

Extremes.- Maximum discharge during year, 389 second-feet May 11 (gage height, 3.38 feet); minimum, 0.5 second-foot Sept. 22, 23.
1946-49: Maximum discharge, 495 second-feet May 26, 1948 (gage height, 3.78 feet); minimum, 0.3 second-foot Sept. 13, 14, 1947.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Flow partly regulated by four small reservoirs (total capacity, about 850 acre-feet).

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.0	4.0	1.2	1.4	1.3	2.6	4.2	160	97	14	5.1	10
2	.9	3.8	1.2	1.3	1.3	2.6	4.9	172	108	13	2.9	7.6
3	.9	4.6	1.2	1.3	1.3	2.6	5.4	166	108	12	2.2	20
4	1.0	2.2	1.3	1.2	1.4	2.5	6.6	160	115	11	2.0	17
5	1.0	1.8	1.3	1.3	1.4	2.4	9.5	147	128	10	1.9	14
6	1.0	1.7	1.3	1.4	*1.4	2.3	11	150	128	9.2	1.6	11
7	1.0	1.5	1.4	1.4	1.4	2.2	12	160	128	8.6	1.6	9.5
8	.9	1.1	1.3	1.3	1.3	2.2	14	153	115	8.6	1.6	10
9	.9	1.2	1.3	1.3	1.3	2.2	18	133	108	8.2	1.6	9.5
10	.9	1.2	1.3	1.2	1.4	2.3	24	151	113	7.1	1.6	3.7
11	.9	1.2	*1.3	1.3	1.5	2.3	38	253	97	6.6	1.6	2.2
12	.9	1.2	1.3	1.3	1.4	2.3	49	257	82	6.1	1.6	1.8
13	1.2	1.2	1.4	1.3	1.4	2.2	58	248	79	5.4	1.4	1.8
14	1.4	1.2	1.4	1.3	1.5	2.5	70	269	72	5.1	1.3	1.4
15	1.2	1.3	1.3	1.2	1.6	2.6	75	214	68	4.4	3.7	1.0
16	1.0	1.4	1.3	1.2	1.6	2.8	93	239	60	4.0	19	1.2
17	1.0	1.3	1.4	1.2	1.7	2.8	106	202	50	3.5	19	1.4
18	1.0	1.2	1.4	1.3	1.8	3.1	113	150	44	3.2	17	1.2
19	1.0	1.2	1.4	1.3	1.8	3.3	120	125	39	2.8	17	1.0
20	1.0	1.2	1.4	1.3	1.9	3.2	123	102	36	2.8	17	.8
21	1.0	1.2	1.4	1.3	1.9	3.3	144	106	34	2.7	14	.7
22	1.0	1.2	1.4	1.3	2.1	3.8	180	133	31	2.5	8.6	.6
23	1.0	1.2	1.4	1.3	2.1	3.5	195	183	29	2.3	7.6	.5
24	1.0	1.2	b1.3	1.2	2.2	3.3	218	210	28	2.8	6.8	.7
25	1.0	1.1	1.4	1.2	2.2	3.2	191	227	28	17	8.2	.7
26	1.0	1.1	1.4	1.3	2.4	3.3	180	231	25	14	6.8	.7
27	.9	1.2	1.4	1.3	2.4	4.9	176	210	22	3.0	1.6	.7
28	.8	1.2	1.4	1.3	2.6	5.4	166	183	19	2.2	1.8	.7
29	.9	1.2	1.4	1.3	-	4.7	141	156	16	2.0	1.4	.7
30	1.0	1.1	1.3	1.3	-	4.4	136	128	15	1.9	7.6	.7
31	1.2	-	1.4	1.3	-	4.2	-	104	-	10	13	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	30.9	1.4	0.8	1.00	61
November	47.2	4.6	1.1	1.57	94
December	41.6	1.4	1.2	1.34	83
Calendar year 1948	10,960.1	303	.8	29.9	21,750
January	39.9	1.4	1.2	1.29	79
February	47.6	2.6	1.3	1.70	94
March	95.0	5.4	2.2	3.06	188
April	2,681.6	218	4.2	89.4	5,320
May	5,482	269	102	177	10,870
June	2,022	128	15	67.4	4,010
July	206.0	17	1.9	6.65	409
August	198.1	19	1.3	6.39	393
September	132.8	20	.5	4.43	263
Water year 1948-49	11,024.7	269	.5	30.2	21,860

Peak discharge (base, 275 sec.-ft.).- Apr. 24 (7 p.m.) 286 sec.-ft.; May 11 (7 to 8 p.m.) 389 sec.-ft.; May 13 (10:30 p.m.) 348 sec.-ft.; May 26 (7 p.m.) 330 sec.-ft.

* Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.- No gage-height record Jan. 4 to Feb. 18; discharge computed on basis of 1 discharge measurement made 2½ miles downstream, weather records, and records for nearby streams.

West Fork Carson River above Woodfords, Calif.

Location.- Water-stage recorder, lat. 38°47', long. 119°54', in sec. 31, T. 11 N., R. 19 E., 1 mile above Horsethief Canyon Creek and 4 miles west of Woodfords.

Drainage area.- 53 square miles.

Records available.- December 1946 to September 1949.

Extremes.- Maximum discharge during year, 793 second-feet Apr. 24 (gage height, 5.39 feet); minimum, 2.5 second-feet Dec. 3.
1946-49: Maximum discharge, that of Apr. 24, 1949; minimum, that of Dec. 3, 1948.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Flow slightly regulated by several small reservoirs (total capacity, about 1,500 acre-feet).

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.5	19	8.5	9.3	10	15	17	357	160	41	35	14
2	9.5	29	9	9	10	14	18	364	157	38	44	15
3	9.3	24	7.7	8.5	10	13	18	323	149	37	32	17
4	9.5	18	9.5	8	10	13	19	317	150	34	26	16
5	9.8	14	10	8	10	13	22	308	154	32	24	13
6	9.8	14	9	8.5	11	14	23	300	183	28	23	11
7	9.3	13	11	9	10	13	23	304	192	40	22	11
8	9.3	12	12	10	9	14	24	286	190	60	12	11
9	9.3	12	12	9.5	9	14	27	260	178	67	10	10
10	9.3	11	12	9	10	14	34	260	176	54	10	10
11	9.5	11	12	8.5	11	13	44	338	176	24	10	10
12	9.5	11	12	8.5	10	14	62	404	154	23	11	14
13	12	11	10	9	10	13	82	414	143	22	12	19
14	*13	11	10	9	10	14	94	638	142	28	11	18
15	12	12	10	9.5	11	15	*118	418	136	25	18	15
16	11	12	9	9	11	15	165	442	126	18	30	13
17	11	11	10	8.5	12	*15	192	364	122	17	31	11
18	10	10	11	9	13	15	223	306	97	30	22	11
19	10	11	11	9	13	14	262	294	85	38	19	10
20	9.8	11	11	9.5	14	15	281	264	76	56	19	10
21	9.8	10	11	9.5	14	16	342	217	73	55	18	10
22	9.8	10	10	10	14	15	438	217	69	52	11	11
23	9.8	11	11	9.5	14	15	521	239	67	46	9.8	10
24	9.8	11	10	9	14	14	593	268	62	35	8.1	9.5
25	9.5	10	9	8.5	15	16	512	284	61	21	7.0	9.5
26	9.5	*10	9	8.5	14	16	461	302	59	20	6.6	9.5
27	9.5	9.5	9	8.5	14	18	436	302	56	19	6.8	9.5
28	9.0	7.5	8.5	9	14	16	414	274	53	23	11	10
29	9.0	8.5	8	10	-	16	355	247	47	22	12	10
30	10	8.5	8.5	9.5	-	18	353	208	45	12	15	10
31	11	-	9	10	-	17	-	183	-	13	14	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	309.1	13	9.0	9.97	613
November	373.0	29	7.5	12.4	740
December	309.7	12	7.7	9.99	614
Calendar year 1948	24,398.2	486	7.0	66.7	48,390
January	280.3	10	8	9.04	556
February	327	15	9	11.7	649
March	457	18	13	14.7	906
April	6,173	593	17	206	12,240
May	9,702	638	183	313	19 240
June	3,538	192	45	118	7,020
July	1,030	67	12	33.2	2,040
August	540.3	44	6.6	17.4	1,070
September	358.0	19	9.5	11.9	710
Water year 1948-49	23,397.4	638	6.6	64.1	46,400

Peak discharge (base, 450 sec.-ft.).-Apr. 24 (6 to 7 p.m.) 793 sec.-ft; May 14 (3 a.m.) 692 sec.-ft.
* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Nov. 9-12, 17-30, Dec. 1, 2, 4-10, 14-31, Jan. 2, 3, 6-16, Mar. 23-26, 29-31, Apr. 1. No gage-height record Jan. 4-7, Jan. 17 to Mar. 16 (stage-discharge relation affected by ice during most of period); discharge computed on basis of weather records and records for nearby streams.

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.- 66 square miles (revised).

Records available.- October 1900 to May 1907, 1910-11 (fragmentary), October 1938 to September 1949. 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.- 26 years (1901-3, 1905-15, 1916-20, 1939-49), 125 second-feet.

Extremes.- Maximum discharge during year, 824 second-feet Apr. 24 (gage height, 4.98 feet); minimum, 8.4 second-feet Nov. 21, but may have been less during period of ice effect; minimum daily, 12 second-feet Aug. 25-27.

1900-1920, 1938-49: Maximum discharge, 1,570 second-feet May 9, 10, 1906 (gage height, 6.8 feet, datum then in use); minimum (1900-1907, 1938-49), that of Nov. 21, 1948.

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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	21	14	17	16	20	23	377	164	51	36	18
2	14	41	15	15	16	19	24	385	161	48	49	19
3	14	30	15	b14	*16	*18	24	342	158	47	39	21
4	14	26	15	b13	16	18	26	330	161	44	30	20
5	15	21	17	13	16	18	30	317	178	40	28	17
6	15	19	14	14	17	19	33	310	195	37	28	15
7	15	18	17	15	15	19	32	317	196	48	27	15
8	14	16	18	16	b14	18	32	317	198	66	19	15
9	14	16	18	15	14	19	37	267	189	74	16	14
10	14	16	18	15	15	19	47	267	186	64	17	14
11	14	16	18	14	16	18	58	346	188	33	16	14
12	15	16	18	14	b15	19	79	415	165	30	17	16
13	17	16	17	15	15	18	100	418	153	29	17	21
14	19	16	17	15	15	19	115	678	148	36	16	21
15	17	16	b16	16	16	20	136	437	141	34	20	19
16	16	17	b15	15	16	20	184	457	134	25	32	17
17	16	16	b16	14	17	20	209	374	120	25	35	16
18	16	15	18	15	18	20	231	317	109	34	26	15
19	15	16	18	15	18	20	271	304	98	45	24	15
20	15	16	*18	16	19	20	285	254	90	61	22	15
21	15	15	18	16	19	21	346	224	87	62	22	14
22	15	15	17	17	19	21	440	222	82	57	16	15
23	15	16	18	16	19	20	532	247	78	53	14	14
24	15	16	b16	15	19	19	604	271	74	43	13	14
25	15	15	b15	14	20	21	522	291	72	28	12	14
26	15	*15	15	14	19	21	477	308	70	26	12	14
27	15	14	15	14	19	24	455	310	66	25	12	14
28	15	13	14	15	19	23	434	279	64	28	15	15
29	16	14	13	16	-	21	369	250	59	29	16	15
30	16	14	14	15	-	23	347	214	57	19	19	15
31	17	-	15	16	-	21	-	188	-	18	19	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	472	19	14	15.2	936
November	531	41	13	17.7	1,050
December	502	18	13	16.2	996
Calendar year 1948	27,777	512	12	75.9	55,090
January	464	17	13	15.0	920
February	473	20	14	16.9	938
March	616	24	18	19.9	1,220
April	6,502	640	23	217	12,900
May	10,033	678	188	324	19,900
June	3,841	198	57	128	7,620
July	1,259	74	18	40.6	2,500
August	684	49	12	22.1	1,360
September	481	21	14	16.0	954
Water year 1948-49	25,858	678	12	70.8	51,290

Peak discharge (base, 500 sec.-ft.).- Apr. 24 (7 p.m.) 824 sec.-ft.; May 14 (3 to 4 a.m.) 735 sec.-ft.

* Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.- No gage-height record Nov. 21-25, Nov. 27 to Dec. 2, Dec. 26-31, Jan. 5 to Feb. 2, Feb. 9-11, 13-20 (stage-discharge relation affected by ice during parts of these periods); discharge computed on basis of 1 discharge measurement, weather records, and records for nearby streams.

Clear Creek near Carson City, Nev.

Location.- Water-stage recorder, lat. 39°07', long. 119°49', in sec. 1, T. 14 N., R. 19 E., 3 miles upstream from mouth and 4 miles southwest of Carson City.

Drainage area.- 15 square miles.

Records available.- March 1948 to September 1949.

Extremes.- Maximum discharge during year, 20 second-feet May 19 (gage height, 0.95 foot); minimum, 1.0 second-foot Aug. 4, 5, 6, 20.
1948-49: Maximum discharge, 23 second-feet May 6, 1948 (gage height, 0.93 foot); minimum, that of Aug. 4, 5, 6, 20, 1949.

Remarks.- Records fair. No diversion or regulation above station. Practically all flow diverted below station for irrigation.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.6	3.6	2.6	4.5	4.3	6.7	5.5	7.6	4.5	1.9	1.5	1.5
2	1.6	3.6	2.7	4.0	4.3	6.4	5.8	7.9	4.5	1.8	1.3	1.8
3	1.8	4.3	2.7	b3.8	*4.3	6.1	5.5	7.9	4.5	1.8	1.3	1.8
4	1.8	3.1	3.1	b3.8	4.3	5.8	5.8	7.6	4.3	1.6	1.1	1.8
5	1.8	2.7	3.4	b4	4.3	5.2	6.4	a7.4	4.0	1.6	1.1	1.8
6	1.8	2.6	3.4	b4.2	4.3	5.2	7.0	a7.2	4.0	1.6	1.1	1.8
7	1.8	2.6	4.0	b4.2	4.0	5.5	7.9	a7	3.8	1.6	1.1	1.8
8	1.8	2.4	4.0	4.3	4.3	5.2	7.9	a7	3.6	1.6	1.1	1.9
9	1.8	2.6	3.8	4.3	4.3	5.2	a9	a7	3.4	1.6	1.2	1.6
10	1.8	2.6	4.3	4.0	4.7	5.8	a9.5	a7	3.1	1.5	1.2	1.3
11	1.8	a2.6	4.3	4.0	4.7	5.2	a11	a7	3.1	1.5	1.2	1.3
12	1.9	2.6	4.0	4.0	4.5	5.2	a10	a7.2	3.1	1.5	1.2	1.3
13	1.9	2.6	4.3	4.0	b4.2	5.2	9.6	a7.8	2.9	1.5	1.2	1.5
14	1.9	2.6	4.3	4.0	b4.2	6.7	9.6	10	2.7	1.5	1.2	1.3
15	1.9	2.6	4.3	4.0	4.5	7.6	9.6	12	2.6	1.3	1.2	1.3
16	2.1	2.7	b4.2	4.0	4.7	7.6	11	8.9	2.4	1.3	1.2	1.3
17	2.1	2.7	4.0	4.0	5.0	d7.6	11	8.4	2.6	1.3	1.2	1.3
18	2.1	2.7	4.0	4.0	5.2	d7.8	11	6.7	3.1	1.3	1.2	1.3
19	2.1	2.9	b4	4.0	5.2	d7.8	11	11	2.9	1.3	1.2	1.3
20	2.1	2.9	4.5	4.3	5.2	d7	11	7.0	2.7	1.3	1.1	1.5
21	2.1	2.7	4.5	4.3	5.5	d7.4	11	7.0	2.6	1.3	1.2	1.5
22	2.1	2.7	4.3	4.3	6.6	d7.6	12	6.4	2.4	1.3	1.2	1.5
23	2.1	2.9	4.3	4.3	7.0	6.7	13	5.8	2.4	1.3	1.2	1.5
24	2.1	*2.7	b4.2	4.5	6.4	6.1	13	5.2	2.4	1.3	1.2	1.5
25	2.1	2.7	b4.2	4.3	*7.3	5.8	12	5.2	2.3	1.3	1.2	1.5
26	2.1	2.6	b4.2	b4.2	7.3	6.4	10	4.9	2.3	1.3	1.2	1.6
27	2.1	b2.6	4.3	b4.2	7.0	7.3	10	4.7	2.3	1.3	1.2	1.6
28	2.4	2.6	4.0	4.3	7.3	7.3	9.2	4.5	2.3	1.3	1.5	1.8
29	2.4	2.6	*4.3	4.3	-	6.4	9.2	5.2	2.3	1.2	1.3	1.9
30	2.4	2.7	4.3	4.3	-	6.1	8.2	5.0	2.3	1.3	1.3	1.9
31	2.3	-	4.3	4.3	-	5.8	-	4.7	-	1.5	1.3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	61.7	2.4	1.6	1.99	122
November	83.8	4.3	2.4	2.79	166
December	122.8	4.5	2.6	3.96	244
Calendar year	-	-	-	-	-
January	128.7	4.5	3.8	4.15	255
February	144.9	7.3	4.0	5.18	287
March	197.7	7.8	5.2	6.38	392
April	282.7	13	5.5	9.42	561
May	216.2	12	4.5	6.97	429
June	91.4	4.5	2.3	3.05	181
July	44.8	1.9	1.2	1.45	89
August	37.7	1.5	1.1	1.22	75
September	46.8	1.9	1.3	1.56	93
Water year 1948-49	1,459.2	13	1.1	4.00	2,890

Peak discharge (base, 12 sec.-ft.).- Apr. 21 (9 p.m.) 19 sec.-ft.; Apr. 23 (8 p.m.) 17 sec.-ft.; May 15 (6:30 p.m.) 19 sec.-ft.; May 19 (8:30 a.m.) 20 sec.-ft.

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for nearby streams.
b Stage-discharge relation affected by ice.
d Doubtful gage-height record; discharge computed on basis of records for nearby streams.

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 1949. June 1895 to October 1902 at site 11 miles downstream.

Extremes.- Maximum discharge during year, 1,380 second-feet May 21 (gage height, 6.44 feet); minimum, 0.8 second-foot Aug. 30, 31, Sept. 1, 2, 5, 7.
1895-1902, 1944-49: Maximum discharge, 2,530 second-feet June 9, 1945; no flow for several days in August and September 1948.

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

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.9	3.8	12	15		16	305	817	968	98	3.2	0.8
2	1.0	*5.0	14	14		18	303	814	1,090	86	2.8	.8
3	1.1	6.5	17	12	12	19	305	751	1,160	78	2.8	.9
4	1.0	6.8	17	11		20	316	703	1,090	71	2.4	.9
5	1.0	7.1	15			21	341	677	904	71	2.1	.8
6	1.0	8.0	13			22	367	641	758	73	2.0	.8
7	.9	8.5	14	10		25	399	592	644	66	1.6	.8
8	.9	8.0	16			32	430	524	570	62	1.6	.9
9	1.1	7.7	19		(*)	44	466	472	518	55	1.8	.9
10	1.0	8.0	21			57	521	447	494	47	1.5	.9
11	.9	10	27		13	62	567	444	483	43	1.5	1.0
12	1.0	16	33			72	612	472	472	38	1.5	1.3
13	1.0	16	35			76	660	486	460	31	1.4	1.3
14	1.2	17	33	11		84	731	524	444	29	1.4	1.2
15	1.2	19	32			92	772	554	430	26	1.3	1.1
16	1.2	18	31			115	778	644	392	23	1.2	1.1
17	1.2	19	30			134	751	814	355	22	1.2	1.0
18	1.2	19	*28			174	754	1,030	336	21	1.6	1.1
19	1.2	19	30	12	15	241	796	1,230	325	19	1.3	1.1
20	1.3	20	30			329	834	1,320	301	16	1.2	1.2
21	1.5	20	30			430	838	1,370	283	14	1.1	1.3
22	1.4	19	28			*545	852	1,340	277	12	1.2	1.2
23	1.4	19	27	11	18	486	845	1,310	233	10	1.6	1.1
24	1.5	22	26			441	852	1,180	213	8.5	1.4	1.1
25	1.5	20	25			376	863	1,020	192	7.1	1.1	1.2
26	1.6	19	25		16	367	863	892	174	6.5	1.1	1.1
27	1.6	16	23			367	845	806	156	6.0	1.0	1.2
28	1.8	14	21			364	831	782	141	4.6	.9	1.5
29	1.8	14	20	10	-	334	817	800	127	4.2	.9	1.5
30	1.8	13	19		-	327	810	838	112	3.8	.9	1.4
31	2.1	-	17		-	314	-	878	-	3.6	.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	39.3	2.1	0.9	1.27	78
November	418.4	22	3.8	13.9	830
December	728	35	12	23.5	1,440
Calendar year 1948	41,313.9	983	0	113	81,950
January	341	-	-	11.0	676
February	399	-	-	14.2	791
March	6,004	545	16	194	11,910
April	19,424	863	303	647	38,530
May	25,172	1,370	444	812	49,930
June	14,102	1,160	112	470	27,970
July	1,054.3	98	3.6	34.0	2,090
August	47.4	3.2	.8	1.53	94
September	32.5	1.5	.8	1.08	64
Water year 1948-49	67,761.9	1,370	.8	186	134,400

Peak discharge (base, 550 sec.-ft.).- Mar. 22 (5 to 6 a.m.) 570 sec.-ft.; Apr. 25 (12 m.) 881 sec.-ft.; May 21 (6:30 to 7 p.m.) 1,380 sec.-ft.; June 3 (3:30 p.m.) 1,200 sec.-ft.
* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 2-8, 13-16, 22, Dec. 29 to Mar. 2, Mar. 4, 6-9, 11-15.

