UNITED STATES DEPARTMENT OF THE INTERIOR
RAY LYMAN WILBUR, Secretary
GEOLOGICAL SURVEY
GEORGE OTIS SMITH, Director

Water-Supply Paper 653

SURFACE WATER SUPPLY *of the* UNITED STATES

1927

PART XII

NORTH PACIFIC SLOPE DRAINAGE BASINS

B. SNAKE RIVER BASIN

NATHAN C. GROVER, Chief Hydraulic Engineer
G. C. BALDWIN, C. G. PAULSEN, FRED F. HENSHAW, G. H. CANFIELD
A. B. PURTON, and G. L. PARKER
District Engineers

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SURFACE WATER SUPPLY OF SNAKE RIVER BASIN, 1927

AUTHORIZATION AND SCOPE OF WORK

This volume is one of a series of 14 reports presenting results of measurements of flow made on streams in the United States during the year ending September 30, 1927.

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

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

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

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

Annual appropriations for the fiscal years ending June 30, 1895–1928

1895	$12,500.00	1907	$150,000.00	1921–1923	$180,000.00
1896	24,500.00	1908–1910	100,000.00	1924–25	170,000.00
1897–1899	50,000.00	1911–1917	150,000.00	1926	165,000.00
1900	70,000.00	1918	175,000.00	1927	151,000.00
1901–2	100,000.00	1919	148,244.10	1928	147,000.00
1903–1906	200,000.00	1920	175,000.00		

In this work many private and State organizations have cooperated, either by furnishing records or by assisting in collecting data, Acknowledgments for cooperation of the first kind are made in connection with the description of each station affected; cooperation of the second kind is acknowledged on page 10.

Measurements of stream flow have been made at about 5,330 points in the United States and also at many points in Alaska and the Hawaiian Islands. In July, 1927, 1,750 gaging stations were being maintained by the Geological Survey and the cooperating organizations. Many miscellaneous discharge measurements are made at other points. In connection with this work data were also collected

in regard to precipitation, evaporation, storage reservoirs, river profiles, and water power in many sections of the country and will be made available in the water-supply papers from time to time.

DEFINITION OF TERMS

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

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

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

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

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

The following terms not in common use are here defined:

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

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

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

EXPLANATION OF DATA

The data presented in this report cover the year beginning October 1, 1926, and ending September 30, 1927. At the beginning of January in most parts of the United States much of the precipita-

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

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

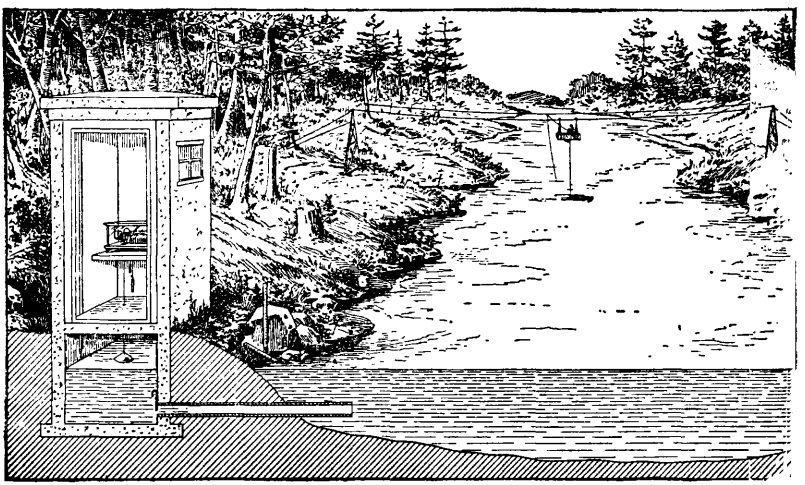

FIGURE 1.—Typical gaging station

that gives a continuous record of the fluctuations. Measurements of discharge are made with a current meter by the general methods outlined in standard textbooks on the measurement of river discharge. A typical gaging station, equipped with water-stage recorder and measuring cable and car, is shown in Figure 1.

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

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

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

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

The table of daily discharge gives, in general, the discharge in second-feet corresponding to the mean of the gage heights read each day. At stations on streams subject to sudden or rapid diurnal fluctuation the discharge obtained from the rating table and mean daily gage height may not be the true mean discharge for the day. If such stations are equipped with water-stage recorders, the mean daily discharge may be obtained by averaging discharge at regular intervals during the day or by use of the discharge integrator, an instrument operating on the principle of the planimeter and containing as an essential element the rating curve of the station.