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 1949.

Extremes.- Maximum discharge during year, 1,800 second-feet May 22 (gage height, 5.51 feet); minimum, 5.6 second-feet Sept. 23.

1943-49: Maximum discharge, 3,640 second-feet June 10, 1945 (gage height, 7.78 feet); minimum, 3.6 second-feet Sept. 7, 1948.

High water of February 1943 reached a stage of 9.8 feet (discharge, 5,900 second-feet, by slope-area method).

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

Rating table, water year 1948-49, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used July 1-27)

0.6	4.0	1.0	28	1.9	167	3.5	698
.7	8.0	1.2	49	2.2	242	4.0	930
.8	13	1.4	76	2.6	363	4.8	1,350
.9	20	1.6	108	3.0	501	5.6	1,860

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.6	19	38	34	35	58	458	1,100	1,400	228	22	10
2	7.6	20	37	32	36	62	458	1,060	1,430	215	22	9.5
3	8.5	21	41	29	37	66	462	1,030	1,430	202	22	9.5
4	7.2	22	40		38	72	*472	1,020	1,420	163	22	9.5
5	8.5	21	39		(*)	82	490	930	1,410	172	22	9.5
6	10	22	37	27	39	90	527	856	1,360	156	20	10
7	10	22	37			95	572	809	1,240	146	19	9.5
8	9.5	22	38			94	640	768	1,100	132	18	9.0
9	9.5	22	39			102	728	724	1,020	122	18	8.0
10	12	22	42			110	759	690	955	110	16	7.2
11	9.5	22	49	28	40	124	782	685	920	100	16	7.2
12	8.0	22	53			138	832	656	910	94	15	6.8
13	11	23	58			136	880	648	900	82	14	7.2
14	13	25	58	29		148	900	685	851	75	14	7.6
15	11	25	59		41	169	925	754	818	66	14	8.0
16	11	25	59			181	975	900	777	61	14	7.2
17	12	26	58		44	210	1,020	1,180	764	53	13	6.4
18	12	26	56			242	1,060	1,380	724	45	12	6.4
19	13	25	56			297	1,080	1,400	656	39	11	6.4
20	14	26	56		50	386	1,100	1,460	615	37	9.5	6.6
21	15	26	*58			454	1,130	1,680	546	34	9.5	6.8
22	15	26	58	31		527	1,150	1,780	490	33	8.0	6.4
23	13	26	54			607	1,170	1,730	469	30	9.0	6.0
24	12	27	51		51	652	1,160	1,640	410	28	9.5	6.4
25	14	29	47		52	615	1,180	1,580	378	26	9.5	6.8
28	16	39	45		54	568	1,160	1,520	347	23	9.5	7.2
27	*17	36	44		55	542	1,200	1,450	322	20	10	9.0
28	18	37	42		*55	538	1,190	1,410	300	19	10	10
29	17	37	40	32	-	527	1,170	1,350	273	18	10	10
30	19	36	39	32	-	490	1,140	1,340	250	21	10	10
31	19	-	37	34	-	472	-	1,340	-	20	10	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	379.9	19	7.2	12.3	754
November	777	39	19	25.9	1,540
December	1,465	59	37	47.3	2,910
Calendar year 1948	65,486.9	1,340	3.8	179	129,900
January	929	-	-	30.0	1,840
February	1,237	-	-	44.2	2,450
March	8,854	652	58	286	17,560
April	26,790	1,200	458	893	53,140
May	35,555	1,780	648	1,147	70,520
June	24,477	1,430	250	816	48,550
July	2,591	228	19	83.6	5,140
August	438.5	22	8.0	14.1	870
September	240.3	10	8.0	8.01	477
Water year 1948-49	103,733.7	1,780	6.0	284	206,800

Peak discharge (base, 900 sec.-ft.).- Apr. 27 (8 a.m.) 1,210 sec.-ft.; May 22 (10:30 a.m.) 1,800 sec.-ft.

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 27 to Dec. 2, Dec. 4-10, 16-19, Dec. 21 to Mar. 10.

Humboldt River at Palisade, Nev.

Location.- Water-stage recorder, lat. 40°38', 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 1949.

Average discharge.- 41 years (1903-6, 1911-49), 361 second-feet.

Extremes.- Maximum discharge during year, 1,960 second-feet May 22 (gage height, 5.70 feet); minimum, 16 second-feet Sept. 25.
1902-6, 1911-49: Maximum discharge, 6,250 second-feet Feb. 26, 1943 (gage height, 9.92 feet); minimum, 2 second-feet.

Remarks.- Records excellent except those for periods of ice effect or doubtful gage-height record, which are fair. Diversion above station for irrigation of about 150,000 acres of hay and pasture lands.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	34	h51	36	36	71	528	d1,200	1,520	255	37	21
2	23	22	h45	33	37	76	528	d1,170	1,590	238	38	21
3	22	21	h55	31	38	84	547	d1,130	1,600	225	38	21
4	23	20	h53	29	39	93	566	d1,120	1,540	207	37	21
5	24	20	h46			104	608	1,040	1,530	192	37	22
6	23	21	*43			106	667	942	1,500	178	35	22
7	25	23	44	28	40	108	718	868	1,390	164	33	23
8	27	22	50			104	856	816	1,240	154	32	22
9	28	21	56			113	968	777	1,120	146	31	22
10	25	22	62			127	988	750	1,010	139	30	21
11	27	22	66		42	139	1,030	750	975	129	30	21
12	25	25	71	29		159	1,120	723	956	122	30	21
13	24	26	73			159	1,180	703	956	115	29	21
14	28	28	74		46	170	1,190	729	910	106	28	21
15	30	29	70	31	51	192	1,170	793	880	97	27	21
16	27	31	66		60	213	1,170	923	833	91	27	21
17	27	33	62		*68	242	1,190	1,240	816	84	27	21
18	29	33	58		61	276	1,230	1,540	793	74	27	20
19	29	31	58		59	338	1,260	1,560	723	64	26	20
20	29	32	58		58	471	1,260	1,590	687	61	25	20
21	29	34	62		59	515	1,280	1,800	623	58	22	20
22	29	35	70		59	575	1,280	1,940	566	53	21	21
23	30	37	56	32	61	*652	1,280	1,890	528	52	21	20
24	29	38	52		62	697	1,290	1,820	479	49	22	19
25	27	39	49		64	682	1,290	1,740	419	45	21	17
26	29	41	46		64	642	1,290	1,680	390	44	21	17
27	32	h40	46		68	618	1,300	1,600	361	41	22	21
28	33	h41	44		69	613	1,300	1,540	338	39	22	26
29	33	h52	42		-	603	1,280	1,500	304	38	22	25
30	34	h46	40	34	-	570	d1,240	1,480	272	38	22	25
31	35	-	38	35	-	547	-	1,460	-	38	22	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	858	35	22	27.7	1,700
November	919	52	20	30.6	1,820
December	1,696	74	38	54.7	3,360
Calendar year 1948	71,321	1,420	14	195	141,400
January	962	-	-	31.0	1,910
February	1,427	69	-	51.0	2,830
March	10,059	697	71	324	19,950
April	31,604	1,300	528	1,053	62,690
May	38,814	1,940	703	1,252	76,990
June	26,849	1,600	272	895	53,250
July	3,336	255	38	108	6,620
August	862	38	21	27.8	1,710
September	634	26	17	21.1	1,260
Water year 1948-49	118,020	1,940	17	323	234,100

Peak discharge (base, 560 sec.-ft.).- Mar. 25 (3 a.m.) 713 sec.-ft.; Apr. 28 (10 a.m. to 4 p.m.) 1,310 sec.-ft.; May 22 (10:30 a.m.) 1,960 sec.-ft.
* Winter discharge measurement made on this day.
d Doubtful gage-height record; discharge computed on basis of records for station at Carlin.
h Computed from once-daily staff-gage readings.
Note.- Stage-discharge relation affected by ice Dec. 6-8, Dec. 15 to Feb. 17.

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 1949.

Extremes.- Maximum discharge during year, 1,450 second-feet May 24 (gage height, 7.86 feet); minimum, 0.5 second-foot Oct. 11.
1946-49: Maximum discharge, 1,780 second-feet Apr. 27, 28, 1946 (gage height, 8.58 feet); minimum, that of Oct. 11, 1948.

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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.8	8.6	a31	34	34	90	548	1,010	1,260	254	12	1.4
2	.8	7.7	a29	31	34	97	538	985	1,250	233	11	1.4
3	.8	7.7	a36	29		105	540	952	1,290	213	9.0	1.3
4	.6	8.6	a38			110	551	892	1,300	202	7.7	1.3
5	.6	9	a39			120	572	865	1,290	193	6.4	1.3
6	.6	9.5	a40	28		125	611	814	1,280	179	5.4	1.3
7	.6	10	a39			135	661	736	1,260	166	4.7	1.3
8	.6	9.5	a39			140	720	670	1,190	153	4.3	1.3
9	.6	*8.6	a40		37	150	814	631	1,100	139	4.0	1.3
10	.6	9	a45			158	879	614	988	132	3.6	1.1
11	.6	9	a51			162	906	631	889	129	3.3	1.1
12	.6	9.5	a54	*29		166	934	614	824	121	3.3	1.1
13	.8	10	a58			180	985	603	778	114	3.0	1.1
14	.8	13	62			186	1,010	586	768	105	2.6	1.1
15	.6	16	64	31		*193	1,020	605	765	98	2.6	1.3
16	.6	19	61			213	1,020	661	759	91	2.6	1.1
17	.6	20	60			235	1,030	743	707	83	2.6	1.1
18	.6	20	56		44	260	1,050	892	686	73	2.6	1.1
19	.6	20	56			306	1,060	1,050	664	68	2.6	1.1
20	.6	23	56		45	381	1,050	1,200	617	62	2.6	1.1
21	3.0	23	56		48	464	1,060	1,250	578	58	2.3	1.3
22	4.3	24	57		51	512	1,050	1,300	533	55	2.6	1.3
23	4.7	25	54	32	55	561	1,030	1,370	492	48	2.6	1.1
24	5.0	26	50		60	605	1,030	1,430	462	44	2.3	1.1
25	5.4	28	44		65	640	1,020	1,430	425	40	2.3	1.1
26	4.3	28	42		71	623	1,030	1,410	381	35	2.3	1.3
27	5.4	30	42		78	617	1,030	1,390	358	31	2.3	1.3
28	7.2	a32	42		83	614	1,040	1,360	340	28	2.3	1.3
29	7.7	a34	40		-	605	1,020	1,320	301	24	1.4	1.3
30	6.8	a33	38	34	-	591	1,010	1,290	275	16	1.4	1.3
31	7.7	-	36	34	-	570	-	1,260	-	13	1.4	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	74.5	7.7	0.6	2.40	148
November	530.7	34	7.7	17.7	1,050
December	1,455	64	29	46.9	2,890
Calendar year 1948	58,416.9	970	.6	160	115,900
January	954	-	-	30.8	1,890
February	1,281	83	-	45.8	2,540
March	9,914	640	90	320	19,660
April	26,819	1,060	538	894	53,190
May	30,564	1,430	586	986	60,620
June	23,810	1,300	275	794	47,230
July	3,198	254	13	103	6,340
August	119.1	12	1.4	3.84	236
September	36.6	1.4	1.1	1.22	73
Water year 1948-49	98,755.9	1,430	.6	271	195,900

Peak discharge (base, 400 sec.-ft.).- Mar. 25 (10 a.m. to 12 m.) 649 sec.-ft.; Apr. 19 (9 to 10 a.m.) 1,070 sec.-ft.; May 24 (11 a.m.) 1,450 sec.-ft.

* 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 station at Palisade.

Note.- Stage-discharge relation affected by ice Nov. 27, Dec. 15 to Mar. 8.

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 downstream from station.

Records available.- July 1896 to December 1897 (gage heights only), March 1921 to April 1924, January 1946 to September 1949.

Extremes.- Maximum discharge during year, 1,180 second-feet May 30 (gage height, 7.83 feet); no flow Oct. 1-22, Sept. 21-26.
1921-24, 1946-49: Maximum discharge observed, 1,560 second-feet June 19, 20, 1921, May 11-13, 1922; no flow Sept. 8 to Oct. 22, 1948, Sept. 21-26, 1949.

Remarks.- Records good except those for periods of ice effect or no gage-height record, 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.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	1.3	30	31		86	521	902	1,150	278	17	0.3
2	0	2.3	28	30	33	94	496	899	1,140	256	16	.3
3	0	2.3	34			100	487	886	1,140	233	13	.3
4	0	2.4	37			105	496	867	1,140	221	12	.3
5	0	3.1	38		(*)	115	521	838	1,150	205	9.8	.2
6	0	3.3	39			120	562	819	1,150	191	7.8	.2
7	0	3.8	36	27		130	620	771	1,140	179	6.1	.2
8	0	4.6	38			135	673	701	1,140	166	5.6	.2
9	0	4.0	37			145	733	646	1,110	148	4.6	.2
10	0	4.4	42			151	785	615	1,070	137	4.0	.1
11	0	5.1	51		35	153	797	625	1,000	131	3.3	.1
12	0	5.6	52			156	824	634	932	124	2.8	.1
13	0	5.6	*52	28		165	860	620	857	116	2.3	.1
14	0	5.9	50			176	867	606	817	107	1.8	.1
15	0	7.0	52			*176	874	608	800	99	1.4	.1
16	0	9.8	50	30		192	894	651	795	90	1.2	.1
17	0	12	54			209	902	701	771	84	1.2	.1
18	0	15	54		40	225	909	776	742	76	.8	.1
19	0	15	54			254	919	855	733	68	.6	.1
20	0	15	54		42	303	912	906	697	64	.4	.1
21	0	19	54		45	389	912	966	658	60	.4	0
22	0	19	55		49	449	906	1,000	610	56	.4	0
23	.1	20	52		53	498	902	1,030	558	51	.4	0
24	.1	22	50	31	58	548	899	1,060	516	46	.3	0
25	.1	23	42		62	604	902	1,090	482	44	.3	0
26	.1	23	41		68	627	904	1,110	432	39	.3	0
27	.1	23	41		74	601	909	1,130	393	36	.3	.1
28	.1	24	40		80	604	912	1,130	374	33	.3	.1
29	.1	26	39		-	574	906	1,140	341	30	.2	.1
30	.1	28	37		-	569	904	1,160	303	27	.3	.1
31	.4	-	34	33	-	553	-	1,160	-	21	.3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1.2	0.4	0	0.04	2.4
November	354.5	28	1.3	11.8	703
December	1,367	55	28	44.1	2,710
Calendar year 1948	54,143.0	843	0	148	107,400
January	914	-	-	29.5	1,810
February	1,205	80	-	43.0	2,390
March	9,206	627	86	297	18,260
April	23,708	919	487	790	47,020
May	26,902	1,160	606	868	53,360
June	24,141	1,150	303	805	47,880
July	3,416	278	21	110	6,780
August	115.2	17	.2	3.72	228
September	3.7	.3	0	.12	7.3
Water year 1948-49	91,333.6	1,160	0	250	181,200

Peak discharge (base, 350 sec.-ft.).- Mar. 26 (9:30 a.m.) 723 sec.-ft.; Apr. 19 (10 to 12 p.m.) 924 sec.-ft.; May 30 (7 p.m.) 1,180 sec.-ft.
* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Nov. 27-30, Dec. 13 to Mar. 9 (no gage-height record Jan. 6-12, Jan. 17 to Feb. 4, Feb. 9-15; discharge computed on basis of 2 discharge measurements and weather records).

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.

Records available.- September 1917 to June 1923, May 1925 to May 1926, February 1946 to September 1949.

Extremes.- Maximum discharge during year, 952 second-feet June 3 (gage height, 6.83 feet); minimum, 0.1 second-foot Oct. 11, 12, Sept. 26.
1917-23, 1925-26, 1946-49: 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 and below station for irrigation.

Rating table, water year 1948-49, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Aug. 20 to Sept. 30)

1.5	0.1	1.9	14	3.3	221
1.6	.5	2.0	23	4.0	347
1.7	1.7	2.2	44	5.0	548
1.8	6.5	2.5	86	6.9	968

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.2	0.4	a0.4	20		86	458	682	891	383	26	0.4
2	.2	.4	a.4	18		94	456	671	920	356	23	.3
3	.2	.4	a.4	17		105	446	667	945	338	21	.3
4	.3	.4	a.4	16		110	434	667	947	316	18	.3
5	.3	.4	a1	15		115	432	680	943	293	16	.3
6	.3	.4	a2	15		120	434	691	936	273	14	.3
7	.2	.4	a4		16	120	444	702	934	253	12	.3
8	.2	.4	a7			130	462	709	927	235	10	.3
9	.2	.4	a10			140	474	704	927	218	8.8	.3
10	.2	.4	a14			153	498	689	943	202	6.5	.3
11	.2	.4	a18	16		146	527	634	945	185	5.1	.3
12	.2	.4	a21			148	548	614	929	173	4.1	.3
13	.2	.4	*23			148	566	572	918	162	3.1	.3
14	.3	.4	20		*15	150	583	574	896	148	1.7	.3
15	.3	.5	24			153	592	574	878	138	1.5	.3
16	.3	.5	18		16	162	607	574	841	126	1.2	.3
17	.3	.5	24		16	163	636	579	799	114	1.0	.3
18	.3	.4	26		17	170	638	590	777	102	.9	.3
19	.3	.5	23		19	182	638	605	768	92	.7	.3
20	.3	.4	27	15	24	194	636	612	753	83	.6	.3
21	.3	.4	27		29	211	636	634	735	76	.6	.3
22	.3	.4	27		32	241	638	651	704	68	.5	.3
23	.3	.4	26		37	282	623	667	671	63	.5	.3
24	.3	.5	24		44	320	614	687	656	57	.5	.3
25	.3	.4	23		56	351	616	711	618	51	.5	.3
26	.3	.4	24	14	70	*376	623	733	572	47	.5	.2
27	.3	.4	24	(*)	76	422	634	757	523	42	.4	.2
28	.4	.4	23		78	444	634	770	479	38	.4	.2
29	.4	.4	22	15	-	458	651	797	440	35	.5	.2
30	.4	.4	22		-	466	651	827	414	31	.4	.2
31	.4	-	21	16	-	468	-	867	-	29	.4	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	8.7	0.4	0.2	0.28	17
November	12.5	.5	.4	.42	25
December	526.6	27	.4	17.0	1,040
Calendar year 1948	44,972.3	560	.2	123	89,190
January	481	-	-	15.5	954
February	751	78	-	26.8	1,490
March	6,828	468	86	220	13,540
April	16,829	651	432	561	33,380
May	20,891	867	572	674	41,440
June	23,627	947	414	788	46,860
July	4,727	383	29	152	9,380
August	180.4	26	.4	5.82	358
September	8.6	.4	.2	.29	17
Water year 1948-49	74,870.8	947	.2	205	148,500

Peak discharge (base, 330 sec.-ft.).- June 3 (6 p.m.) 952 sec.-ft.
* 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 station at Battle Mountain.
Note.- Stage-discharge relation affected by ice Dec. 22 to Mar. 9.

Humboldt River near Rose Creek, Nev.

Location.- Water-stage recorder, lat. 40°52', long. 118°00', in NW¼ sec. 36, T. 35 N., R. 35 E., 5½ miles southwest of Rose Creek and 15½ miles southwest of Winnemucca.

Records available.- April 1948 to September 1949.