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

ACCURACY OF FIELD DATA AND COMPUTED RESULTS

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

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

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

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

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

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

PUBLICATIONS

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

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

PART I. North Atlantic slope basins (St. John River to York River).
II. South Atlantic slope and eastern Gulf of Mexico basins (James River to the Mississippi).
III. Ohio River Basin.
IV. St. Lawrence River Basin.
V. Upper Mississippi River and Hudson Bay Basins.
VI. Missouri River Basin.
VII. Lower Mississippi River Basin.
VIII. Western Gulf of Mexico basins.
IX. Colorado River Basin.
X. The Great Basin.
XI. Pacific slope basins in California.
XII. North Pacific slope basins, in three parts:
A, Pacific slope basins in Washington and upper Columbia River Basin.
B, Snake River Basin.
C, Pacific slope basins in Oregon and lower Columbia River Basin.

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

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

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

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

Augusta, Me., Statehouse.
Boston, Mass., 2500 Customhouse.
Hartford, Conn., 60 Washington Street.
Albany, N. Y., 506 Broadway-Arcade Building.
Trenton, N. J., 710 Trenton Trust Building.
Charlottesville, Va., Brooks Museum, University of Virginia.
South Charleston, W. Va., Naval Ordnance Plant.
Asheville, N. C., 210 Post Office Building.
Chattanooga, Tenn., 630 Power Building.
Tuscaloosa, Ala., Post Office Building.
Columbus, Ohio, Engineering Experiment Station, Ohio State University.
Indianapolis, Ind., 319 Federal Building.
Lansing, Mich., M9 State Office Building.
St. Paul, Minn., 202 Old State Capitol.
Chicago, Ill., 1503 Consumers Building.
Madison, Wis., 337N State Capitol.
Topeka, Kans., 23 Federal Building.
Rolla, Mo., Rolla Building, School of Mines and Metallurgy.
Fort Smith, Ark., Post Office Building.
Austin, Tex., State Capitol.
Tucson, Ariz., 210 Post Office Building.

Numbers of water-supply papers containing results of stream measurements, 1899–1927

[For basins included see p. 6]

Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII		
												A	B	C
1899 [a]	35	[b] 35, 36	36	36	36	[c] 36, 37	37	37	[d] 37, 38	38, [e] 39	38, [f] 39	38	38	38
1900 [g]	47, [h] 48	48	48, [i] 49	49	49	49, [j] 50	50	50	50	51	51	51	51	51
1901	65, 75	65, 75	65, 75	65, 75	[k] 65, 66, 75	66, 75	[k] 65, 66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75
1902	82	[b] 82, 83	83	[l] 82, 83	[k] 83, 85	84	[k] 83, 84	84	85	85	85	85	85	85
1903	97	[b] 97, 98	98	97	[k] 98, 99, [m] 100	99	[k] 98, 99	99	100	100	100	100	100	100
1904	[n] 124, [o] 125, [p] 126	[p] 126, 127	128	129	[k] 128, 130	130, [q] 131	[k] 128, 131	132	133	133, [r] 134	134	135	135	135
1905	[n] 165, [o] 166, [p] 167	[p] 167, 168	169	170	171	172	[k] 169, 173	174	175, [s] 177	176, [r] 177	177	178	178	[t]177, 178
1906	[n] 201, [o] 202, [p] 203	[p] 203, 204	205	206	207	208	[k] 205, 209	210	211, [s] 213	212, [r] 213	213	214	214	214
1907–8	241	242	243	244	245	246	247	248	249	250, [r] 251	251	252	252	252
1909	261	262	263	264	265	266	267	268	269	270, [r] 271	271	272	272	272
1910	281	282	283	284	285	286	287	288	289	290	291	292	292	292
1911	301	302	303	304	305	306	307	308	309	310	311	312	312	312
1912	321	322	323	324	325	326	327	328	329	330	331	332-A	332-B	332-C
1913	351	352	353	354	355	356	357	358	359	360	361	362-A	362-B	362-C
1914	381	382	383	384	385	386	387	388	389	390	391	392	393	394
1915	401	402	403	404	405	406	407	408	409	410	411	412	413	414
1916	431	432	433	434	435	436	437	438	439	440	441	442	443	444
1917	451	452	453	454	455	456	457	458	459	460	461	462	463	464
1918	471	472	473	474	475	476	477	478	479	480	481	482	483	484
1919–20	501	502	503	504	505	506	507	508	509	510	511	512	513	514
1921	521	522	523	524	525	526	527	528	529	530	531	532	533	534
1922	541	542	543	544	545	546	547	548	549	550	551	552	553	554
1923	561	562	563	564	565	566	567	568	569	570	571	572	573	574
1924	581	582	583	584	585	586	587	588	589	590	591	592	593	594
1925	601	602	603	604	605	606	607	608	609	610	611	612	613	614
1926	621	622	623	624	625	626	627	628	629	630	631	632	633	634
1927	641	642	643	644	645	646	647	648	649	650	651	652	653	654