Extremes.- Maximum discharge during year, 639 second-feet June 2 (gage height, 4.66 feet); minimum, 6.5 second-feet Sept. 2.
1948-49: Maximum discharge 708 second-feet June 24, 1948 (gage height, 4.86 feet); minimum, that of Sept. 2, 1949.

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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	22	27	25		81	323	277	603	494	81	27
2	22	22	27	25		90	331	341	580	460	78	11
3	20	23	27			103	351	370	627	409	74	19
4	20	26	27			107	357	323	630	396	71	20
5	20	27	27	24	30	108	359	308	630	375	69	20
6	20	27	26			112	357	388	621	351	90	20
7	20	28	25			116	357	455	609	336	85	20
8	20	26	24			122	354	452	600	318	69	22
9	19	26	23			125	351	393	572	298	68	22
10	19	23	*23	25		129	351	455	552	279	68	22
11	19	23	24		(*)	137	359	488	533	263	62	24
12	19	24	24			140	354	533	460	249	61	24
13	20	24	26	26		144	336	552	552	234	57	23
14	20	24	24		31	146	320	530	589	219	56	23
15	*22	24	24			150	284	524	592	206	53	23
16	22	24	24			*148	306	524	597	191	53	23
17	20	24	24			148	333	508	603	180	51	22
18	19	24	26			150	349	486	603	170	48	22
19	19	24	27		33	152	359	463	603	160	46	22
20	19	27	27			152	362	455	541	150	46	22
21	22	28	28		34	154	351	417	592	140	45	22
22	22	28	28	27	38	160	281	468	597	133	45	22
23	20	28	29		43	164	313	433	592	125	43	22
24	26	27	29		50	174	338	409	558	120	43	22
25	27	27	27		56	189	346	488	552	112	42	22
26	24	27	27		62	208	390	491	578	105	42	22
27	23	26	27		74	234	375	452	547	99	42	22
28	23	26	27		74	258	331	420	544	96	42	22
29	23	26	26		-	277	313	477	547	90	40	22
30	22	26	26		-	301	284	494	536	89	40	22
31	20	-	26	29	-	316	-	477	-	85	30	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	657	27	19	21.2	1,300
November	761	28	22	25.4	1,510
December	806	29	23	26.0	1,600
Calendar year	-	-	-	-	-
January	810	-	-	26.1	1,610
February	1,047	74	-	37.4	2,080
March	4,995	316	81	161	9,910
April	10,175	390	281	339	20,180
May	13,831	552	277	446	27,430
June	17,340	630	460	578	34,390
July	6,932	494	85	224	13,750
August	1,740	90	30	56.1	3,450
September	651	27	11	21.7	1,290
Water year 1948-49	59,745	630	11	164	118,500

Peak discharge (base, 350 sec.-ft.).- Apr. 20 (7 a.m.) 377 sec.-ft.; Apr. 26 (10 p.m.) 398 sec.-ft.; May 12 (10 to 12 p.m.) 600 sec.-ft.; June 2 (12 p.m.) 639 sec.-ft.; June 19 (7 to 9 p.m.) 606 sec.-ft.

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 8, 9, 11, 23, Nov. 26 to Dec. 2, Dec. 4-9, Dec. 15 to Feb. 25.

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.

Drainage area.- 13,500 square miles.

Records available.- June 1935 to September 1941, April 1945 to September 1949.

Average discharge.- 10 years, 106 second-feet.

Extremes.- Maximum discharge during year, 644 second-feet June 6 (gage height, 5.46 feet); minimum, 12 second-feet Nov. 12.
1935-41, 1945-49: 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.

Cooperation.- Results of four discharge measurements furnished by Pershing County Water Conservation District.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	17	22	24		64	306	290	492	554	86	29
2	18	17	21	23		72	311	282	572	513	82	26
3	17	17	22	23		78	322	336	590	479	79	22
4	17	17	23		23	82	336	360	629	432	74	18
5	16	17	24			86	346	325	635	407	72	19
6	16	19	26	22		92	349	306	639	385	69	19
7	15	19	27			*97	352	357	633	363	79	20
8	15	19	27			99	356	419	625	343	90	19
9	15	18	*26			101	354	433	618	325	73	19
10	15	18	27			a105	352	402	600	306	65	20
11	15	18	27	23		a110	356	440	572	287	67	20
12	14	18	25		24	a120	359	474	517	270	62	19
13	15	18	22			a125	357	492	460	256	59	21
14	16	18	22			132	340	526	528	236	56	20
15	*16	17	22	24	(*)	131	320	521	568	222	54	20
16	16	17	23			135	291	535	582	206	51	20
17	15	17	21	23		139	311	522	576	194	50	19
18	15	17	22		*25	140	335	498	594	184	47	19
19	15	17	24	22	25	140	341	460	606	171	46	19
20	15	18	26		26	145	332	455	610	162	44	18
21	15	19	27		27	146	325	455	580	155	43	18
22	15	20	26		28	150	314	417	602	147	43	18
23	15	21	24	23	30	157	262	453	614	137	41	18
24	15	22	23		34	163	286	421	610	130	39	17
25	15	22	22		36	172	309	399	584	125	38	17
26	17	20	23		42	188	314	464	574	117	36	17
27	17	20	24	*22	48	207	343	471	588	110	35	17
28	17	19	25		*58	230	357	437	566	102	35	18
29	17	20	25		-	252	332	424	548	98	34	18
30	17	21	24		-	272	316	484	552	93	33	18
31	17	-	24		-	292	-	511	-	89	30	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	490	18	14	15.8	972
November	557	22	17	18.6	1,100
December	746	27	21	24.1	1,480
Calendar year 1948	35,584	414	14	97.2	70,580
January	702	-	-	22.6	1,390
February	781	58	-	27.9	1,550
March	4,422	292	64	143	8,770
April	9,884	359	262	329	19,600
May	13,369	535	282	431	26,520
June	17,464	639	460	582	34,640
July	7,598	554	89	245	15,070
August	1,712	90	30	55.2	3,400
September	582	29	17	19.4	1,150
Water year 1948-49	58,307	639	14	160	115,600

Peak discharge (base, 350 sec.-ft.).- Apr. 13 (2 to 4 a.m.) 365 sec.-ft.; Apr. 28 (1 to 4 a.m.) 362 sec.-ft.; May 16 (2 to 7 p.m.) 539 sec.-ft.; June 6 (5:30 to 7 a.m.) 644 sec.-ft.; June 23 (2 to 5 a.m.) 616 sec.-ft.

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of 1 discharge measurement, recorded range in stage, and records for station near Rose Creek.

Note.- Stage-discharge relation affected by ice Nov. 21-23, Nov. 28 to Dec. 10, Dec. 15 to Mar. 6.

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 1949.

Extremes.- Maximum contents during year, 73,470 acre-feet July 4 (elevation, 4,121.20 feet); minimum, 35,520 acre-feet Sept. 29, 30 (elevation, 4,113.75 feet).
1936-49: 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	51,710	49,980	51,080	51,610	52,130	55,690	65,420	64,180	66,420	73,120	56,900	44,560
2	51,500	49,980	51,140	51,610	52,340	55,860	65,420	63,870	66,750	73,120	56,610	44,110
3	51,290	50,040	51,140	51,610	52,710	56,090	66,420	63,560	67,080	73,120	56,320	43,650
4	51,030	50,090	51,190	51,610	52,920	56,260	66,420	63,250	67,750	73,470	55,750	43,270
5	51,290	50,090	51,190	51,660	53,440	56,440	66,750	62,620	68,080	72,770	55,460	43,070
6	51,140	50,140	51,290	51,660	53,610	56,780	67,620	62,000	68,410	72,770	54,880	42,500
7	50,870	50,140	51,290	51,660	53,610	57,010	67,880	60,880	68,410	72,770	54,300	42,300
8	50,510	50,190	51,290	51,660	53,790	57,360	68,080	60,260	68,410	72,770	53,730	41,920
9	50,350	50,140	51,290	51,660	54,020	57,760	68,880	60,140	68,740	72,060	53,180	41,340
10	50,250	50,190	51,290	51,660	54,250	58,050	69,410	60,010	68,740	71,400	52,920	40,760
11	50,040	50,300	51,350	51,710	54,420	58,280	69,810	59,830	68,740	71,070	52,650	40,380
12	49,930	50,350	51,350	51,710	54,480	58,570	69,670	60,140	68,740	70,400	52,130	40,186
13	49,830	50,450	51,350	51,710	54,480	58,800	70,070	60,140	68,740	69,080	51,870	39,620
14	49,980	50,560	51,350	51,710	54,360	58,970	71,400	60,140	68,410	68,410	51,610	39,100
15	50,140	50,610	51,400	51,710	54,480	59,390	70,210	60,450	67,750	67,750	51,350	38,760
16	50,350	50,610	51,400	51,710	54,590	59,450	70,210	61,380	67,420	66,750	51,080	38,240
17	50,510	50,660	51,400	51,710	54,590	59,640	70,400	62,000	68,080	66,090	50,560	37,890
18	50,720	50,720	51,400	51,710	54,770	60,010	70,210	62,620	68,080	64,800	50,040	37,550
19	50,660	50,770	51,400	51,710	54,820	60,260	69,940	62,620	68,410	63,870	49,510	37,200
20	50,560	50,820	51,400	51,710	54,820	60,450	69,610	63,250	68,740	63,250	48,990	37,200
21	50,510	50,820	51,500	51,710	54,880	60,510	69,410	63,870	69,080	62,310	48,460	37,030
22	50,450	50,870	51,500	51,710	54,940	61,010	69,340	64,490	69,410	61,690	48,200	36,680
23	50,400	50,870	51,500	51,710	55,170	60,940	68,740	64,800	70,070	60,760	47,750	36,510
24	50,350	50,930	51,500	51,710	55,280	61,570	68,410	65,420	70,740	60,140	47,520	36,170
25	50,350	50,930	51,500	51,760	55,280	61,750	68,410	65,760	71,400	59,830	47,290	36,170
26	50,300	50,980	51,550	51,760	55,400	62,310	68,080	65,760	72,060	59,510	46,840	35,690
27	50,300	50,980	51,550	51,820	55,510	62,560	67,480	65,760	72,420	58,910	46,380	35,690
28	50,250	51,030	51,550	51,870	55,510	64,800	66,350	65,760	72,420	58,630	45,930	35,690
29	50,190	51,030	51,610	51,870	-	63,870	66,090	65,760	72,420	58,340	45,700	35,520
30	50,140	51,080	51,610	51,870	-	63,560	65,420	65,760	72,770	57,760	45,250	35,520
31	50,090	-	51,610	51,920	-	65,420	-	66,090	-	57,190	44,790	-

Monthly elevation and contents, water year October 1948 to September 1949

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Oct. 1	4,117.67	51,710	-1,730
Nov. 1	4,117.34	49,980	+1,100
Dec. 1	4,117.55	51,080	+530
Calendar year 1948	-	-	-57,790
Jan. 1	4,117.65	51,610	+520
Feb. 1	4,117.75	52,130	+3,560
Mar. 1	4,118.39	55,690	+9,730
Apr. 1	4,120.00	65,420	-1,240
May 1	4,119.80	64,180	+2,240
June 1	4,120.15	66,420	+6,700
July 1	4,121.15	73,120	-16,220
Aug. 1	4,118.60	56,900	-12,340
Sept. 1	4,116.20	44,560	-9,040
Oct. 1	4,113.75	35,520	-
Water year 1948-49	-	-	-16,190

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 1949. 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.- 35 years (1899-1909, 1910-16, 1917-22, 1930-32, 1935-41, 1943-49), 204 second-feet.

Extremes.- Maximum daily discharge during year, 612 second-feet June 12; minimum daily, 0.8 second-foot Mar. 28 (gage height, 0.91 foot).
1896-1922, 1924-32, 1935-41, 1943-49: 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 (Pitt-Taylor) Reservoirs. Many diversions above station for irrigation.

Rating table, water year 1948-49 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 23 to Apr. 2)

0.9	0.8	1.4	24	2.3	145
1.0	2.3	1.5	34	2.8	269
1.1	4.6	1.6	46	3.2	367
1.2	9.0	1.7	60	3.7	507
1.3	16	1.9	91	4.1	631

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31	1.6	1.4	1.4	1.1	1.1	1.2	577	292	408	241	196
2	9.6	1.6	1.6	1.2	1.1	1.1	18	599	274	427	200	198
3	9.0	1.4	1.4	1.2	1.2	1.1	36	577	302	413	204	180
4	23	1.4	1.4	1.4	1.2	1.2	40	586	375	391	260	166
5	45	1.4	1.4	1.4	1.1	1.1	46	583	421	427	280	166
6	57	1.4	1.4	1.4	1.2	1.2	49	586	455	472	267	174
7	69	1.4	1.4	1.4	1.1	1.2	59	555	466	514	245	194
8	83	1.4	1.4	1.2	1.1	1.4	57	534	490	526	225	208
9	100	1.4	1.4	1.2	1.1	1.2	74	498	522	567	204	208
10	110	1.4	1.4	1.4	1.2	1.2	122	400	552	558	204	166
11	73	1.4	1.4	1.2	1.1	1.2	160	354	564	573	198	153
12	56	1.4	1.4	1.2	1.1	1.2	202	394	612	577	172	166
13	63	1.4	1.4	1.2	1.1	1.2	208	326	561	552	158	168
14	35	1.4	1.4	1.2	1.1	1.2	204	276	492	540	178	234
15	6.8	1.4	1.4	1.2	1.1	1.2	206	278	284	525	198	202
16	6.4	1.4	1.4	1.2	1.2	1.1	240	262	311	490	208	188
17	6.4	1.4	1.4	1.2	1.2	1.2	283	196	354	492	223	176
18	6.4	1.4	1.4	1.2	1.2	1.2	328	198	362	501	243	153
19	6.4	1.4	1.4	1.2	1.2	1.2	386	225	338	513	251	122
20	6.4	1.4	1.4	1.2	1.2	1.2	399	229	326	504	196	101
21	6.4	1.4	1.1	1.2	1.2	1.2	408	223	314	452	145	112
22	3.7	1.6	1.2	1.2	1.2	1.2	429	187	280	438	170	126
23	1.6	1.6	1.2	1.2	1.1	1.2	446	155	210	306	186	112
24	1.6	1.4	1.4	1.2	1.1	1.2	455	229	180	274	174	85
25	1.4	1.4	1.4	1.2	1.1	1.2	438	331	221	326	176	66
26	1.4	1.4	1.4	1.2	1.1	1.2	435	400	278	314	204	72
27	1.4	1.4	1.4	1.2	1.0	1.2	478	446	292	285	238	80
28	1.6	1.4	1.4	1.1	1.1	.8	519	458	318	260	227	54
29	1.4	1.4	1.4	1.1	-	1.1	549	410	346	240	178	30
30	1.4	1.4	1.4	1.1	-	1.1	561	394	378	251	186	23
31	1.6	-	1.4	1.1	-	1.0	-	362	-	292	198	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	825.9	110	1.4	26.6	1,640
November	42.8	1.6	1.4	1.43	85
December	42.9	1.6	1.1	1.38	85
Calendar year 1948	49,322.2	481	1.1	135	97,820
January	38.0	1.4	1.1	1.23	75
February	31.8	1.2	1.0	1.14	63
March	36.1	1.4	.8	1.16	72
April	7,836.2	561	1.2	261	15,540
May	11,828	599	155	382	23,460
June	11,170	612	180	372	22,160
July	13,408	577	240	433	26,590
August	6,437	280	145	208	12,770
September	4,279	234	23	143	8,490
Water year 1948-49	55,975.7	612	.8	153	111,000

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, 7¼ miles north of Cross Ranch, and 13¼ miles north of Deeth.

Drainage area.- 415 square miles.

Records available.- October 1943 to September 1949.

Extremes.- Maximum discharge during year, 456 second-feet Apr. 27 (gage height, 4.99 feet); minimum, 0.2 second-foot Aug. 31.

1943-49: Maximum discharge, 676 second-feet May 9, 1945 (gage height, 5.99 feet); minimum, 0.2 second-foot Aug. 20-25, 1944, Aug. 29 to Sept. 8, 1948, Aug. 31, 1949.

Flood in January 1943 reached a stage of 7.2 feet, from floodmarks (discharge, 1,030 second-feet by slope-area method).

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

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.1	3.3	5.3				47	402	206	18	1.2	0.3
2	1.1	3.3	5.3			11	50	350	194	16	1.2	.3
3	1.5	3.3	5.8				55	303	172	16	1.2	.3
4	1.5	3.1	5.8				59	276	151	16	1.2	.3
5	1.7	2.9	6.8			12	67	263	135	15	1.4	.3
6	1.7	4.6	7.3				73	254	123	14	1.0	.3
7	1.5	4.0	10		8	13	76	237	113	12	1.0	.4
8	1.7	3.5	11			14	88	229	112	12	.8	.6
9	1.7	3.3	9.4			16	99	224	108	10	.7	.4
10	1.5	3.5	9.4			18	118	235	108	8.8	.5	.3
11	1.5	3.5					131	265	106	8.2	.5	.7
12	1.5	3.7				19	153	282	98	7.6	.4	.3
13	1.7	4.0					181	273	89	6.6	.5	.5
14	2.0	3.7					201	282	83	6.3	.4	.7
15	2.0	4.0				24	219	303	69	5.8	.3	.4
16	1.8	4.0	(*)	8	9	30	224	334	50	5.0	.3	.5
17	1.8	4.6				37	222	384	47	4.4	.3	.6
18	2.1	4.2				50	240	310	44	4.0	.3	.6
19	2.3	4.0				59	283	420	40	3.5	.3	.7
20	2.3	4.2				67	336	400	39	2.9	.3	.7
21	2.4	4.2	10		10	79	365	376	36	2.9	.3	.7
22	2.6	4.2			(*)	77	357	323	32	2.7	.3	.8
23	2.6	4.6				75	338	275	29	2.4	.3	.9
24	2.6	5.3				77	363	238	28	2.1	.4	.8
25	2.7	6.3				69	402	213	26	2.0	.4	.9
26	2.6	5.5			11	64	431	200	28	2.0	.3	1.0
27	2.7	4.8				58	441	183	26	1.7	.3	1.1
28	3.1	4.6				54	431	194	25	1.5	.3	1.1
29	3.1	4.6			-	54	424	206	24	1.4	.3	1.1
30	3.1	5.0			-	*48	422	204	21	1.5	.4	1.2
31	3.1	-			-	45	-	204	-	1.2	.2	-
						44						

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	64.6	3.1	1.1	2.08	128
November	123.8	6.3	2.9	4.13	246
December	286.1	11	5.3	9.23	567
Calendar year 1948	13,553	254	.2	37.1	26,890
January	248	-	-	8.0	492
February	252	-	-	9.0	500
March	1,198	79	-	38.6	2,380
April	6,896	441	47	230	13,680
May	8,742	420	183	282	17,340
June	2,362	206	21	78.7	4,680
July	213.5	18	1.2	6.89	423
August	17.3	1.4	.2	.56	34
September	18.8	1.2	.3	.63	37
Water year 1948-49	20,422.1	441	.2	55.8	40,510

Peak discharge (base, 200 sec.-ft.).- Apr. 27 (3 a.m.) 456 sec.-ft.; May 19 (1 a.m.) 433 sec.-ft.

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 11 to Mar. 17 (no gage-height record Jan. 20 to Feb. 21; discharge computed on basis of 1 discharge measurement, weather records, and records for nearby streams).

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 1949.

Average discharge.- 12 years (1915-16, 1917-22, 1943-49), 43.8 second-feet.

Extremes.- Maximum discharge during year, 330 second-feet June 11; minimum, 1.6 second-feet Sept. 9.
1915-23, 1943-49: 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 periods of ice effect or 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 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.3	4.7	4.2	3.9			6.2	87	156	106	16	7.5
2	5.0	5.6	4.2	3.5			6.5	90	135	99	17	7.1
3	5.0	6.2	4.2		a3.5		6.5	94	122	99	16	7.1
4	5.0	4.4	4.2				6.8	87	115	99	13	6.8
5	5.9	4.2	4.2	a3.5			7.4	79	114	99	13	6.5
6	5.6	5.0	4.2				8.1	76	116	91	11	5.8
7	5.6	4.7	4.2			a4.2	9.2	83	136	84	12	4.8
8	5.3	4.4	4.2				10	95	190	79	12	3.4
9	5.3	4.7	4.2				10	104	233	75	12	3.7
10	5.3	*4.7	4.2				11	104	240	72	12	5.8
11	5.3	4.4	4.2	a3.7 (*)	a3.8		12	102	236	68	12	6.2
12	5.3	4.4	4.4				12	117	260	65	12	5.8
13	5.3	4.4	4.4				13	156	239	63	12	5.8
14	5.6	4.4	4.4			*4.2	14	185	222	59	12	5.5
15	6.2	4.4	4.4			4.2	15	202	228	52	11	4.8
16	5.9	4.7	4.4			4.4	16	247	242	50	11	4.5
17	5.6	4.7	4.4			4.4	19	237	206	46	11	4.5
18	5.9	4.2	4.4			5.0	26	205	183	42	11	5.2
19	5.6	4.7	4.4			5.3	30	185	162	39	10	4.8
20	5.6	4.7	4.4			5.6	31	169	146	35	9.7	4.8
21	5.3	4.7	3.9			5.6	42	148	148	33	9.7	4.8
22	5.3	4.4	b3.8			6.2	50	139	150	30	8.6	4.5
23	5.3	4.7	b3.9	a3.5	a4	6.2	65	143	147	29	9.7	4.5
24	5.6	4.7	b3.8			6.2	77	158	148	27	9.3	4.5
25	3.7	4.4	b3.7			6.2	83	199	158	23	9.0	4.8
26	3.2	4.2	b3.7			6.5	87	245	161	20	9.0	4.8
27	5.0	4.2	b3.9			6.8	96	268	140	23	8.6	4.8
28	4.4	4.4	3.9			6.5	105	279	123	20	7.9	5.2
29	4.4	4.2	3.9		-	6.2	105	257	108	18	8.3	4.5
30	4.4	3.9	3.7		-	6.2	90	213	103	17	7.6	4.8
31	4.4	-	3.9		-	6.2	-	184	-	16	7.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	160.6	6.2	3.2	5.18	319
November	137.4	6.2	3.9	4.58	273
December	127.8	4.4	3.7	4.12	253
Calendar year 1948	14,044.2	304	3.2	38.6	27,860
January	110.3	-	-	3.56	219
February	107.5	-	-	3.84	213
March	156.5	6.8	-	5.05	310
April	1,069.7	105	6.2	35.7	2,120
May	4,937	279	76	159	9,790
June	5,065	260	103	169	10,050
July	1,678	106	16	54.1	3,330
August	341.0	17	7.6	11.0	676
September	157.6	7.5	3.4	5.25	313
Water year 1948-49	14,048.4	279	3.2	38.5	27,870

Peak discharge (base, 310 sec.-ft.).- May 28 (8:30 p.m.) 317 sec.-ft.; June 11 (7:30 p.m.) 330 sec.-ft.

* Winter discharge measurement made on this day.

a No gage-height record (stage-discharge relation affected by ice during most of period); discharge computed on basis of 2 discharge measurements and weather records.

b Stage-discharge relation affected by ice.

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 1949.

Average discharge.- 11 years (1914-19; 1943-49), 65.5 second-feet.

Extremes.- Maximum discharge during year, 544 second-feet Apr. 14 (gage height, 4.92 feet); minimum, 3.0 second-feet Sept. 3.
1913-21, 1943-49: 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 of no gage-height record, which are poor. Many diversions above and below station.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.7	8.4	10				45	318	220	16	5.8	3.2
2	5.7	8.8	11			15	50	290	233	15	6.1	3.2
3	5.4	8.8	11				62	258	224	14	6.1	3.5
4	5.7	8.4	12			16	82	241	177	14	5.2	3.5
5	6.4	8.2	12				108	233	154	13	5.5	3.5
6	6.0	8.0	13			17	154	214	129	11	5.0	3.5
7	6.0	8.0			12		205	193	113	10	4.5	3.5
8	6.0	7.8					241	176	115	9.6	4.0	3.5
9	6.4	7.8					318	160	114	9.2	4.0	3.5
10	6.8	8.1				19	322	162	113	9.2	3.8	3.8
11	5.7	8.4					359	189	108	8.2	4.0	3.8
12	5.4	8.4					425	214	97	8.5	3.8	3.8
13	6.0	8.4					481	216	89	8.8	3.8	3.8
14	6.4	8.0				20	495	218	82	9.6	3.8	4.0
15	6.8	8.0				23	435	242	78	9.2	3.8	3.8
16	6.0	8.4	(*)	12	13	28	395	305	70	8.5	3.8	3.8
17	6.4	8.4				29	417	441	61	7.9	4.0	3.5
18	6.8	8.0				30	460	508	56	7.3	4.0	4.0
19	6.8	8.2	14			37	466	498	52	7.0	3.8	4.0
20	8.8	8.4				45	462	441	53	6.7	3.8	4.0
21	8.0	8.0				47	453	374	55	6.1	3.8	4.2
22	8.0	8.0				59	419	343	49	5.8	4.0	5.2
23	8.0	8.0				58	415	298	44	5.2	4.8	5.2
24	7.6	8.0			14	52	415	250	38	5.2	4.2	5.5
25	7.6					50	405	216	32	5.2	4.0	5.5
26	*7.6	9.0				54	383	198	28	5.5	3.5	5.5
27	7.6					57	364	188	24	5.5	3.5	5.5
28	8.4					51	341	186	22	5.2	3.8	6.1
29	8.4	9.5			-	*47	332	196	19	5.5	4.0	6.7
30	9.2				-	47	328	198	18	5.8	3.8	6.7
31	8.4	-			-	47	-	203	-	5.5	3.5	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	214.0	9.2	5.4	6.90	424
November	252.4	8.8	7.8	8.41	501
December	419	-	-	13.5	831
Calendar year 1948	10,112.2	204	2.0	27.6	20,050
January	372	-	-	12	738
February	360	-	-	12.9	714
March	1,005	59	-	32.4	1,990
April	9,837	495	45	32	19,510
May	8,167	508	160	263	16,200
June	2,667	233	18	88.9	5,290
July	263.2	16	5.2	8.49	522
August	131.5	6.1	3.5	4.24	261
September	129.3	6.7	3.2	4.31	256
Water year 1948-49	23,817.4	508	3.2	65.3	47,240

Peak discharge (base, 170 sec.-ft.).- Apr. 14 (1:30 p.m.) 544 sec.-ft.; May 18 (8:30 a.m.) 521 sec.-ft.
* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Nov. 5, 7-11, 18, 19, 22, 23, Nov. 25 to Mar. 16 (no gage-height record Jan. 8 to Mar. 2; discharge computed on basis of 2 discharge measurements, weather records, and records for Marys River near Deeth).

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 1949.

Extremes.- Maximum discharge during year, 543 second-feet June 11 (gage height, 3.11 feet); minimum, 3.7 second-feet Nov. 18.
1945-49: Maximum discharge, 815 second-feet June 23, 1945 (gage height, 3.70 feet); minimum, that of Nov. 18, 1948.

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

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.0	*7.5	8	6.6	6.6	12	21	169	307	125	19	6.6
2	6.6	8.4	8.4	6.4	7.5	13	23	172	269	121	19	6.3
3	6.3	8.8	7.5	6.2	7.5	*14	26	172	239	115	17	6.3
4	6.6	7.5	7.5	6	7.5	12	31	160	219	108	17	6.0
5	8.4	6.0	7.5	6	7.2	13	40	148	211	106	16	6.0
6	7.5	8.8	7.5	6.2	7	12	44	144	211	99	15	5.6
7	7.5	7.5	8	6.6	7.2	13	55	155	233	90	14	5.6
8	7.0	7.0	8.8	7	7.8	12	62	179	310	83	13	5.6
9	7.0	7.9	8.8	7.5	9.2	12	59	189	373	78	12	5.6
10	7.0	8.4	8.4	8.4	8.8	12	65	187	421	73	12	5.6
11	6.6	7.9	8.4	8.4	8.8	13	81	187	464	68	12	6.0
12	7.0	7.9	8.8	8.8	8	12	93	219	435	65	11	5.6
13	8.4	7.9	8.4	8.8	7.4	13	92	272	400	62	11	5.6
14	9.2	7.5	8.4	7.5	7	14	92	323	383	59	10	5.3
15	11	7.9	8	6.6	7.6	15	99	359	376	56	9.7	5.3
16	9.2	7.9	7.4	6.6	8.8	15	109	435	400	51	9.2	4.7
17	8.8	8.4	7	6.6	10	17	125	435	349	46	9.2	5.3
18	8.4	6.3	6.6	6.6	9.7	20	140	390	294	43	8.8	5.3
19	8.4	9.2	6.8	6.6	10	24	140	359	263	41	8.8	5.0
20	7.9	7.9	*7.0	6.6	9.4	26	135	369	230	37	8.4	5.0
21	7.9	7.5	7	6.6	9.2	27	133	300	225	36	7.9	4.7
22	7.5	7.9	6.6	7.0	9.2	29	148	288	216	33	8.8	4.4
23	7.5	7.5	7	7.0	11	27	172	282	192	31	9.7	4.4
24	7.5	7.5	6.6	6.6	12	24	179	304	179	30	8.8	4.4
25	7.0	7.0	6.6	6.4	12	21	187	356	187	28	7.9	4.7
26	7.0	6.3	6.8	6.2	12	22	197	418	189	26	7.5	4.7
27	6.6	7.9	7	6.4	12	23	213	453	172	25	7.5	5.3
28	7.0	7.8	7	6.8	12	21	230	460	155	23	7.5	6.6
29	7.0	7.5	7.0	6.6	-	25	219	446	140	21	7.5	6.0
30	7.5	7.8	6.3	6.6	-	20	184	390	129	20	7.0	5.6
31	7.0	-	6.3	6.6	-	20	-	333	-	18	6.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	235.3	11	6.3	7.59	467
November	231.3	9.2	6.0	7.71	459
December	231.4	8.8	6.3	7.46	459
Calendar year 1948	22,378.0	454	4.6	61.1	44,380
January	212.8	8.8	6	6.86	422
February	252.4	12	6.6	9.01	501
March	553	29	12	17.8	1,100
April	3,394	230	21	113	6,730
May	9,053	460	114	292	17,960
June	8,171	464	129	272	16,210
July	1,817	125	18	58.6	3,600
August	338.8	19	6.6	10.9	672
September	163.1	6.6	4.4	5.44	324
Water year 1948-49	24,653.1	464	4.4	67.5	48,900

Peak discharge (base, 450 sec.-ft.).- May 16 (11 p.m.) 482 sec.-ft.; May 28 (9 p.m.) 501 sec.-ft.; June 11 (7:30 p.m.) 543 sec.-ft.; June 16 (7 p.m.) 457 sec.-ft.
* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Nov. 28, 30, Dec. 1, 4, 7, 15-19, 21-28, Jan. 2-8, 24-29, Feb. 5-8, 12-15, 20, 22, 26, 27, Mar. 6

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 1949.

Average discharge.- 41 years (1896-1903, 1904-9, 1910-18, 1923-26, 1927-32, 1936-49), 131 second-feet.

Extremes.- Maximum discharge during year, 910 second-feet May 17 (gage height, 4.20 feet); minimum, 0.5 second-foot Sept. 12.
1896-1922, 1923-32, 1936-49: 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 (water year).- W 1090: 1932.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.4	10	22	19	19	40	90	327	672	115	11	2.4
2	5.8	*11	23	19	20	41	95	304	604	107	11	2.4
3	5.8	12	26	18	20	42	100	281	496	107	11	2.0
4	5.8	11	26	17	20	44	110	254	408	100	12	1.8
5	6.6	12	25	16	20	45	150	217	351	95	11	1.6
6	7.0	11	26	17	19	44	180	207	327	85	8.8	1.4
7	7.0	12	28	17	20	42	220	189	304	72	8.3	1.2
8	7.0	12	30	18	21	41	260	187	330	69	7.8	1.7
9	8.3	12	30	18	22	40	294	200	374	64	7.0	1.7
10	7.0	12	31	17	23	*41	281	217	432	57	5.8	1.0
11	7.4	12	33	17	23	42	281	245	488	54	4.6	.9
12	8.3	12	34	18	22	43	304	263	524	54	3.8	.6
13	8.8	13	33	18	22	43	*307	272	500	47	3.8	.8
14	9.9	13	*32	18	21	44	294	324	476	43	3.8	1.5
15	12	13	30	19	22	48	291	397	436	38	3.2	2.2
16	12	14	29	19	24	50	294	612	432	36	3.2	2.0
17	11	15	28	18	26	52	307	870	432	32	3.0	2.2
18	11	14	28	17	28	54	337	802	355	30	2.9	2.4
19	11	15	28	17	27	58	359	708	310	26	2.8	2.6
20	11	15	29	18	26	70	381	676	284	25	2.7	2.8
21	11	15	29	19	25	80	374	660	245	25	2.6	2.9
22	11	16	28	19	28	95	374	576	226	24	2.5	2.9
23	10	17	26	19	30	100	385	496	215	22	2.6	2.9
24	9.9	17	24	18	32	95	408	436	177	21	3.8	2.8
25	9.9	17	22	17	34	85	436	448	168	17	3.6	2.2
26	9.9	16	21	17	33	80	436	492	170	17	3.2	1.9
27	9.9	15	21	18	36	80	420	580	168	15	2.9	2.8
28	9.9	17	22	20	38	85	408	620	148	15	3.0	3.8
29	9.9	19	20	20	-	80	397	644	134	16	2.9	5.4
30	10	22	19	19	-	85	362	652	120	15	2.8	5.0
31	9.9	-	20	19	-	85	-	644	-	14	2.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	279.4	12	5.4	9.01	554
November	422	22	10	14.1	837
December	823	34	19	26.5	1,630
Calendar year 1948	28,178.1	684	0	77.0	55,900
January	560	20	16	18.1	1,110
February	701	38	19	25.0	1,390
March	1,874	100	40	60.5	3,720
April	8,935	436	90	298	17,720
May	13,800	870	187	445	27,370
June	10,306	672	120	344	20,440
July	1,457	115	14	47.0	2,890
August	160.0	12	2.5	5.16	317
September	67.8	5.4	.6	2.26	134
Water year 1948-49	39,385.2	870	.6	108	78,110

Peak discharge (base, 410 sec.-ft.).- Apr. 26 (2 to 4 p.m.) 452 sec.-ft.; May 17 (4:30 to 6 p.m.) 910 sec.-ft.; June 1 (8 to 11 a.m.) 688 sec.-ft.; June 12 (2 to 4 p.m.) 576 sec.-ft.

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 9-11, Nov. 27 to Dec. 2, Dec. 4 to Jan. 8, Mar. 3-5, 10-14, 19, 20. No gage-height record Jan. 9 to Mar. 2, Mar. 6-9, 15-18, Mar. 21 to Apr. 7 (stage-discharge relation affected by ice during most of periods), Aug. 20-23, Aug. 3 to Sept. 6; discharge computed on basis of weather records and records for station near Lee.

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.

Records available.- November 1902 to December 1904 (gage heights only), January 1912 to September 1914, January 1946 to September 1949.

Extremes.- Maximum discharge during year, 146 second-feet Mar. 19 (gage height, 2.47 feet); minimum daily, 0.1 second-foot Sept. 29, 30.
1912-14, 1946-49: Maximum discharge, 785 second-feet Jan. 25, 26, 1914; minimum, 0.1 second-foot on several days during 1947, 1948, 1949.

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

Revisions.- W 1120: 1936 (calendar year mean).

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.5	7.1				15	27	11	11	0.2	1.0	0.8
2	.4	7.4				14	27	11	10	.4	.9	.7
3	.4	8.4				19	30	10	8.4	.5	.9	.8
4	.5	7.8				19	35	9.2	6.8	.5	.8	.8
5	3.4	8.0				18	40	8.1	5.8	.7	.9	.7
6	4.0	8.1				18	49	8.1	5.8	.5	.8	.8
7	4.0	10				18	56	7.4	5.2	.4	.8	.8
8	4.3	*10				18	94	7.1	2.9	.3	.8	.8
9	4.3	9.5				18	101	6.5	3.1	.4	.6	.8
10	4.3	10				22	86	8.1	2.9	.4	.4	.8
11	4.5	11				24	86	7.4	3.4	.6	.4	.8
12	4.7	12			10	24	92	5.5	3.6	.6	.4	.9
13	5.0	11				24	88	5.5	3.8	.7	.4	1.0
14	7.1	11				*29	74	5.8	3.6	.6	.5	1.1
15	6.8	11				37	63	8.8	3.6	.6	.5	1.2
16	6.5	11	12	11	(*)	45	59	12	3.6	.8	.4	1.3
17	6.5	12				50	50	16	3.6	.9	.4	1.2
18	6.8	12				69	50	20	3.4	.9	.4	1.1
19	6.5	12				110	45	20	3.4	.8	.4	1.1
20	6.5	13				101	42	31	3.6	.8	.4	1.2
21	6.5	13				59	37	42	1.2	.8	.4	1.1
22	6.5	12				48	31	34	.3	.8	.4	1.0
23	6.2	12			9.2	40	28	27	.2	.8	.4	1.0
24	6.2	13			11	37	24	19	.2	.8	6.8	1.1
25	6.2	13			12	36	21	14	.2	.8	1.2	1.2
26	6.5				13	32	19	11	.2	.8	.9	1.2
27	6.5				14	37	16	8.1	.2	.8	.8	3.6
28	7.1	12			15	39	14	7.8	.2	.8	.8	.2
29	7.4				-	29	14	7.4	.2	.8	.9	.1
30	7.1				-	29	13	8.4	.2	.9	.8	.1
31	7.1	-			-	27	-	10	-	1.0	.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	160.3	7.4	0.4	5.17	318
November	325.3	13	7.1	10.8	645
December	372	-	-	12	738
Calendar year 1948	2,609.0	25	0.1	7.13	5,180
January	341	-	-	11	676
February	294.2	-	-	10.5	584
March	1,105	110	14	35.6	2,190
April	1,411	101	13	47.0	2,800
May	407.2	42	5.5	13.1	808
June	100.6	11	0.2	0.35	200
July	20.7	1.0	0.2	0.67	41
August	26.3	6.8	0.4	0.85	52
September	29.3	3.6	0.1	0.98	58
Water year 1948-49	4,592.9	110	0.1	12.6	9,110

Peak discharge (base, 50 sec.-ft.).- Mar. 19 (5 p.m.) 146 sec.-ft.; Apr. 8 (9:30 p.m.) 122 sec.-ft.
* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Nov. 5, 9, 10, Nov. 26 to Feb. 22, Feb. 25, 26 (no gage-height record Feb. 2-16; discharge computed on basis of 2 discharge measurements and weather records).

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 1949.

Extremes.- Maximum discharge during year, 194 second-feet Apr. 9 (gage height, 2.27 feet); no flow Oct. 1, July 7 to Sept. 30.
1918-25, 1927-29, 1946-49: Maximum discharge, 2,240 second-feet Feb. 11, 1921; no flow at times in most years.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are poor. Several irrigation diversions in valleys upstream. Station is above all diversions in Boulder Flat and is below all tributaries. Flow slightly affected by small reservoir in Squaw Valley, 30 miles upstream.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.9				10	21	43	44	0.3		
2	.3	1.0				13	32	36	36	.3		
3	.3	1.0				16	49	32	29	.1		
4	.1	1.0				18	81	18	21	.3		
5	.5	.6				20	104	13	14	.3		
6	.6	.8				18	123	11	11	.1		
7	.6	1.2				18	130	9.6	9.6	0		
8	.5	.8			1.0	17	162	8.0	10	0		
9	.5	*1.0				16	187	6.7	12	0		
10	.5	1.0				16	166	8.9	14	0		
11	.5	1.2				14	154	19	12	0		
12	.4	1.3		(*)		17	152	20	11	0		
13	.5	1.3				18	162	20	8.9	0		
14	.8	1.2				16	148	17	7.0	0		
15	.9	1.4				15	128	18	5.6	0		
16	.9	1.4	0.5	0.3		15	110	49	3.9	0		
17	.8	1.7				33	104	148	3.6	0		
18	.6	1.0				47	108	106	3.2	0		
19	.5	1.0				75	98	90	3.6	0		
20	.8	1.8				113	90	86	3.9	0		
21	.8	1.3			2.0	98	82	76	4.6	0		
22	.8	.9				90	74	68	3.2	0		
23	.8	1.0				84	81	54	2.6	0		
24	.8	1.4				63	82	46	2.3	0		
25	.8	.9			(*)	45	81	40	1.7	0		
26	.8	.8			2.5	33	81	33	1.4	0		
27	.8	.6			4.0	36	75	27	1.0	0		
28	.9	.5			6.0	32	68	25	.9	0		
29	1.0	.1			-	24	54	24	.5	0		
30	1.0	.4			-	*22	50	33	.4	0		
31	1.0	-			-	23	-	46	-	0		

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	20.1	1.0	0	0.65	40
November	30.3	1.7	.1	1.01	60
December	15.5	-	-	.5	31
Calendar year 1948	3,324.9	97	0	9.08	6,590
January	9.3	-	-	.3	18
February	47.5	-	-	1.70	94
March	1,075	113	10	34.7	2,130
April	3,037	187	21	101	6,020
May	1,231.2	148	6.7	39.7	2,440
June	281.9	44	.4	9.40	559
July	1.4	.3	0	.05	3.0
August	0	0	0	0	0
September	0	0	0	0	0
Water year 1948-49	5,749	187	0	15.8	11,400

Peak discharge (base, 75 sec.-ft.).- Mar. 20 (10:30 a.m.) 136 sec.-ft.; Apr. 9 (7 a.m.) 194 sec.-ft.; May 17 (1 p.m.) 162 sec.-ft.
* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 1 to Mar. 4 (no gage-height record Dec. 14 to Feb. 24; discharge computed on basis of 2 discharge measurements, weather records, and records for Cottonwood Creek at Paradise Valley).