[a] Rating tables and index to Water-Supply Papers 35–39 contained in Water-Supply Paper 39. Tables of monthly discharge for 1899 in Twenty-first Annual Report, Part IV.
[b] James River only.
[c] Gallatin River.
[d] Green and Gunnison Rivers and Grand River above junction with Gunnison.
[e] Mohave River only.
[f] Kings and Kern Rivers and south Pacific slope basins.
[g] Rating tables and index to Water-Supply Papers 47–52 and data on precipitation, wells, and irrigation in California and Utah contained in Water-Supply Paper 52. Tables of monthly discharge for 1900 in Twenty-second Annual Report, Part IV.
[h] Wissahickon and Schuylkill Rivers to James River.
[i] Scioto River.
[j] Loup and Platte Rivers near Columbus, Nebr., and all tributaries below junction with Platte.
[k] Tributaries of Mississippi from east.
[l] Lake Ontario and tributaries to St. Lawrence River.
[m] Hudson Bay only.
[n] New England rivers only.
[o] Hudson River to Delaware River, inclusive.
[p] Susquehanna River to Yadkin River, inclusive.
[q] Platte and Kansas Rivers.
[r] Great Basin in California except Truckee and Carson River Basins.
[s] Below junction with Gila.
[t] Rogue, Umpqua, and Siletz Rivers only.

COOPERATION

During the year ending September 30, 1927, work in the Snake River Basin was carried on in cooperation with the States of Idaho, Oregon, Nevada, and Washington, effected under agreement made between the Director of the United States Geological Survey and the State engineers or other officials and authorized by legislative acts appropriating money.

Special acknowledgments are due to George N. Carter, commissioner of reclamation of Idaho; Rhea Luper, State engineer of Oregon; Robert A. Allen and George W. Malone, State engineers of Nevada; and Erle J. Barnes, director, and R. K. Tiffany, supervisor of hydraulics, of the Department of Conservation and Development of Washington, for the efficient manner in which they represented their States in the investigations.

Acknowledgments are due also to the United States Bureau of Reclamation and the United States Indian Service, which permitted the freest use of data gathered exclusively for them and paid for by them. The United States Weather Bureau and the United States Forest Service furnished hydrometric and climatic data.

The following municipal corporations, private companies, and individuals have aided: City of Boise, city of Pocatello, Idaho Water District No. 36, Thomas R. Newell, Idaho Power Co., Weiser Irrigation District, Twin Falls Canal Co., North Side Canal Co. (Ltd.), North Fork Reservoir Co., Murtaugh Irrigation District, Lake Irrigation District, Pacific Power & Light Co. and subsidiary companies, Utah Power & Light Co., Warmsprings Irrigation District, Malheur Land Co., water commissioner for Big Lost River, water masters for Big Wood, Little Wood, and Boise Rivers, and Malheur and Wallowa Counties, Oreg.

DIVISION OF WORK

The data for stations in Wyoming and on Snake River above Milner, Idaho, for the tributaries that enter the river above Idaho Falls, and for a few stations on the lower Blackfoot River and its tributaries, were collected and prepared for publication under the direction of G. C. Baldwin, district engineer, assisted by C. A. McClelland, L. L. Bryan, Mans H. Coffin, Leo K. Homer, Leslie Bowen, C. T. Judah, D. I. Gardner, and Helen George.