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 1949.

Extremes.- Maximum discharge during year, 161 second-feet May 17 (gage height, 4.79 feet); no flow Oct. 1 to Dec. 1.
1942-49: Maximum discharge, 4,000 second-feet about Jan. 22, 1943 (gage height, 14.4 feet, from floodmarks), by slope-area method; no flow at times in most years.

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

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0			9.8	13	86	52	7.0	0.5	0.6
2						10	15	77	55	6.6	.5	.5
3						7.2	16	74	50	6.8	.4	.4
4						6.1	18	75	42	7.0	.4	.3
5						5.0	20	74	36	7.0	.3	.2
6						5.3	28	69	31	6.3	.2	.2
7						9.8	42	64	29	5.3	.2	.2
8			(*)			12	62	64	26	4.5	.2	.2
9						12	84	65	24	3.8	.1	.3
10					0.5	11	93	72	23	3.7	.1	.1
11						12	102	88	20	3.4	.1	.1
12						12	125	87	17	3.1	.2	.1
13				0.2		11	152	82	16	2.9	.2	.1
14						11	132	84	15	2.7	.3	.1
15						13	116	94	14	2.6	.4	.7
16			.3			15	101	102	12	2.1	.4	.7
17						15	103	138	11	1.8	.4	.5
18					.6	16	110	146	11	1.8	.5	.4
19					.6	20	112	124	12	1.3	.4	.3
20					.8	24	120	111	12	1.1	.4	.3
21					1.5	26	114	108	13	1.0	.4	1.1
22					2.5	29	107	99	10	.9	.4	.9
23					3.0	27	116	86	8.8	.9	.5	1.0
24					6.0	*22	124	75	8.1	.8	.5	1.0
25					12	18	121	67	7.4	.8	.5	.9
26					11	17	112	62	6.6	.8	.5	.9
27					10	15	101	56	6.1	.8	.4	.9
28					10	15	96	50	7.0	.6	.5	1.1
29				.3	-	12	94	48	7.4	.5	.6	1.2
30				(*)	-	13	93	52	7.4	.5	.6	1.1
31					-	13	-	54	-	.4	.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	0	-	-	0	0
November	0	-	-	0	0
December	9.0	-	-	.3	18
Calendar year 1948	10.8	98	0	10.8	7,800
January	6.8	-	-	.22	13
February	66.5	12	-	2.38	132
March	444.2	29	5.0	14.3	881
April	2,042	152	13	68.1	5,240
May	2,533	146	48	81.7	5,020
June	589.8	55	6.1	19.7	1,170
July	88.9	7.0	.4	2.86	178
August	11.7	.6	.1	.38	23
September	19.4	1.2	.1	.65	33
Water year 1948-49	6,408.2	152	0	17.6	12,710

Peak discharge (base, 80 sec.-ft.).- Apr. 13 (9:30 a.m.) 157 sec.-ft.; Apr. 24 (9 a.m.) 132 sec.-ft.; May 17 (9:30 p.m.) 161 sec.-ft.

* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 2 to Feb. 28 (no gage-height record Jan. 3 to Feb. 22; disoharge computed on basis of 1 discharge measurement, 1 field estimate, weather records, and records for nearby streams).

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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.

Drainage area.- 1,030 square miles.

Records available.- October 1921 to June 1928 (fragmentary), October 1943 to September 1949.

Extremes.- Maximum discharge during year, 103 second-feet May 20 (gage height, 2.59 feet); minimum daily, 5.2 second-feet July 27-31.
1921-28, 1943-49: 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 water above station for irrigation. Station is above all diversions in Paradise Valley.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.2	7.2	7.6	6.4	7.6	11	12	71	50	9.0	6.2	6.6
2	7.2	7.2	7.2	6.4	7.6	10	12	69	48	8.6	6.2	6.2
3	7.2	7.2	7.6	6.4	7.6	10	12	66	47	8.6	6.2	6.2
4	6.8	7.2	7.2	6.4	8.1	10	13	61	47	8.6	5.7	6.2
5	7.2	7.2	7.2	6.4	8.1	10	14	57	43	8.6	6.2	6.2
6	7.2	7.2	7.2	6.4	8.1	9.5	18	56	38	8.6	6.2	6.2
7	7.2	7.2	7.2	6.4	8.1	9.5	21	57	34	8.6	5.7	6.2
8	7.2	7.2	7.2	6.4	8.1	12	25	54	31	7.6	6.2	6.2
9	7.2	7.2	7.6	6.4	8.1	14	28	52	28	7.1	6.2	6.2
10	7.2	7.2	7.6	6.4	8.1	15	31	54	26	6.6	6.2	6.2
11	7.2	7.2	7.6	6.4	8.1	16	34	63	25	7.1	6.2	6.0
12	7.2	7.2	7.6	6.4	8.1	15	38	61	22	6.6	6.2	6.0
13	7.2	7.2	7.9	6.4	8.1	13	41	64	20	6.6	6.2	6.0
14	6.8	7.2	7.6	6.4	8.1	12	50	64	17	6.6	6.2	6.0
15	6.8	7.6	7.2	6.4	8.1	11	61	66	16	6.6	6.2	6.0
16	6.8	7.6	7.2	6.4	8.6	11	67	84	14	6.6	6.2	6.6
17	6.8	7.6	7.2	6.4	10	11	66	86	13	6.6	6.2	6.6
18	6.8	7.6	7.2	6.4	11	12	67	88	12	6.2	6.2	6.6
19	6.8	7.6	7.2	6.4	11	12	67	98	12	6.2	6.2	6.6
20	6.8	7.6	7.2	6.4	9.0	12	69	102	12	6.2	5.7	6.8
21	6.8	7.6	7.2	7.0	10	15	71	97	12	6.2	5.7	7.1
22	6.8	7.6	7.2	7.0	9.5	17	71	91	12	6.2	6.2	7.1
23	6.8	7.6	7.2	7.0	12	19	73	86	11	5.7	6.2	7.1
24	6.8	7.6	6.8	7.0	10	19	76	79	10	5.7	6.2	7.1
25	6.8	7.9	6.8	7.0	11	18	81	71	9.5	5.7	6.2	7.6
26	6.8	7.9	6.8	7.0	11	16	83	63	9.5	5.7	6.2	7.6
27	7.2	7.6	6.8	7.5	11	15	83	57	9.0	5.2	6.2	7.6
28	7.2	7.6	6.4	7.5	11	14	80	52	9.0	5.2	6.2	7.6
29	7.2	7.6	6.4	7.6	-	14	76	50	8.6	5.2	6.6	7.6
30	7.2	7.6	6.4	7.6	-	13	72	54	8.6	5.2	6.6	7.6
31	7.2	-	6.4	7.6	-	13	-	50	-	5.2	6.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	217.6	7.2	6.8	7.02	432
November	225.0	7.9	7.2	7.43	442
December	221.9	7.9	6.4	7.16	440
Calendar year 1948	4,894.8	55	6.1	13.4	9,720
January	207.8	7.6	6.4	6.70	412
February	255.1	12	7.6	9.11	506
March	409.0	19	9.5	13.2	811
April	1,512	83	12	50.4	3,000
May	2,123	102	50	68.5	4,210
June	654.2	50	8.6	21.8	1,300
July	208.4	9.0	5.2	6.72	413
August	191.4	6.6	5.7	6.17	380
September	199.6	7.6	6.0	6.65	396
Water year 1948-49	6,423.0	102	5.2	17.6	12,740

Peak discharge (base, 35 sec.-ft.).- Apr. 28 (10 p.m.) 86 sec.-ft.; May 20 (2 to 5 a.m.) 103 sec.-ft.

Note.- No gage-height record Jan. 17-28, Aug. 24 to Sept. 20; discharge computed on basis of weather records and records of nearby streams.

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.

Drainage area.- 172 square miles.

Records available.- October 1921 to September 1949.

Average discharge.- 27 years (1921-26, 1927-49), 27.6 second-feet.

Extremes.- Maximum discharge during year, 209 second-feet Apr. 12 (gage height, 2.57 feet), from rating curve extended above 140 second-feet; minimum, 3.8 second-feet July 31, Aug. 2-5, 6, 7.
1921-49: 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 except those for periods of no gage-height record, which are fair. No diversions above station.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.4	6.8	6.5	9	7.5	14	23	86	56	11	4.0	4.4
2	5.4	7.2	7	8	8.0	15	32	84	51	10	3.8	4.4
3	5.8	7.5	8	6.5	8.0	15	34	84	45	11	3.8	4.4
4	5.8	8.0	8.5	6	8.0	16	53	80	40	9.7	3.8	4.4
5	5.8	7.2	8	7	8.0	17	61	74	40	9.2	3.8	4.4
6	5.8	7.2	7.5	7.5	8.6	16	70	70	40	8.0	4.0	4.4
7	5.8	6.8	8.5	8	8.6	18	83	72	40	8.0	4.0	4.4
8	5.8	6.4	9.2	8.5	8.6	19	116	75	40	7.2	4.0	4.4
9	5.8	7.2	9.2	8.5	9.2	19	106	76	37	6.4	4.0	4.7
10	5.8	7.5	9.7	7	9.7	19	95	92	33	6.4	4.4	4.7
11	5.8	7.5	11	7.5	9.7	19	124	100	31	6.4	4.4	4.7
12	5.8	7.5	11	8	10	18	140	104	29	6.1	4.4	4.7
13	5.8	7.5	10	8	10	18	112	106	26	6.1	4.4	4.7
14	5.8	7.5	9.7	8.5	10	19	99	102	24	5.8	4.4	4.7
15	5.8	8.0	8	8	10	20	89	112	22	5.4	4.4	4.7
16	5.8	8.0	6.5	7	10	23	100	154	21	5.0	4.4	4.7
17	5.8	8.0	8	6.5	10	23	111	130	20	4.7	4.7	4.7
18	5.8	7.2	9	6	11	25	118	138	19	4.4	4.7	4.7
19	5.8	7.5	10	5.5	11	38	130	114	24	4.4	4.7	4.7
20	5.8	7.5	9.5	6.5	11	34	116	106	20	4.4	4.4	4.7
21	5.8	7.5	9	7	11	33	111	100	18	4.4	4.4	4.7
22	6.1	7.2	8	8	12	32	125	87	16	4.4	4.7	4.7
23	6.1	7.5	7.5	7	12	24	132	80	14	4.4	4.7	4.7
24	5.8	8.6	8	6.5	12	21	132	76	14	4.4	4.7	4.7
25	5.8	7.2	7	5.5	12	21	125	74	13	4.4	4.7	4.7
26	5.8	8.0	6.5	6.5	12	21	112	72	12	4.4	4.4	5.0
27	6.4	7.2	7	7.5	13	22	107	69	12	4.4	4.4	5.0
28	6.4	6.8	8	8	14	20	107	68	12	4.4	4.7	5.4
29	6.4	8.0	7	8.0	-	18	104	70	11	4.4	4.7	5.4
30	6.4	6.1	8	8.0	-	20	94	69	11	4.4	4.7	5.4
31	6.4	-	8.5	7.5	-	18	-	62	-	4.0	4.4	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	182.8	6.4	5.4	5.89	362
November	222.1	8.6	6.1	7.40	441
December	259.3	11	6.5	8.36	514
Calendar year 1948	9,189.4	146	5.0	25.1	18,220
January	227.0	9	5.5	7.32	450
February	284.9	14	7.5	10.2	565
March	655	38	14	21.1	1,300
April	2,961	140	23	98.7	5,870
May	2,786	154	62	89.9	5,530
June	791	56	11	26.4	1,570
July	187.6	11	4.0	6.05	372
August	135.0	4.7	3.8	4.35	268
September	141.3	5.4	4.4	4.71	280
Water year 1948-49	8,832.8	154	3.8	24.2	17,520

Peak discharge (base, 100 sec.-ft.).- Apr. 8 (10:30 p.m.) 188 sec.-ft.; Apr. 12 (12:30 a.m.) 209 sec.-ft.; Apr. 19 (2:30 a.m.) 154 sec.-ft.; Apr. 23 (3 a.m.) 154 sec.-ft.; May 13 (4:30 a.m.) 114 sec.-ft.; May 16 (8 p.m.) 166 sec.-ft.

Note.- No gage-height record Dec. 1-7, Dec. 15 to Jan. 28; discharge computed on basis of recorded range in stage and weather records.

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 1949.
Extremes.- Maximum discharge during year, 73 second-feet Mar. 15 (gage height, 1.56 feet); no flow Oct. 8.
1944-49: Maximum discharge, 264 second-feet Dec. 28, 1945 (gage height, 2.14 feet); no flow Oct. 8, 1948.
Remarks.- Records fair. Several diversions above station for irrigation.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	0.2	a0.2	0.2		12	8.6	10	13	0.3	0.4	0.2
2	.1	.2	a.2	.2		10	9.2	7.1	13	.4	.4	.2
3	.1	.3	a.2			10	8.3	5.9	12	.4	.3	.2
4	.1	.2	a.1			11	7.4	5.5	8.6	.4	.4	.2
5	.1	.2	a.1		0.2	14	8.3	3.7	4.8	.4	.4	.1
6	.1	.1	a.1			18	10	2.2	2.7	.5	.4	.1
7	.1	.2	a.1			22	15	3.0	1.7	.5	.4	.1
8	.1	.2	*.1			22	18	3.7	1.7	.5	.4	.1
9	.1	.2	.1	.2	.5	20	18	3.7	1.0	.5	.3	.2
10	.1	.2	.1		.5	28	16	3.8	.9	.5	.3	.1
11	.1	.2	.1		.5	36	20	4.1	.7	.5	.3	.1
12	.1	.2	.2		.4	33	19	4.3	.6	.5	.3	.2
13	.2	.2	.2		.4	35	14	5.0	.5	.5	.3	.1
14	.2	.2	.1		.4	36	17	4.8	.5	.5	.4	.1
15	.2	.3	.1		.4	43	14	9.6	.5	.5	.3	.1
16	.2	.3	.1		.4	44	12	27	.5	.5	.3	.1
17	.2	.3	.1		.5	36	12	20	.5	.5	.3	.1
18	.2	.3	.1		.5	41	12	20	.5	.6	.3	.1
19	.2	.3	.1		.6	*38	14	15	.6	.5	.3	.1
20	.2	.2	.1		.5	35	15	15	.5	.4	.3	.1
21	.2	.2	.1		.5	30	12	14	.5	.5	.3	.1
22	.2	.2	.1		.7	22	15	12	.5	.4	.4	.1
23	.2	.2			.6	13	18	9.2	.5	.4	.3	.1
24	.2	.2		.1	.6	8.9	22	8.6	.4	.4	.3	.1
25	.2	.3			.6	8.9	28	8.0	.4	.4	.2	.1
26	.2	.2	.2		.6	8.9	23	6.8	.4	.5	.2	.1
27	.2	.2		(*)	1.1	9.6	16	5.9	.3	.5	.2	.1
28	.2	.2			4.5	9.2	12	5.5	.3	.6	.2	.1
29	.2	a.2	.2		-	8.0	12	8.0	.3	.6	.2	.2
30	.2	a.2	.2		-	8.9	12	11	.3	.5	.2	.2
31	.2	-	.2		-	8.0	-	14	-	.5	.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	5.0	0.2	0.1	0.16	9.9
November	6.6	.3	.2	.22	13
December	4.5	.2	.1	.15	8.9
Calendar year 1948	1,224.2	36	.1	3.34	2,430
January	4.6	-	-	.15	9.1
February	16.4	4.5	-	.59	33
March	679.4	44	8.0	21.9	1,350
April	437.8	28	7.4	14.6	868
May	276.4	27	2.2	8.92	548
June	68.7	13	.3	2.29	136
July	14.7	.6	.3	.47	29
August	9.5	.4	.2	.31	19
September	3.8	.2	.1	.13	7.5
Water year 1948-49	1,527.4	44	.1	4.18	3,030

Peak discharge (base, 50 sec.-ft.).- Mar. 15 (8 p.m.) 73 sec.-ft.
* Winter discharge measurement made on this day.
a No gage-height record; discharge interpolated.
Note.- Stage-discharge relation affected by ice Dec. 23-28, Jan. 3 to Feb. 8.

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 1949.
Extremes.- No flow during year.
1946-49: Maximum discharge, 102 second-feet Feb. 27, Mar. 9, 1947; maximum gage height, 3.50 feet Feb. 9, 1947 (backwater from ice); no flow for long periods.
Remarks.- No flow since May 15, 1947. 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.

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, 6 miles west of Nixon, and 11.5 miles south along Southern Pacific Railroad from station at Sutcliffe. 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 1949. 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.
Extremes.- 1926-49: Maximum elevation observed, 3,848.5 feet, datum of 1929, June 1926; minimum observed, 3,804.61 feet Sept. 29, 1949.
Cooperation.- Elevation for Mar. 5 furnished by Federal Court Watermaster for Truckee River.

	Elevation, in feet, above mean sea level, water year 1948-49
Mar. 5	3,805.50
Aug. 31	3,805.10
Sept.29	3,804.61

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 1949.
Extremes.- Maximum discharge during year, 671 second-feet May 14; maximum gage height, 6.07 feet Jan. 25 (ice jam); minimum, 14 second-feet Jan. 12.
1944-49: Maximum discharge, 1,110 second-feet Feb. 2, 1945; maximum gage height, that of Jan. 25, 1949; minimum, 11 second-feet Jan. 27, 1948.
Remarks.- Records excellent except those for periods of ice effect or no gage-height record, which are good. Flow regulated by Lake Tahoe.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	274	232	154	224	190	160	236	301	176	446	415	240
2	274	236	154	228	190	163	240	320	180	446	410	236
3	270	283	160	240	190	190	240	310	180	446	404	240
4	270	208	160	206	198	220	216	296	194	446	394	236
5	270	190	170	220	201	173	160	283	201	446	389	224
6	274	173	220	b170	198	170	121	265	220	446	379	216
7	274	150	216	94	216	166	89	270	228	446	364	208
8	274	147	212	92	220	166	92	270	212	446	359	205
9	274	147	212	94	212	166	118	248	198	446	354	194
10	270	147	205	63	*216	170	154	256	194	446	344	190
11	270	147	205	76	240	170	187	315	180	451	334	183
12	256	147	208	28	244	173	205	384	160	478	325	183
13	240	147	220	37	240	166	228	389	154	468	315	180
14	240	147	252	94	232	163	236	598	154	462	310	173
15	240	147	224	b220	216	163	252	446	176	462	306	170
16	240	144	228	b220	216	166	301	478	194	468	296	160
17	240	144	228	b230	216	163	325	399	205	462	292	160
18	240	144	224	b230	216	163	344	315	228	462	283	157
19	240	144	224	b230	216	160	344	283	278	462	278	154
20	240	144	220	b230	212	150	330	244	330	468	274	154
21	240	144	216	232	212	154	364	224	349	473	270	150
22	240	144	212	240	216	154	425	236	369	468	261	154
23	240	144	212	228	216	141	473	265	394	451	256	150
24	240	144	228	228	216	138	468	292	404	446	252	144
25	240	144	224	b230	190	157	404	330	415	441	248	132
26	240	141	232	a220	163	154	369	339	410	441	240	138
27	236	144	232	a210	166	147	364	320	436	430	240	130
28	236	157	224	a210	160	138	349	292	430	425	256	118
29	240	157	220	a200	-	121	310	256	436	425	252	112
30	240	157	220	194	-	118	287	216	446	420	248	110
31	216	-	*220	198	-	124	-	190	-	415	244	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	7,778	274	216	251	15,430
November	4,844	283	141	161	9,610
December	6,536	252	154	211	12,960
Calendar year 1948	93,370	563	34	255	185,200
January	5,616	240	28	181	11,140
February	5,818	244	160	208	11,540
March	4,927	220	118	159	9,770
April	8,231	473	89	274	16,330
May	9,650	598	190	311	19,100
June	8,131	446	154	271	16,130
July	13,938	478	415	450	27,650
August	9,592	415	240	309	19,030
September	5,201	240	110	173	10,320
Water year 1948-49	90,242	598	28	247	178,900

Peak discharge (base, 700 sec.-ft.).- No peak above base.
* Winter discharge measurement made on this day.
a No gage-height record (stage-discharge relation affected by ice during part of period); discharge computed on basis of unpublished records for Truckee River at Tahoe.
b Stage-discharge relation affected by ice.