The data for stations in Idaho (except in the upper Snake River Basin) and in the Salmon Falls Creek Basin in Nevada were collected and prepared under the direction of C. G. Paulsen, district engineer, assisted by Berkeley Johnson, F. M. Veatch, and Miss E. H. Haugse.

The data for stations in Oregon were collected and prepared for publication under the direction of Fred F. Henshaw and G. H. Canfield, district engineers, assisted by K. N. Phillips. Data for many

stations were collected under the direction of Rhea Luper, State engineer, and were reviewed and prepared for publication under the direction of G. H. Canfield, district engineer.

The data for the station on Owyhee River at Mountain City, Nev., were collected and prepared for publication under the direction of A. B. Purton, district engineer, assisted by M. T. Wilson, D. M. Corbett, and Miss Lysle Christensen.

The data for Tucannon River near Pomeroy, Wash., were collected and prepared for publication under the direction of G. L. Parker, district engineer, assisted by D. J. F. Calkins, R. B. Kilgore, J. S. Gatewood, Wesley Johnston, and J. R. Gatewood.

The manuscript was reviewed and assembled by P. R. Speer.

GAGING-STATION RECORDS

SNAKE RIVER

JACKSON LAKE AT MORAN, WYO.

LOCATION.—In sec. 18, T. 45 N., R. 114 W., a short distance above gates at outlet of lake at Moran, Teton County.

RECORDS AVAILABLE.—June 1, 1909, to September 30, 1927. Records for 1909 and 1910, fragmentary.

GAGE.—Inclined staff on right shore just below engineer's cottage. Zero of gage, 6,700 feet above sea level.

COOPERATION.—Gage-height record and table showing storage capacity of lake furnished by United States Bureau of Reclamation.

Jackson Lake impounds water for the irrigation of lands in the upper Snake River Valley and in the Minidoka and Twin Falls tracts. It has a capacity of 847,000 acre-feet between the elevations 6,730 and 6,769 feet above sea level.

Daily contents, in acre-feet, of Jackson Lake Reservoir, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,380	23,800	59,490	92,840	128,190	164,200	187,280	226,510	413,020	812,680	796,010	601,420
2	1,200	24,500	61,280	93,750	129,510	165,370	188,270	230,190	419,320	814,450	791,250	593,830
3	1,030	25,190	63,060	94,850	130,650	166,540	189,650	234,060	425,410	817,230	786,230	585,760
4	1,030	25,890	64,660	95,950	131,780	167,710	191,240	237,320	432,850	819,500	780,720	578,410
5	690	26,590	65,910	97,050	132,910	168,690	192,820	241,200	441,230	822,800	774,950	570,620
6	690	27,280	66,980	98,150	133,860	169,470	194,010	245,100	451,460	822,800	768,940	562,610
7	1,380	27,980	67,870	99,250	134,800	170,250	194,800	248,410	464,220	823,560	763,470	555,310
8	2,060	28,670	68,760	100,170	135,740	171,030	195,600	250,690	479,800	824,580	757,990	547,340
9	2,750	29,370	69,650	101,080	136,690	171,810	196,390	253,170	497,550	828,900	751,760	540,320
10	3,610	30,060	70,550	102,000	137,630	172,590	197,180	256,270	515,850	834,760	745,300	536,810
11	4,470	30,930	71,460	103,100	138,390	173,360	197,970	259,370	536,810	839,340	740,100	529,320
12	5,500	31,800	72,360	104,380	139,140	174,140	198,570	262,470	560,260	845,190	734,660	521,890
13	6,360	32,670	73,620	105,660	140,080	174,920	199,160	265,600	583,870	846,720	730,210	516,080
14	7,220	33,370	75,430	106,580	141,030	175,700	199,760	269,790	608,830	847,000	725,270	513,990
15	8,080	34,060	77,240	107,510	142,160	176,290	200,350	275,020	633,980	846,720	719,600	512,590
16	8,940	34,760	78,500	108,440	143,290	176,870	200,940	283,400	658,090	847,230	712,960	511,660
17	9,800	35,990	79,400	109,560	144,630	177,460	201,740	293,990	681,890	847,740	706,830	508,870
18	10,660	37,750	80,490	110,860	146,160	178,040	202,530	309,950	703,390	848,000	700,690	506,090
19	11,520	39,510	81,570	111,970	147,690	178,630	203,540	322,830	725,520	846,210	694,570	503,090
20	12,380	41,270	82,660	113,270	149,610	179,210	204,540	331,680	749,270	843,660	688,960	503,550
21	13,240	43,030	83,560	114,570	151,530	179,990	205,550	339,920	770,190	840,860	682,860	504,700
22	14,100	44,440	84,460	115,880	153,450	180,770	206,550	347,740	783,720	837,560	675,300	505,860
23	14,960	45,850	85,370	117,180	155,170	181,550	207,560	355,400	790,000	834,760	668,260	507,010
24	15,820	46,900	86,270	118,290	156,900	182,140	208,560	360,440	793,760	831,190	661,000	509,340
25	16,680	48,660	87,170	119,410	158,620	182,720	209,970	365,920	794,260	827,120	653,730	511,900
26	17,370	50,420	88,070	120,340	160,160	183,320	211,580	371,410	796,520	823,050	646,240	513,520
27	18,590	52,180	88,990	121,270	161,690	183,910	213,390	379,170	801,060	819,250	639,020	514,450
28	20,330	53,970	89,910	122,380	163,030	184,510	215,600	387,800	805,860	814,700	631,090	515,850
29	21,540	55,750	90,640	123,680	-------	185,100	218,410	394,460	808,900	810,410	623,640	517,240
30	22,410	57,530	91,370	125,360	-------	185,690	222,430	401,840	809,900	805,610	616,000	519,100
31	23,110	-------	92,110	126,870	-------	186,290	-------	407,430	-------	801,060	608,830	-------