Truckee River at Reno, Nev.

Location.- Water-stage recorder, lat. 39°32, long. 119°47', in sec. 12, T. 19 N., R. 19 E., half a mile east of Reno and 5 miles upstream from Steamboat Creek.

Records available.- January 1947 to September 1949. July 1906 to September 1919 at site 1 mile upstream at different datum.

Extremes.- Maximum discharge during year, 1,510 second-feet May 15 (gage height, 4.20 feet); minimum, 50 second-feet Sept. 21.
1906-19, 1947-49: Maximum discharge observed, 14,600 second-feet Mar. 18, 1907 (gage height, 8.2 feet, site and datum then in use); minimum observed, 18 second-feet July 2, 3, 1912.

Remarks.- Records excellent except those below 200 second-feet, which are good, and those for period of ice effect, which are fair. Flow regulated by Lake Tahoe, Boca Reservoir, Donner and Independence Lakes, and by several power plants. Many diversions above station.

Rating table, water year 1948-49, except period of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1 to Dec. 24, Sept. 1-30)

1.5	70	2.5	390
1.7	114	2.8	540
1.9	167	3.0	650
2.1	230	3.5	970
2.3	303	4.0	1,350

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	173	258	262	450	390	324	332	475	262	156	188	105
2	150	332	258	430	400	*324	425	590	214	150	179	107
3	150	326	288	380	410	319	410	634	207	142	176	107
4	173	378	284	400	*425	328	460	874	217	159	170	107
5	161	276	295	450	420	315	470	861	311	153	176	116
6	161	273	299	460	420	280	470	854	349	170	179	112
7	161	284	295	380	420	292	460	861	358	153	182	91
8	159	284	299	340	420	295	425	874	390	164	182	96
9	159	303	295	330	420	292	480	828	336	164	191	100
10	164	299	299	370	440	295	556	783	328	161	207	102
11	161	299	292	380	450	299	590	809	319	153	214	114
12	164	303	295	380	465	292	562	887	265	156	200	129
13	179	299	315	360	470	284	674	796	210	179	173	122
14	214	295	303	340	480	303	668	1,160	150	159	156	102
15	214	311	303	350	470	303	578	1,200	139	145	150	96
16	214	307	362	360	470	332	612	1,160	142	145	147	100
17	223	299	430	380	435	344	674	1,010	145	145	142	96
18	227	295	400	400	410	349	680	776	153	142	126	96
19	210	292	385	400	390	372	734	746	161	147	126	93
20	223	292	400	400	390	367	692	722	145	153	147	93
21	210	284	344	410	367	367	680	551	142	164	159	72
22	217	284	328	400	349	390	816	530	136	159	159	76
23	220	*288	328	400	358	372	942	595	145	161	145	74
24	223	284	328	400	353	340	1,020	686	136	150	134	74
25	240	276	400	390	353	328	887	734	159	164	132	91
26	251	276	410	390	349	336	740	716	156	161	134	83
27	251	258	380	390	328	344	728	662	147	179	145	85
28	254	276	350	390	336	362	639	600	145	182	173	98
29	258	276	330	390	-	328	584	490	147	179	153	89
30	265	273	*380	380	-	336	480	385	153	191	126	85
31	269	-	420	380	-	319	-	319	-	194	112	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	6,298	269	150	203	12,490
November	8,780	378	258	293	17,410
December	10,337	430	258	333	20,500
Calendar year 1948	128,290	1,480	150	351	254,500
January	12,060	460	330	389	23,920
February	11,388	480	328	407	22,590
March	10,131	390	280	326	20,090
April	18,468	1,020	332	616	36,630
May	23,168	1,200	319	747	45,950
June	6,267	390	136	209	12,430
July	4,980	194	142	161	9,880
August	4,983	214	112	161	9,880
September	2,911	129	72	97.0	5,770
Water year 1948-49	119,771	1,200	72	328	237,500

* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 25 to Feb. 11.

Little Truckee River near Hobart Mills, Calif.

Location.- Water-stage recorder, lat. 39°30', long. 120°16', in sec. 14, T. 19 N., R. 15 E., half a mile upstream from Independence Creek and 7½ miles northwest of Hobart Mills.

Drainage area.- 33 square miles.

Records available.- December 1946 to September 1949.

Extremes.- Maximum discharge during year, 706 second-feet May 14 (gage height, 4.30 feet); minimum, 1.1 second-feet Aug. 19, 20, 23, 24.
1946-49: Maximum discharge, that of May 14, 1949; minimum, that of Aug. 19, 20, 23, 24, 1949.

Remarks.- Records excellent except those below 10 second-feet, which are good, and those for periods of ice effect, which are fair. One transmountain diversion to Sierra Valley above station.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.5	24	6.0	8.6	8	10	14	295	172	3.7	1.6	1.6
2	2.7	24	6.3	8	7.5	9.5	13	330	151	3.5	1.6	1.6
3	4.8	35	6	7.5	8	9.5	13	311	146	3.5	1.4	1.6
4	5.3	14	5.5	7	8.5	10	14	306	158	3.9	1.5	1.6
5	5.3	11	5.8	7.5	9	9.5	18	295	169	3.3	1.5	1.6
6	5.1	9.5	6.5	8	9.5	10	19	282	179	3.3	1.5	1.5
7	4.8	8.3	6.8	8.5	9	10	20	300	204	3.3	1.5	1.5
8	4.8	6.5	7.1	8.5	9	9.5	22	306	177	3.3	1.4	1.5
9	4.6	7.1	7	8	10	9.9	26	258	160	3.1	1.4	1.5
10	4.6	7.4	7	7.5	*11	10	31	263	153	3.1	1.6	1.5
11	4.6	7.1	7.1	7	12	11	38	330	137	2.9	1.5	1.5
12	4.1	6.8	7.1	7.5	11	11	52	382	114	2.9	1.5	1.5
13	5.1	6.8	7.4	7.5	10	11	69	369	97	2.9	1.4	1.5
14	5.8	*6.8	7.5	8	10	11	82	646	82	2.9	1.3	1.5
15	5.8	7.4	6.5	7.5	11	11	101	549	65	2.7	1.3	1.5
16	5.3	7.7	7	7	12	11	135	526	51	2.7	1.4	1.5
17	4.8	7.4	7	7.5	12	12	165	463	41	2.7	1.4	1.6
18	4.8	6.5	7.5	7.5	11	*13	206	333	23	2.7	1.4	1.6
19	4.8	7.7	7.5	7.5	12	14	245	295	16	2.7	1.3	1.5
20	4.8	7.1	7.5	7.5	12	14	258	239	10	2.5	1.3	1.5
21	4.8	6.5	8	8	11	13	298	206	8.3	2.5	1.3	1.5
22	5.1	6.8	7.5	8	12	13	356	208	6.8	2.3	1.3	1.6
23	5.1	7.1	7.5	7.5	12	13	420	237	6.0	2.3	1.3	3.5
24	5.1	7.7	7	7.5	11	12	420	279	5.8	2.1	1.3	3.3
25	5.1	6.8	7	7	11	12	394	319	5.3	2.0	1.3	3.1
26	5.3	6.8	7.5	7	10	12	370	336	5.1	1.9	1.3	3.3
27	5.3	7.7	7.5	7.5	10	14	364	314	4.6	1.9	1.5	3.5
28	5.1	6.5	8	7.5	10	14	339	279	3.9	1.7	2.7	4.3
29	5.8	6.3	8	7	-	14	287	255	3.7	1.6	2.0	3.9
30	5.8	6.8	8	7.5	-	14	268	204	3.7	1.6	1.9	3.7
31	6.8	-	*8.2	7.5	-	14	-	169	-	1.6	1.7	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	153.7	6.8	2.5	4.96	305
November	288.1	36	6.3	9.60	571
December	220.3	8.2	5.5	7.11	437
Calendar year 1948	24,621.4	552	2.5	67.3	48,830
January	235.6	8.6	7	7.60	467
February	289.5	12	7.5	10.3	574
March	361.9	14	9.5	11.7	718
April	5,057	420	13	169	10,030
May	9,884	646	169	319	19,600
June	2,358.2	204	3.7	78.6	4,680
July	83.1	3.9	1.6	2.68	165
August	46.4	2.7	1.3	1.50	92
September	62.4	4.3	1.5	2.08	124
Water year 1948-49	19,040.2	646	1.3	52.2	37,760

Peak discharge (base, 500 sec.-ft.).- May 14 (9 to 10 p.m.) 706 sec.-ft.
* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 3, 4, 9, 10, Dec. 14 to Feb. 21, Feb. 28, Mar. 1, 3-8, 12-14, 22, 24, 25.

Franktown Creek at Franktown, Nev.

Location.- Water-stage recorder, lat. 39°16', long. 119°51', in sec. 9, T. 16 N., R. 19 E., half a mile west of Franktown and 3 miles upstream from Washoe Lake.

Drainage area.- 14 square miles.

Records available.- April 1948 to September 1949.

Extremes.- Maximum discharge during year, 81 second-feet Apr. 23 (gage height, 2.58 feet); minimum, 0.2 second-foot Feb. 7, 8, 9 (flow dammed by snowslide).
1948-49: Maximum discharge, that of Apr. 23, 1949; minimum, that of Feb. 7, 8, 9, 1949.

Remarks.- Records good. Small diversions on tributaries above station for irrigation. Flow sometimes supplemented during summer by diversion from North Creek, a tributary to Lake Tahoe.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.4	9.1	3.7	4.0	4.7	5.8	8.0	27	15	5.0	1.6	1.4
2	2.2	6.7	3.7	4.2	4.7	5.8	8.0	25	14	5.4	1.4	1.5
3	2.2	6.7	2.5	4.5	4.7	5.8	8.3	24	13	5.4	1.2	1.5
4	2.5	4.0	b5	4.3	3.4	5.8	11	22	13	5.4	1.2	1.4
5	2.6	3.7	3.1	4.3	1.6	5.8	13	21	12	4.8	1.0	1.5
6	2.7	3.4	3.4	4.5	.9	5.8	13	20	13	3.6	1.1	1.5
7	2.7	3.1	3.8	4.7	4.9	5.8	15	19	16	3.3	1.1	1.8
8	2.6	b2.8	4.0	4.7	.2	5.6	15	19	15	3.1	1.2	1.6
9	2.6	b3	4.2	4.5	.3	5.8	17	19	14	3.0	1.2	1.6
10	2.6	b3	4.0	4.3	2.1	5.8	19	19	14	2.9	1.3	1.6
11	2.5	3.3	4.2	4.5	3.3	5.8	21	19	13	2.6	1.5	1.7
12	2.5	3.4	4.5	4.5	3.4	5.8	26	19	12	2.5	1.5	1.7
13	3.1	3.6	3.7	*4.7	3.4	5.8	24	21	11	2.4	1.2	1.7
14	3.3	3.6	b3.4	4.7	3.3	6.1	23	51	10	2.4	1.2	1.7
15	3.1	3.8	b3.6	4.5	3.8	6.7	24	40	9.7	2.0	1.2	1.6
16	3.0	4.2	b3.6	4.5	4.3	6.9	28	42	8.7	1.9	1.2	1.6
17	3.0	4.0	b3.8	4.5	4.8	6.9	30	28	8.7	1.9	1.2	1.7
18	3.0	3.7	b4	4.7	5.0	7.4	38	24	9.7	1.7	1.2	1.8
19	2.9	4.2	b3.8	4.5	5.0	8.0	38	34	9.7	1.7	1.2	1.7
20	3.0	3.7	b4	4.7	5.2	7.6	36	25	8.7	1.9	1.1	1.7
21	3.0	b3.4	4.5	4.0	5.2	8.5	44	21	8.3	1.9	1.1	1.7
22	2.9	b3.4	4.5	4.7	6.0	8.5	54	18	7.6	1.8	1.2	1.7
23	2.9	3.8	b4.8	4.7	6.1	7.6	59	17	7.2	1.8	1.1	1.6
24	3.0	*3.8	b4.4	4.5	6.0	7.2	51	17	7.2	1.7	1.1	1.5
25	3.0	3.4	b4.2	4.2	6.0	6.9	41	16	6.1	1.7	1.2	1.6
26	3.1	b3.4	b4	4.3	6.0	7.6	38	16	6.0	1.8	1.2	1.7
27	3.1	b3.4	4.0	4.7	5.8	9.7	36	14	5.2	1.8	1.3	1.8
28	*3.0	b4	4.2	4.7	5.8	9.0	34	14	5.2	1.7	2.1	2.0
29	3.1	3.7	4.3	4.7	-	8.0	32	15	5.2	1.5	1.9	2.1
30	3.7	3.7	4.3	4.7	-	7.6	29	16	5.2	1.5	1.4	2.1
31	4.3	-	4.2	4.7	-	7.6	-	16	-	1.7	1.4	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	89.6	4.3	2.2	2.89	178
November	119.0	9.1	2.8	3.97	236
December	123.4	5	2.5	3.98	245
Calendar year	-	-	-	-	-
January	139.7	4.7	4.0	4.51	277
February	115.9	6.1	.2	4.14	230
March	213.0	9.7	5.6	6.87	422
April	833.3	59	8.0	27.8	1,650
May	698	51	14	22.5	1,380
June	303.4	16	5.2	10.1	602
July	81.8	5.4	1.5	2.64	162
August	39.8	2.1	1.0	1.28	79
September	49.9	2.1	1.4	1.66	99
Water year 1948-49	2,806.8	59	.2	7.69	5,560

Peak discharge (base, 50 sec.-ft.).- Feb. 7 (12:15 a.m.) 61 sec.-ft.; Apr. 18 (5:30 p.m.) 59 sec.-ft.; Apr. 23 (6 p.m.) 81 sec.-ft.; May 14 (5 p.m.) 70 sec.-ft.

* Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Little Truckee River near Hobart Mills, Calif.

Location.- Water-stage recorder, lat. 39°30', long. 120°16', in sec. 14, T. 19 N., R. 15 E., half a mile upstream from Independence Creek and 7½ miles northwest of Hobart Mills.

Drainage area.- 33 square miles.

Records available.- December 1946 to September 1949.

Extremes.- Maximum discharge during year, 706 second-feet May 14 (gage height, 4.30 feet); minimum, 1.1 second-feet Aug. 19, 20, 23, 24.
1946-49: Maximum discharge, that of May 14, 1949; minimum, that of Aug. 19, 20, 23, 24, 1949.

Remarks.- Records excellent except those below 10 second-feet, which are good, and those for periods of ice effect, which are fair. One transmountain diversion to Sierra Valley above station.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.5	24	6.0	8.6	8	10	14	295	172	3.7	1.6	1.6
2	2.7	24	6.3	8	7.5	9.5	13	330	151	3.5	1.6	1.6
3	4.8	35	6	7.5	8	9.5	13	311	146	3.5	1.4	1.6
4	5.3	14	5.5	7	8.5	10	14	306	158	3.9	1.5	1.6
5	5.3	11	5.8	7.5	9	9.5	18	295	169	3.3	1.5	1.6
6	5.1	9.5	6.5	8	9.5	10	19	282	179	3.3	1.5	1.5
7	4.8	8.3	6.8	8.5	9	10	20	300	204	3.3	1.5	1.5
8	4.8	6.5	7.1	8.5	9	9.5	22	306	177	3.3	1.4	1.5
9	4.6	7.1	7	8	10	9.9	26	258	160	3.1	1.4	1.5
10	4.6	7.4	7	7.5	*11	10	31	263	153	3.1	1.6	1.5
11	4.6	7.1	7.1	7	12	11	38	330	137	2.9	1.5	1.5
12	4.1	6.8	7.1	7.5	11	11	52	382	114	2.9	1.5	1.5
13	5.1	6.8	7.4	7.5	10	11	69	369	97	2.9	1.4	1.5
14	5.8	*6.8	7.5	8	10	11	82	646	82	2.9	1.3	1.5
15	5.8	7.4	6.5	7.5	11	11	101	549	65	2.7	1.3	1.5
16	5.3	7.7	7	7	12	11	135	526	51	2.7	1.4	1.5
17	4.8	7.4	7	7.5	12	12	165	463	41	2.7	1.4	1.6
18	4.8	6.5	7.5	7.5	11	*13	206	333	23	2.7	1.4	1.6
19	4.8	7.7	7.5	7.5	12	14	245	295	16	2.7	1.3	1.5
20	4.8	7.1	7.5	7.5	12	14	258	239	10	2.5	1.3	1.5
21	4.8	6.5	8	8	11	13	298	206	8.3	2.5	1.3	1.5
22	5.1	6.8	7.5	8	12	13	356	208	6.8	2.3	1.3	1.6
23	5.1	7.1	7.5	7.5	12	13	420	237	6.0	2.3	1.3	3.5
24	5.1	7.7	7	7.5	11	12	420	279	5.8	2.1	1.3	3.3
25	5.1	6.8	7	7	11	12	394	319	5.3	2.0	1.3	3.1
26	5.3	6.8	7.5	7	10	12	370	336	5.1	1.9	1.3	3.3
27	5.3	7.7	7.5	7.5	10	14	364	314	4.6	1.9	1.5	3.5
28	5.1	6.5	8	7.5	10	14	339	279	3.9	1.7	2.7	4.3
29	5.8	6.3	8	7	-	14	287	255	3.7	1.6	2.0	3.9
30	5.8	6.8	8	7.5	-	14	268	204	3.7	1.6	1.9	3.7
51	6.8	-	*8.2	7.5	-	14	-	169	-	1.6	1.7	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	153.7	6.8	2.5	4.96	305
November	288.1	36	6.3	9.60	571
December	220.3	8.2	5.5	7.11	437
Calendar year 1948	24,621.4	552	2.5	67.3	48,830
January	235.6	8.6	7	7.60	467
February	289.5	12	7.5	10.3	574
March	361.9	14	9.5	11.7	718
April	5,057	420	13	169	10,030
May	9,884	646	169	319	19,600
June	2,358.2	204	3.7	78.6	4,680
July	83.1	3.9	1.6	2.68	165
August	46.4	2.7	1.3	1.50	92
September	62.4	4.3	1.5	2.08	124
Water year 1948-49	19,040.2	646	1.3	52.2	37,760

Peak discharge (base, 500 sec.-ft.).- May 14 (9 to 10 p.m.) 706 sec.-ft.
* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 3, 4, 9, 10, Dec. 14 to Feb. 21, Feb. 28, Mar. 1, 3-8, 12-14, 22, 24, 25.

Franktown Creek at Franktown, Nev.

Location.- Water-stage recorder, lat. 39°16', long. 119°51', in sec. 9, T. 16 N., R. 19 E., half a mile west of Franktown and 3 miles upstream from Washoe Lake.

Drainage area.- 14 square miles.

Records available.- April 1948 to September 1949.

Extremes.- Maximum discharge during year, 81 second-feet Apr. 23 (gage height, 2.58 feet); minimum, 0.2 second-foot Feb. 7, 8, 9 (flow dammed by snowslide).
1948-49: Maximum discharge, that of Apr. 23, 1949; minimum, that of Feb. 7, 8, 9, 1949.

Remarks.- Records good. Small diversions on tributaries above station for irrigation. Flow sometimes supplemented during summer by diversion from North Creek, a tributary to Lake Tahoe.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.4	9.1	3.7	4.0	4.7	5.8	8.0	27	15	5.0	1.6	1.4
2	2.2	6.7	3.7	4.2	4.7	5.8	8.0	25	14	5.4	1.4	1.5
3	2.2	6.7	2.5	4.5	4.7	5.8	8.3	24	13	5.4	1.2	1.5
4	2.5	4.0	b5	4.3	3.4	5.8	11	22	13	5.4	1.2	1.4
5	2.6	3.7	3.1	4.3	1.6	5.8	13	21	12	4.8	1.0	1.5
6	2.7	3.4	3.4	4.5	.9	5.8	13	20	13	3.6	1.1	1.5
7	2.7	3.1	3.8	4.7	4.9	5.8	15	19	16	3.3	1.1	1.6
8	2.6	b2.8	4.0	4.7	.2	5.6	15	19	15	3.1	1.2	1.6
9	2.6	b3	4.2	4.5	.3	5.8	17	19	14	3.0	1.2	1.6
10	2.6	b3	4.0	4.3	2.1	5.8	19	19	14	2.9	1.3	1.6
11	2.5	3.3	4.2	4.5	3.3	5.8	21	19	13	2.6	1.5	1.7
12	2.5	3.4	4.5	4.5	3.4	5.8	26	19	12	2.5	1.5	1.7
13	3.1	3.6	3.7	*4.7	3.4	5.8	24	21	11	2.4	1.2	1.7
14	3.3	3.6	b3.4	4.7	3.3	6.1	23	51	10	2.4	1.2	1.7
15	3.1	3.8	b3.6	4.5	3.8	6.7	24	40	9.7	2.0	1.2	1.6
16	3.0	4.2	b3.6	4.5	4.3	6.9	28	42	8.7	1.9	1.2	1.6
17	3.0	4.0	b3.8	4.5	4.8	6.9	30	28	8.7	1.9	1.2	1.7
18	3.0	3.7	b4	4.7	5.0	7.4	38	24	9.7	1.7	1.2	1.8
19	2.9	4.2	b3.8	4.5	5.0	8.0	38	34	9.7	1.7	1.2	1.7
20	3.0	3.7	b4	4.7	5.2	7.6	36	25	8.7	1.9	1.1	1.7
21	3.0	b3.4	4.5	4.0	5.2	8.5	44	21	8.3	1.9	1.1	1.7
22	2.9	b3.4	4.5	4.7	6.0	8.5	54	18	7.6	1.8	1.2	1.7
23	2.9	3.8	b4.8	4.7	6.1	7.6	59	17	7.2	1.8	1.1	1.6
24	3.0	*3.8	b4.4	4.5	6.0	7.2	51	17	7.2	1.7	1.1	1.5
25	3.0	3.4	b4.2	4.2	6.0	6.9	41	16	6.1	1.7	1.2	1.6
26	3.1	b3.4	b4	4.3	6.0	7.6	38	16	6.0	1.8	1.2	1.7
27	3.1	b3.4	4.0	4.7	5.8	9.7	36	14	5.2	1.8	1.3	1.8
28	*3.0	b4	4.2	4.7	5.8	9.0	34	14	5.2	1.7	2.1	2.0
29	3.1	3.7	4.3	4.7	-	8.0	32	15	5.2	1.5	1.9	2.1
30	3.7	3.7	4.3	4.7	-	7.6	29	16	5.2	1.5	1.4	2.1
31	4.3	-	4.2	4.7	-	7.6	-	16	-	1.7	1.4	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	89.6	4.3	2.2	2.89	178
November	119.0	9.1	2.8	3.97	236
December	123.4	5	2.5	3.98	245
Calendar year	-	-	-	-	-
January	139.7	4.7	4.0	4.51	277
February	115.9	6.1	.2	4.14	230
March	213.0	9.7	5.6	6.87	422
April	833.3	59	8.0	27.8	1,650
May	698	51	14	22.5	1,380
June	303.4	16	5.2	10.1	602
July	81.8	5.4	1.5	2.64	162
August	39.8	2.1	1.0	1.28	79
September	49.9	2.1	1.4	1.66	99
Water year 1948-49	2,806.8	59	.2	7.69	5,560

Peak discharge (base, 50 sec.-ft.).- Feb. 7 (12:15 a.m.) 61 sec.-ft.; Apr. 18 (5:30 p.m.) 59 sec.-ft.; Apr. 23 (6 p.m.) 81 sec.-ft.; May 14 (5 p.m.) 70 sec.-ft.

* Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

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 Twentymile Creek near Warner Lake), March 1945 to September 1949. September 1940 to November 1944 at site 1½ miles upstream.
Average discharge.- 14 years (1910-15, 1918-19, 1940-44, 1945-49), 42.5 second-feet.
Extremes.- Maximum discharge recorded during year, 988 second-feet Apr. 8 (gage height, 6.19 feet), from rating curve extended above 550 second-feet by logarithmic plotting; minimum, 2.0 second-feet Nov. 29, but may have been less during periods of ice effect or no gage-height record December to February.
1910-16, 1917-19, 1921-22, 1940-49: 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.
Remarks.- Records fair except those above 200 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 (water years).- W 1090: 1945.

Rating tables, water year 1948-49, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 7		Dec. 8 to Sept. 30					
0.3	1.2	0.2	1.6	0.7	24	2.0	187
.4	3.2	.3	2.8	.9	43	2.6	280
.5	6.8	.4	4.5	1.1	64	3.3	401
.6	12	.5	10	1.3	90	4.0	531
		.6	16	1.6	130	5.1	750

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.8	5.4	5.5			a18	87	a150	63	8.9	2.8	2.8
2	2.6	6.4	5.7			a20	174	a200	53	8.4	2.8	3.0
3	2.6	6.8	5.7			a18	174	a100	48	8.4	2.8	2.8
4	2.6	6.1	6.0			a15	298	64	44	7.8	2.8	2.8
5	3.2	5.0	6.5			a14	446	64	43	6.2	2.8	2.7
6	3.0	5.4	7.0			a12	461	64	43	6.2	2.8	2.7
7	3.0	4.6	7.0	a4.5		*11	487	69	43	5.0	2.8	2.6
8	2.8	3.9	7.2		a4.0	11	738	76	41	4.3	3.0	2.7
9	2.8	4.3	7.2			11	554	77	38	4.2	3.0	2.8
10	2.8	4.6	7.2			11	a500	99	37	4.0	2.8	2.8
11	3.2	4.6	7.8			15	a550	117	33	3.8	2.8	2.8
12	3.6	5.0	8.9			18	a600	126	30	3.6	2.8	3.0
13	3.2	5.4	9.4	*4.1		19	a500	122	28	3.6	2.7	3.0
14	3.6	4.6	*8.4			40	a450	168	27	3.5	2.7	3.0
15	3.6	6.1				104	a400	299	25	3.5	2.7	3.0
16	3.6	5.7			a4.5	154	a350	181	22	3.3	2.8	2.8
17	3.6	5.4			a5.0	169	a400	137	23	3.3	2.8	3.0
18	3.9	4.6			a5.0	246	a450	106	24	3.3	3.0	3.1
19	3.9	5.4			a5.0	303	a500	114	26	3.5	3.0	3.3
20	3.9	4.6			a6.0	205	a400	282	26	3.5	3.0	3.3
21	3.6	4.6			a8.0	175	a300	99	22	3.5	3.0	3.5
22	3.6	5.4		a4.0	a10	161	a350	81	20	3.5	3.0	3.5
23	3.6	5.0	a6.0		a20	89	a400	74	18	3.5	2.8	3.6
24	3.9	5.4			a30	51	a350	68	15	3.5	2.8	3.6
25	3.9	5.0			a25	50	a250	70	14	3.5	2.8	3.6
26	3.9	5.0			a20	46	a200	73	12	3.3	2.8	3.6
27	3.9	5.7			a18	131	a150	73	12	3.1	2.8	3.8
28	3.9	5.7			a15	99	a150	68	10	2.8	3.0	4.5
29	4.3	5.7			-	51	a150	68	10	2.8	3.1	4.3
30	4.3	5.4			-	72	a130	68	10	2.8	3.1	4.2
31	4.3	-			-	57	-	63	-	2.8	3.0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	107.5	4.3	2.6	3.47	213
November	156.8	6.8	3.9	5.23	311
December	201.5	9.4	-	6.50	400
Calendar year 1948	11,874.7	606	1.4	32.4	23,560
January	130.1	-	-	4.20	258
February	231.5	30	-	8.27	459
March	2,396	303	11	77.3	4,750
April	10,949	738	87	365	21,720
May	3,420	299	63	110	6,780
June	858	63	10	28.6	1,700
July	133.4	8.9	2.8	4.30	285
August	88.9	3.1	2.7	2.87	176
September	96.2	4.5	2.6	3.21	191
Water year 1948-49	18,788.9	738	2.6	61.4	37,220

Peak discharge (base, 400 sec.-ft.).- Mar. 18 (9:30 p.m.) 426 sec.-ft.; Apr. 8 (12:30 a.m.) 988 sec.-ft.; May 15 (6 a.m.) 450 sec.-ft.; May 20 (4 a.m.) 455 sec.-ft.
* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for Deep Creek above Adel, Chewaucan River above Conn ditch, near Paisley, and unpublished records for Honey Creek near Plush.
Note.- Stage-discharge relation affected by ice Dec. 1, 4-8, 10, Jan. 13 and during most of winter periods of no gage-height record.

Deep Creek above Adel, Oreg.

Location.- Water-stage recorder, lat. 42°11', long. 119°59', in E½ sec. 15, T. 39 S., R. 23 E., a third of a mile downstream from Drake Creek and 5 miles west of Adel. Datum of gage is 4,965 feet above mean sea level (river-profile survey).
Drainage area.- 249 square miles.
Records available.- September 1922 to September 1923 and October 1932 to September 1949 in reports of Geological Survey. September 1922 to September 1923 and October 1929 to September 1941 in reports of State engineer.
Average discharge.- 21 years (1922-23, 1929-49), 102 second-feet.
Extremes.- Maximum discharge during year, 1,250 second-feet Apr. 12 (gage height, 4.50 feet); minimum, 6 second-feet Nov. 21.
1922-23, 1932-49: 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 or no gage-height record, which are poor. Diversions above station for irrigation.

Rating tables, water year 1948-49, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

Oct. 1 to Jan. 17		Jan. 18 to Sept. 30					
0.6	16	0.4	7	0.9	35	2.2	245
.7	22	.5	11	1.1	54	2.6	355
.8	29	.6	15	1.3	77	3.1	525
.9	38	.7	20	1.5	106	3.6	735
1.1	59	.8	27	1.8	159	4.2	1,060

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	19	27	23		20	a40	85	471	352	26	11	10
2	17	48	32		21	a45	122	557	290	25	11	10
3	17	50	34		21	a40	144	569	235	23	10	11
4	18	44	a35		21	a38	213	426	205	21	10	11
5	34	33	a30		21	a35	352	379	176	20	9	10
				b25								
6	28	34	a25		21	a33	464	364	165	19	9	10
7	22	32	a20		20	*31	589	370	168	18	10	10
8	21	29	a20		20	30	790	367	153	18	10	11
9	21	25	a20		20	32	835	373	140	16	10	12
10	20	28	a20		19	32	860	406	129	15	10	12
11	18	28	a21	b30	20	33	964	436	117	14	10	12
12	19	28	a22	b35	21	32	1,060	464	103	14	9	12
13	18	27	a23	*b42	21	33	904	468	97	13	9	12
14	20	28	*24	b40	21	38	820	625	88	13	9	13
15	20	33		b40	20	42	766	850	78	12	9	12
16	20	32		b40	20	47	790	690	71	12	9	12
17	18	b20		b40	21	54	820	541	65	11	9	12
18	18	b19		38	21	65	820	457	65	12	9	13
19	18	23		37	22	87	952	426	96	11	9	13
20	18	24		35	22	117	744	485	108	11	9	12
21	18	25		33	22	142	658	391	81	11	9	12
22	18	27		31	27	127	758	334	65	11	9	13
23	18	27	b25	28	28	111	840	310	61	11	9	12
24	19	30		26	28	96	820	292	47	11	9	13
25	18	29		24	a30	84	663	285	42	11	9	11
26	21	30		24	a30	83	589	280	39	11	9	11
27	20	28		24	a32	102	569	270	37	11	9	12
28	20	24		22	a35	102	553	252	35	11	10	15
29	21	21		21	-	84	577	285	31	11	11	15
30	21	23		21	-	94	450	328	29	11	11	14
31	21	-		21	-	77	-	301	-	11	10	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	619	34	17	20.0	1,230
November	876	50	19	29.2	1,740
December	774	35	-	25.0	1,540
Calendar year 1948	46,239	1,150	8	126	91,740
January	902	42	-	29.1	1,790
February	645	35	19	23.0	1,280
March	2,006	142	30	64.7	3,980
April	19,571	1,060	85	652	38,820
May	13,052	850	252	421	25,890
June	3,368	352	29	112	6,680
July	445	26	11	14.4	883
August	296	11	9	9.5	587
September	358	15	10	11.9	710
Water year 1948-49	42,912	1,060	9	118	85,130

Peak discharge (base, 400 sec.-ft.).- Apr. 8 (8 p.m.) 1,180 sec.-ft.; Apr. 12 (4 a.m.) 1,250 sec.-ft.; Apr. 19 (6 a.m.) 1,100 sec.-ft.; Apr. 23 (8 a.m.) 964 sec.-ft.; Apr. 29 (5 a.m.) 654 sec.-ft.; May 3 (1 a.m.) 708 sec.-ft.; May 15 (2 p.m.) 910 sec.-ft.; May 20 (9 a.m.) 533 sec.-ft.
* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of recorded range in stage and records for Twentymile Creek near Adel and Chewaucan River near Paisley.
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 1949. 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.- 39 years (1905-7, 1909-21, 1924-49), 131 second-feet.
Extremes.- Maximum discharge during year, 754 second-feet May 15 (gage height, 3.79 feet); minimum, 16 second-feet Nov. 9.
1905-7, 1909-21, 1924-49: 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.
Revisions.- W 860: Drainage area.

Rating tables, water year 1948-49, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

Oct. 1 to Feb. 28				Mar. 1 to Sept. 30					
1.5	24	1.8	53	1.4	20	1.8	57	2.8	260
1.6	32	2.0	78	1.5	27	2.0	84	3.1	380
1.7	42	2.2	107	1.6	35	2.2	117	3.4	530
				1.7	45	2.5	174	3.8	760

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	50	64	33	25		90	89	500	400	71	33	27
2	48	96	32	25		92	122	624	323	69	33	28
3	46	88	30	25		95	124	530	264	65	32	28
4	46	64	28	25		*84	154	490	242	58	30	26
5	58	50	26	25		76	200	470	224	58	29	26
6	51	57		30		78	250	465	215	58	29	26
7	48	38		30	30	74	300	485	209	57	29	25
8	46	33		30		70	350	525	200	55	30	26
9	46	46		35		65	400	574	179	52	30	29
10	44	55		35		66	400	607	168	49	31	31
11	43	50		35		69	410	652	158	47	30	29
12	42	49		*36		66	450	676	146	45	29	28
13	42	45				67	390	682	139	44	29	27
14	42	48			*32	81	395	706	130	43	29	27
15	42	51			32	112	405	724	124	41	27	27
16	41	53		35	32	139	455	646	117	40	27	27
17	40	*45			32	143	495	585	112	39	27	27
18	40	30			33	206	536	607	112	39	30	28
19	40	30	25		35	218	596	568	117	38	30	27
20	40	31			38	172	505	530	114	38	27	27
21	40	32			40	144	490	520	107	39	27	27
22	39	33			45	146	546	440	98	41	27	27
23	39	35			50	114	629	405	92	40	26	26
24	39	38			55	102	629	371	87	40	26	26
25	39	40			60	100	563	348	84	40	27	26
26	38	35		30	70	100	536	335	80	39	27	26
27	35	35			75	114	558	319	78	35	28	27
28	32	34			80	100	458	303	77	34	28	31
29	44	33			-	84	500	331	76	34	28	32
30	36	33			-	103	435	376	74	34	28	32
31	45	-			-	86	-	344	-	33	27	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,321	58	32	42.6	2,620
November	1,371	96	30	45.7	2,720
December	799	-	-	25.8	1,580
Calendar year 1948	52,372	993	-	143	103,900
January	966	-	-	31.2	1,920
February	1,099	80	-	39.2	2,180
March	3,256	218	65	105	6,460
April	12,470	629	89	416	24,730
May	15,738	724	303	508	31,220
June	4,546	400	74	152	9,020
July	1,415	71	33	45.6	2,810
August	890	33	26	28.7	1,770
September	286	32	25	27.5	1,640
Water year 1948-49	44,697	724	-	122	88,670

Peak discharge (base, 500 sec.-ft.).- Apr. 12 (3 a.m.) 530 sec.-ft.; Apr. 19 (4 a.m.) 688 sec.-ft.; Apr. 24 (4:30 a.m.) 736 sec.-ft.; May 2 (7 p.m.) 658 sec.-ft.; May 15 (5 a.m.)754 sec.-ft.
* Winter discharge measurement made on this day.
Note.- No gage-height record Dec. 27 to Jan. 7, Feb. 15-17, 20-28, Apr. 5-10; discharge computed on basis of records for Deep Creek above Adel and recorded range in stage when available. Stage-discharge relation affected by ice Nov. 19, 20, 22-24, 27-30, Dec. 2-26, Jan. 8 to Feb. 12, Feb. 14, 18, 19 and during most of winter periods of no gage-height record.

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 1949.
Average discharge.- 37 years (1905-6, 1909-27, 1929-41, 1943-49), including Silver Lake Irrigation District Canal, 23.6 second-feet.
Extremes.- Maximum discharge during year, 63 second-feet May 14 (gage height, 2.62 feet); minimum, 1.0 second-foot Sept. 16.
1904-7, 1909-49: 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 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.

Rating tables, water year 1948-49, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

Oct. 1 to Feb. 28		Mar. 1 to Sept. 30					
1.6	1.5	1.5	0.5	1.8	6.5	2.1	23
1.7	3.4	1.6	1.5	1.9	11	2.3	37
1.8	6.3	1.7	3.4	2.0	17	2.6	61
1.9	10						

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.3	4.8	1.7			a5.5	a15	33	50	59	27	13
2	9.3	2.4	3.2			a5.5	a20	39	48	59	11	13
3	9.3	2.4	3.2			a6.0	a25	48	47	59	7.8	12
4	9.3	2.3	3.2			a5.5	a30	50	47	59	13	12
5	9.3	2.1	3.4			a5.0	a35	50	46	59	12	12
6	9.3	2.1	3.2	a3.5		a4.5	36	48	45	58	11	12
7	9.3	1.9	3.7			a4.5		47	47	54	12	11
8	9.3	1.9	3.4		a3.5	a4.5		47	49	50	12	11
9	9.3	1.9	3.4			a4.5		48	50	48	12	11
10	9.3	1.9	3.4			a4.5		50	50	47	15	11
11	8.9	1.9	3.7			a4.5		51	50	46	15	11
12	9.3	1.9	4.0	*b3.6		a5.0		52	50	45	16	11
13	9.3	1.9	3.7			a6.0		54	51	43	17	9.2
14	9.3	1.9	b3.7			*h9.2		55	50	43	16	1.5
15	8.9	1.9	3.7			a9.5		53	49	43	16	1.3
16	8.9	1.9	4.0			a10	a35	51	47	43	16	1.2
17	8.9	1.9	4.0			a11		51	50	42	16	1.2
18	8.9	1.9	b4.0			a12		50	51	42	16	1.3
19	8.9	1.9	b3.8			a11		48	54	41	16	1.3
20	8.9	1.9	*3.7		a4.0	a10		47	55	41	16	1.4
21	8.9	1.9	3.4	a3.5		a10		43	55	40	16	1.5
22	8.9	*1.9				a9.5		41	55	40	16	2.1
23	8.5	1.9				a9.5		38	54	40	16	4.3
24	8.5	1.9			*b4.2	a9.0		36	53	38	15	4.0
25	8.5	1.9			4.5	a9.0		35	53	36	15	4.0
26	8.5	1.9	a35		4.5	a9.0		34	52	34	14	4.0
27	8.5	1.7			4.5	a9.0	33	36	52	31	14	4.0
28	8.5	b1.9			5.0	a9.0	33	46	51	31	14	3.7
29	8.5	1.7			-	a9.0	34	48	55	31	14	3.7
30	8.5	1.7			-	a9.5	34	50	57	28	13	3.4
31	8.5	-			-	a10	-	51	-	27	13	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	277.5	9.3	8.5	8.95	550
November	61.1	4.8	1.7	2.04	121
December	108.5	-	-	3.50	215
Calendar year 1948	5,738.8	65	-	15.7	11,390
January	108.6	-	-	3.50	215
February	107.2	5.0	-	3.83	213
March	240.7	12	4.5	7.76	477
April	995	-	15	33.2	1,970
May	1,430	55	33	46.1	2,840
June	1,523	57	45	50.8	3,020
July	1,357	59	27	43.8	2,690
August	452.8	27	7.8	14.6	898
September	193.1	13	1.2	6.44	383
Water year 1948-49	6,854.5	59	-	18.8	13,590

* Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of recorded range in stage when available, and records for Chewaucan River above Conn ditch, near Paisley, and Deep Creek above Adel.
b Stage-discharge relation affected by ice.
h Computed from staff-gage reading.