SNAKE RIVER NEAR MORAN, WYO.

LOCATION.—In sec. 17, T. 45 N., R. 114 W., 1½ miles below Moran post office, Teton County, and United States Bureau of Reclamation dam at outlet of Jackson Lake. No large tributaries between dam and station.

DRAINAGE AREA.—820 square miles.

RECORDS AVAILABLE.—September 21, 1903, to September 30, 1927.

EQUIPMENT.—Stevens 8-day water-stage recorder on left bank. Discharge measurements made from cable 100 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed of gravel and boulders. One channel at all stages. Control not permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, from water-stage recorder, 9.82 feet at noon June 25 (discharge, 14,200 second-feet); minimum stage, 0.00 foot on numerous dates when gates at Jackson Lake Dam were closed (discharge, 10 second-feet).

1903–1927: Maximum stage recorded, 10.41 feet at 8 p. m. June 12, 1918 (discharge, 15,100 second-feet); practically no flow during a few days in 1907 and 1909 as a result of closing of gates in Jackson Lake Dam.

DIVERSIONS AND REGULATION.—No diversions between dam and station and none above Jackson Lake. Flow controlled by operation of gates in Jackson Lake Dam. Storage capacity of reservoir, 847,000 acre-feet.

ACCURACY.—Stage-discharge relation shifting June 5 to September 30; slightly affected by ice. Rating curve used prior to June 5 well defined between 20 and 12,000 second-feet and checked by measurement on October 6 at discharge of 22.6 second-feet. Shifting period based on 11 discharge measurements ranging from 38.6 to 11,400 second-feet. Gage read to hundredths once daily October 8 to May 30; operation of water-stage recorder for rest of year satisfactory. Daily discharge obtained by applying daily or mean daily gage height to rating table; shifting-control method used June 5 to September 30. Records good except those during winter, which are fair.

COOPERATION.—Gage-height record and three discharge measurements furnished by United States Bureau of Reclamation.