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 1949.

Average discharge.- 36 years (1903-5, 1909-12, 1917-21, 1922-49), 148 second-feet.

Extremes.- Maximum discharge during year, 1,080 second-feet Apr. 13 (gage height, 9.8 feet); minimum not determined, probably occurred during period of no gage-height record July to September; minimum daily, 7 second-feet Aug. 11 to Sept. 25.
1903-6, 1908-49: 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 poor. Small areas on Silvies River above station are irrigated with flood water.

Revision.- W 860: Drainage area.

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31	38	b40	b35	b25	a250	362	595	a220	a17	h9	a7
2	29	46	b40	b35	b25	a220	356	627	a200	a16	a9	a7
3	28	52	b45	b35	b25	a240	358	687	a190	a15	a9	a7
4	28	55	b40	b35	b25	a260	384	697	a170	a15	a8	a7
5	29	58	b45	b35	b25	a300	426	697	a150	a14	a8	a7
6	30	59	b45	b30	b25	a270	481	676	a140	a14	a8	a7
7	30	59	b45	b30	b25	a240	552	617	a120	a13	a8	a7
8	36	*b35	b45	b30	b25	a220	711	547	a110	a13	a8	a7
9	38	b44	*b46	b30	b25	a200	840	493	a100	a12	a8	a7
10	38	b44	b40	b30	b25	a190	930	456	a90	a12	a8	a7
11	38	b44	b45	b25	b25	a210	990	435	a80	a12	a7	a7
12	38	b40	b50	b25	b25	a250	1,050	417	a70	a11	a7	h7
13	37	b40	b50	b25	b25	a280	1,060	405	a60	a11	a7	a7
14	36	46	b45	b25	b25	a300	1,000	398	a55	a11	a7	a7
15	35	41	b40	b25	b25	a350	992	398	a50	a10	a7	7
16	35	42	b40	b22	b50	a400	950	409	a45	a10	a7	7
17	35	44	b40	b22	b100	a450	904	392	a42	a10	a7	7
18	34	36	b35	b22	172	a540	892	379	a40	a10	a7	7
19	34	42	b30	b22	191	539	930	369	a35	a10	a7	7
20	34	b48	b35	*b22	229	643	1,000	362	a32	a10	a7	7
21	34	49	b40	b22	236	669	999	361	a30	a10	a7	7
22	34	44	b45	b22	228	697	1,020	361	a28	a10	a7	7
23	34	b40	b45	b22	249	711	1,020	360	a26	a10	a7	7
24	34	44	b40	b22	282	656	934	345	a25	a10	a7	7
25	34	b44	b35	b22	a260	581	854	324	a23	a9	a7	7
26	34	b40	b35	b22	a250	516	782	293	a22	a9	a7	8
27	32	b35	b40	b22	a240	482	736	283	a21	a9	a7	8
28	31	b40	b40	b22	a240	460	693	271	a20	a9	a7	8
29	33	b40	b40	b22	-	426	648	258	a19	a9	a7	8
30	34	b40	b35	b22	-	393	617	a250	a18	a9	a7	8
31	33	-	b35	b22	-	376	-	a230	-	a9	h7	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,040	38	28	33.5	2,060
November	1,329	59	35	44.3	2,640
December	1,271	50	30	41.0	2,520
Calendar year 1948	81,766	1,340	13	223	162,200
January	802	35	22	25.9	1,590
February	3,102	282	25	111	6,150
March	12,319	711	190	397	24,430
April	23,471	1,060	356	782	46,550
May	13,392	697	230	432	26,560
June	2,231	220	18	74.4	4,430
July	349	17	9	11.3	692
August	230	9	7	7.4	456
September	215	8	7	7.2	426
Water year 1948-49	59,751	1,060	7	164	118,500

Peak discharge (base, 500 sec.-ft.).- Mar. 23 (1 p.m.) 718 sec.-ft.; Apr. 13 (7 a.m.) 1,080 sec.-ft.; Apr. 23 (1 a.m.) 1,050 sec.-ft.; May 4 (3 a.m.) 704 sec.-ft.

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of 4 discharge measurements and records for Malheur River near Drewsey and North Fork Malheur River above Agency Valley Reservoir.

b Stage-discharge relation affected by ice.

h Computed from staff-gage reading.

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 1949. 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.- 19 years (1911-13, 1914-16, 1917-21, 1938-49), 124 second-feet.
Extremes.- Maximum discharge during year, 1,020 second-feet May 16 (gage height, 4.38 feet); minimum, 17 second-feet Dec. 15 (gage height, 1.74 feet).
1909-21, 1937-49: Maximum discharge, 2,870 second-feet May 5, 1942 (gage height, 5.85 feet), from rating curve extended above 1,100 second-feet by velocity-area studies and logarithmic plotting; minimum, 8 second-feet (ice jam upstream) Jan. 14, 1940.
Remarks.- Records good except those for periods of ice effect, which are poor. No regulation or diversion above station.
Cooperation.- Water-stage recorder inspected by employee of Fish and Wildlife Service.
Revisions.- W 330: Drainage area (former site). W 860: Drainage area (present site).

Rating tables, water year 1948-49, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Mar. 18 to Apr. 23)

Oct. 1 to May 15				May 16 to Sept. 30			
1.9	24	2.5	78	2.0	30	3.0	209
2.0	29	2.7	120	2.2	47	3.3	330
2.1	35	2.9	177	2.4	71	3.6	480
2.2	41	3.1	245	2.6	104	3.9	665
2.3	50	3.5	425	2.8	149		

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	42	45	b37	b42	b35	49	125	190	249	70	38	32
2	40	47	46	39	b33	60	144	194	216	68	40	32
3	40	46	41	32	b40	60	95	171	187	67	38	32
4	43	44	b35	b26	47	57	132	162	183	66	36	32
5	50	41	b37	b30	41	60	160	156	209	64	36	32
6	44	46	b36	b40	47	52	165	168	245	62	35	32
7	44	38	b37	b40	46	52	153	187	241	59	35	32
8	43	b36	b36	b38	47	52	210	217	223	58	36	32
9	42	b40	b39	b35	52	48	153	234	199	56	36	33
10	41	46	41	b31	52	54	165	308	206	55	36	36
11	40	41	43	b27	46	75	194	390	203	57	36	36
12	40	41	*41	b30	43	54	194	400	171	55	36	35
13	40	42	b38	b33	42	70	150	410	155	52	36	35
14	46	42	b35	b33	62	105	159	400	142	50	35	35
15	52	45	28	b33	48	152	165	390	132	49	34	34
16	44	43	30	b34	45	187	197	627	130	48	34	34
17	42	42	36	b33	42	186	245	395	108	47	33	34
18	41	b34	32	b33	43	286	273	348	102	45	35	34
19	40	b40	48	b31	44	284	290	326	121	44	35	32
20	40	41	55	b28	40	*213	238	312	110	44	33	32
21	40	39	38	*b33	40	153	224	273	100	44	32	32
22	40	b40	35	b33	127	118	265	238	102	42	32	32
23	40	40	b33	b33	73	93	321	238	99	42	32	32
24	40	41	b30	b28	52	61	321	261	95	42	32	32
25	41	39	b39	b25	48	60	273	281	97	42	32	32
26	40	b35	b37	b30	49	50	261	290	91	42	32	32
27	39	b35	b44	b40	47	52	269	277	82	41	32	32
28	39	b37	b48	b37	48	51	257	249	78	41	34	37
29	41	b37	b45	b40	-	46	231	257	76	39	36	35
30	40	b37	b37	b45	-	55	197	241	72	38	34	35
31	42	-	b42	b40	-	67	-	241	-	38	33	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	1,296	52	39	41.8	2,570
November	1,220	47	34	40.7	2,420
December	1,199	55	28	38.7	2,380
Calendar year 1948	51,305	1,060	18	140	101,800
January	1,052	45	25	33.9	2,090
February	1,379	127	33	49.2	2,740
March	2,962	286	46	95.5	5,880
April	6,226	321	95	208	12,350
May	8,831	627	156	285	17,520
June	4,424	249	72	147	8,770
July	1,567	70	38	50.5	3,110
August	1,074	40	32	34.6	2,130
September	997	37	32	33.2	1,980
Water year 1948-49	32,227	627	25	88.3	63,940

Peak discharge (base, 650 sec.-ft.).- May 16 (1:30 a.m.) 1,020 sec.-ft.
* Winter discharge measurement made on this day.
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 1949.

Average discharge.- 15 years (1912-16, 1938-49), 14.2 second-feet.

Extremes.- Maximum discharge during year, 46 second-feet May 15 (gage height, 1.45 feet); minimum, 10 second-feet Feb. 15-17.
1911-16, 1937-49: 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-water flow is maintained by large springs.

Cooperation.- Water-stage recorder inspected by employees of Fish and Wildlife Service.

Rating table, water year 1948-49 (gage height, in feet, and discharge, in second-feet)

1.0	10
1.1	15
1.2	22
1.3	29

Discharge, in second-feet, water year October 1948 to September 1949

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

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	367	13	11	11.8	728
November	350	12	11	11.7	694
December	358	12	11	11.5	710
Calendar year 1948	5,584.4	67	8.0	15.3	11,070
January	344	12	11	11.1	682
February	334	18	10	11.9	662
March	407	18	11	13.1	807
April	643	29	13	21.4	1,280
May	627	29	15	20.2	1,240
June	419	25	11	14.0	831
July	385	13	12	12.4	764
August	372	12	12	12.0	738
September	360	12	12	12.0	714
Water year 1948-49	4,966	29	10	13.6	9,850

Peak discharge (base, 30 sec.-ft.).- Apr. 1 (8 p.m.) 35 sec.-ft.; Apr. 11 (10 p.m.) 33 sec.-ft.; Apr. 24 (2 a.m.) 34 sec.-ft.; May 15 (11:30 p.m.) 46 sec.-ft.

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 1949.

Average discharge.- 18 years (1922-23, 1932-49), 14.0 second-feet.

Extremes.- Maximum discharge during year, 73 second-feet May 16 (gage height, 2.90 feet); minimum, 0.6 second-foot Aug. 9, 10.
1911-12, 1922-23, 1925-49: 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 periods of ice effect or no gage-height record, which are poor. Small diversions above and larger diversions below station for irrigation.

Rating table, water year 1948-49, except periods of ice effect
(gage height, in feet, and discharge, in second-feet)

1.3	0.4	1.8	6.4	2.3	24
1.4	.8	1.9	8.7	2.5	37
1.5	1.6	2.0	11	2.7	54
1.6	2.8	2.1	14	2.9	73
1.7	4.5	2.2	18		

Discharge, in second-feet, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.3	6.6	5.3			5.8	7.1	36	31	7.3	2.8	0.8
2	5.3	7.6	7.8			5.8	7.8	38	27	6.4	2.8	.9
3	4.9	7.3	6.9			7.1	6.4	34	25	5.8	2.4	1.0
4	4.9	7.1	4.7			7.1	7.8	31	23	5.6	2.1	1.0
5	5.6	6.6	5.4	4.0		6.0	8.5	29	23	5.4	1.8	.9
6	5.4	6.9	6.6			5.8	9.7	30	22	5.6	1.9	1.0
7	5.4	6.2	7.1			6.2	11	31	22	4.7	1.4	1.0
8	5.4	3.8	8.5			5.8	12	36	18	4.3	1.6	1.0
9	5.4	5.4	8.0		3.0	5.8	11	34	18	4.7	.8	1.0
10	5.4	7.6	*7.6			6.9	12	38	16	4.7	.7	1.1
11	5.3	7.8	7.3			8.0	15	46	14	4.7	.8	1.2
12	5.3	7.6	*7.6			8.5	20	48	13	4.7	1.0	1.1
13	5.3	7.6	7.1	3.5		9.2	20	48	11	4.5	1.0	1.0
14	5.8	7.6	6.0			9.9	21	50	9.7	4.3	1.2	.9
15	6.4	7.8	5.6			7.3	23	51	8.5	4.2	1.4	1.0
16	5.8	8.2	5.1			7.8	26	64	7.6	4.3	1.3	1.1
17	5.6	8.0	5.0		3.5	7.6	29	55	8.2	4.0	1.3	1.3
18	5.8	4.5	5.0		3.5	8.0	32	50	8.5	3.5	1.4	1.5
19	5.6	6.9	5.0		4.0	8.5	34	47	10	3.0	1.4	1.5
20	5.4	6.9	4.5		4.0	8.5	33	43	9.9	2.8	1.4	1.5
21	5.4	6.2	4.5		4.5	8.2	33	37	8.7	2.6	1.3	1.5
22	5.6	6.4	4.5		5.0	8.0	39	34	8.5	2.4	1.3	1.5
23	5.4	6.4	4.5		6.0	7.8	47	31	7.8	2.1	1.3	1.5
24	5.3	6.2	4.5	3.0	7.0	7.3	54	28	6.2	2.0	1.3	1.5
25	5.4	5.8	4.5		7.0	7.1	49	27	8.0	2.0	1.3	1.5
26	5.8	4.9	4.5		7.0	6.9	42	24	7.3	2.1	1.3	1.5
27	5.6	4.5	4.5		6.5	6.9	43	25	7.3	2.3	1.3	2.0
28	5.8	6.6	4.0		6.4	6.4	44	25	8.0	3.6	1.2	2.0
29	6.2	6.0	4.0		-	6.0	43	37	8.0	3.5	1.0	2.0
30	6.0	5.8	4.0		-	7.8	37	34	8.0	3.1	1.1	2.0
31	6.2	-	4.0		-	7.1	-	34	-	3.1	.9	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	171.8	6.4	4.9	5.54	341
November	196.8	8.2	3.8	6.56	390
December	173.6	8.5	4.0	5.60	344
Calendar year 1948	5,331.7	90	2.0	14.6	10,580
January	105.5	-	-	3.40	209
February	112.4	7.0	-	4.01	223
March	225.1	9.9	5.8	7.26	446
April	777.3	54	6.4	25.9	1,540
May	1,175	64	24	37.9	2,330
June	403.2	31	6.2	13.4	800
July	123.3	7.3	2.0	3.98	245
August	43.4	2.8	.7	1.40	86
September	38.3	2.0	.8	1.28	76
Water year 1948-49	3,545.7	64	.7	9.71	7,030

Peak discharge (base, 50 sec.-ft.).- Apr. 24 (6 a.m.) 56 sec.-ft.; May 16 (10 a.m.) 73 sec.-ft.
* Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 17 to Jan. 13 and during most of period of no gage-height record in January and February. No gage-height record Jan. 14 to Feb. 27, July 18-20, Sept. 18-30; discharge computed on basis of weather records, field notes, and records for Malheur River near Drewsey.

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 water year October 1948 to September 1949

Great Salt Lake Basin

Date	Stream	Tributary to or diverting from--	Location	Discharge (sec.-ft.)
July 27	Bear River.....	Great Salt Lake.....	NW¼ sec. 29, T. 10 N., R. 2 W., 2.0 miles northeast of Corinne, Utah, and 2.6 miles below Malad River.	119
30	....do.....	....do.....	....do.....	111
28	....do.....	....do.....	NE¼ sec. 29, T. 10 N., R. 2 W., 1.8 miles northeast of Corinne, Utah, and 3.0 miles below Malad River.	121
28	....do.....	....do.....	Middle sec. 5, T. 9 N., R. 2 W., 1,000 feet above bridge on U. S. 30s Highway, ¾ mile southeast of Corinne, Utah.	119
30	....do.....	....do.....	....do.....	120
29	....do.....	....do.....	NW¼NW¼ sec. 19, T. 9 N., R. 2 W., 1 mile below Reeders Overflow and 12.9 miles downstream from Malad River.	132
30	....do.....	....do.....	....do.....	116
14	Thomas Fork.....	Bear River.....	NE¼SE¼ sec. 9, T. 14 S., R. 46 E., in Idaho, immediately above Dalton Canal and 1½ miles northwest of Border, Wyo.	21.7
Aug. 4	....do.....	....do.....	....do.....	35.1
Sept.16	....do.....	....do.....	....do.....	29.1
Mar. 4	Pole Creek.....	East Fork Little Bear River.	NW¼ sec. 17, T. 9 N., R. 2 E., at mouth, 3.6 miles east of Avon, Utah.	2.1
Apr. 4	....do.....	....do.....	....do.....	3.3
May 12	....do.....	....do.....	....do.....	4.8
June 8	....do.....	....do.....	....do.....	5.4
22	....do.....	....do.....	....do.....	3.4
July 7	....do.....	....do.....	....do.....	3.4
Sept.15	....do.....	....do.....	....do.....	*2.0
Nov. 21	Malad River.....	Bear River.....	Sec. 10, T. 14 S., R. 35 E., at springs, at flow line and 1 mile above dam on Samaria Reservoir No. 2, 5¾ miles northwest of Malad City, Idaho, and 8¾ miles above Little Malad River.	9.65
Jan. 25	....do.....	....do.....	....do.....	8.37
Feb. 25	....do.....	....do.....	....do.....	9.50
Mar. 24	....do.....	....do.....	....do.....	11.0
Apr. 14	....do.....	....do.....	....do.....	13.5
May 23	....do.....	....do.....	....do.....	12.8
July 11	....do.....	....do.....	....do.....	11.3
Aug. 14	....do.....	....do.....	....do.....	8.50
Sept. 8	....do.....	....do.....	....do.....	7.85
Oct. 5	....do.....	....do.....	Sec. 10, T. 14 S., R. 35 E., ½ mile above dam on Samaria Reservoir No. 2, ½ mile below springs and flow line of reservoir, 5¾ miles northwest of Malad City, Idaho, and 8¼ miles above Little Malad River.	7.19
July 27	....do.....	....do.....	SW¼ sec. 19, T. 10 N., R. 2 W., about 600 feet above mouth and 2½ miles north of Corinne, Utah.	31.7
28	....do.....	....do.....	....do.....	33.0
30	....do.....	....do.....	....do.....	27.9
Aug. 13	St. Johns Canal..	Little Malad River..	Sec. 2, T. 14 S., R. 35 E., 1½ miles below point of diversion, 6.8 miles below Elkhorn Dam, and 6 miles northwest of Malad City, Idaho.	10.2
July 29	Reeders Overflow.	Bear River.....	SE¼ sec. 18, T. 9 N., R. 2 W., 200 feet below head gates at bird refuge road bridge and 2½ miles south of Corinne, Utah.	2.5
29	Whistlers Overflow.	....do.....	NW¼ sec. 35, T. 9 N., R. 3 W., 250 feet below head gates at bird refuge road bridge and 5½ miles southwest from Corinne, Utah.	64.2
30	....do.....	....do.....	....do.....	69.9
Jan. 20	Grove Creek.....	Dry Creek.....	Opposite gaging station on Dry Creek near Alpine, Utah, sec. 18, T. 4 S., R. 2 E., Salt Lake meridian (Utah).	1.0
June 30	....do.....	....do.....	....do.....	6.7
Sept.17	....do.....	....do.....	....do.....	1.2
May 10	Big Cottonwood Creek.	Jordan River.....	Sec. 20, T. 2 S., R. 2 E., above intake for Utah Power & Light Co.'s "Stairs" plant on Big Cottonwood Creek near Salt Lake City, Utah.	130
10	Mill Creek.....	....do.....	Sec. 31, T. 1 S., R. 2 E., ¼ mile above Utah Power & Light Co.'s lower plant on Mill Creek near Salt Lake City, Utah.	22.6

* Estimated.

Malheur and Harney Lakes Basin

Mar. 18	Coffee-Pot Creek.	Malheur Lake.....	Sec. 23, T. 22 S., R. 32 E., ¼ mile below confluence with Mill Creek and 2 miles northwest of Harney, Oreg.	12.4
Apr. 6	....do.....	....do.....	....do.....	32.7

Miscellaneous discharge measurements in the Great Basin during water year October 1948 to September 1949--Continued

Malheur and Harney Lakes Basin--Continued

Date	Stream	Tributary to or diverting from--	Location	Discharge (sec.-ft.)
Apr. 7	Coffee-Pot Creek.	Malheur Lake.....	Sec. 23, T. 22 S., R. 32 E., ¼ mile below confluence with Mill Creek and 2 miles northwest of Harney, Oreg.	24.0
13	....do.....	....do.....	....do.....	22.2
18	....do.....	....do.....	....do.....	28.1
28	....do.....	....do.....	....do.....	9.97
Oct. 13	Donner und Blitzen River.	....do.....	SW¼ sec. 2, T. 27 S., R. 31 E., at former gaging station, 2 miles southwest of Voltage, Oreg.	59.3
May 5	....do.....	....do.....	....do.....	40.6
Sept. 12	....do.....	....do.....	....do.....	10.3

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