Daily discharge, in second-feet, of Snake River near Moran, Wyo., for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	738	10	10	10	10	10	10	73	69	6,320	4,230	4,870
2	655	10	10	10	10	10	10	64	64	6,280	4,240	4,920
3	630	10	10	10	10	10	10	60	60	6,250	4,230	4,910
4	624	10	10	10	10	10	10	56	60	6,270	4,230	4,890
5	405	10	10	10	10	10	10	52	78	6,710	4,230	4,910
6	137	10	10	10	10	10	10	49	108	5,780	4,230	4,920
7	21	10	10	10	10	10	10	45	163	5,640	4,210	4,920
8	16	10	10	10	10	10	10	52	266	4,390	4,240	4,890
9	14	10	10	10	10	10	10	60	194	3,190	4,240	4,890
10	12	10	10	10	10	10	10	69	190	2,950	4,230	4,920
11	11	10	10	10	10	10	10	82	295	2,300	4,210	4,870
12	11	10	10	10	10	10	10	103	295	2,680	4,210	4,630
13	10	10	10	10	10	10	10	114	270	4,260	4,230	2,890
14	10	10	10	10	10	10	10	120	451	4,240	4,210	1,840
15	10	13	10	10	10	10	10	108	440	3,270	4,210	1,520
16	10	16	10	10	10	10	10	98	548	2,870	4,230	1,820
17	10	21	10	10	10	10	10	92	548	3,060	4,210	2,310
18	10	26	10	10	10	10	10	87	503	3,640	4,230	2,320
19	10	29	10	10	10	10	10	82	565	4,230	4,190	1,450
20	10	35	10	10	10	10	10	82	588	4,260	4,470	56
21	10	24	10	10	10	10	10	82	1,620	4,230	4,910	38
22	10	18	10	10	10	10	10	85	6,730	4,190	4,890	36
23	10	15	10	10	10	10	10	85	9,210	4,230	4,890	38
24	10	13	10	10	10	10	41	82	11,600	4,260	4,890	49
25	10	12	10	10	10	10	45	78	12,500	4,240	4,890	56
26	10	12	10	10	10	10	52	78	10,800	4,210	4,890	47
27	10	11	10	10	10	10	60	73	11,200	4,210	4,910	40
28	10	10	10	10	10	10	64	71	11,100	4,210	4,890	40
29	10	10	10	10	------	10	73	71	9,500	4,210	4,890	47
30	10	10	10	10	------	10	82	71	8,440	4,210	4,910	43
31	10	------	10	10	------	10	------	71	------	4,210	4,870	------

Monthly discharge of Snake River near Moran, Wyo., for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	738	10	112	6,890
November	35	10	13.8	821
December	10	10	10	615
January	10	10	10	615
February	10	10	10	555
March	10	10	10	615
April	82	10	21.6	1,290
May	120	45	77.3	4,750
June	12,500	60	3,280	195,000
July	6,710	2,300	4,350	267,000
August	4,910	4,190	4,470	275,000
September	4,920	36	2,440	145,000
The year	12,500	10	1,240	898,000

SNAKE RIVER NEAR HEISE, IDAHO

LOCATION.—In sec. 5, T. 3 N., R. 41 E., 600 feet above Anderson Dam, Bonneville County, 3 miles above Heise, and 25 miles below site of station formerly maintained near Lyon. Several small creeks enter between old site and present station.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—September 25, 1910, to September 30, 1927.

EQUIPMENT.—Friez water-stage recorder on left bank. Discharge measurements made from cable 100 feet above gage. Zero of gage at 5,016.90 feet, sea-level datum.

CHANNEL AND CONTROL.—Bed composed of rock ledge, coarse gravel, and cobblestones. One channel at all stages. Control formed by Anderson Dam, greater part of which washed out on May 19.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 13.90 feet at 10.50 a. m. May 19 during flood caused by the washing out of the landslide on Gros Ventre River in Wyoming (discharge not definitely determined but believed to have been about 60,000 second-feet); minimum stage recorded, 1.27 feet at 3 p. m. February 10 (discharge, 2,000 second-feet).

1910–1927: Maximum discharge, that of May 19, 1927; minimum discharge, that of February 10, 1927 (discharge may have been less during ice-affected periods).

DIVERSIONS AND REGULATION.—One canal with maximum capacity of about 30 second-feet diverts water 1 mile above station and several canals divert from tributary streams in Swan Valley section, 30 miles upstream. Flow controlled to a large extent at outlet of Jackson Lake Reservoir where water is generally stored during winter and released during later part of summer.

ACCURACY.—Stage-discharge relation changed January 4–14, May 19, June 3–27; seriously affected by ice December to February. Rating curves applicable between shifts are well defined between 2,000 and 30,000 second-feet by 18 discharge measurements obtained during year. Operation of water-stage recorder satisfactory except October 3–8 and 24–27, when no records were obtained, December 14 to March 28, when daily staff readings were used, and at times between May 19 and June 2, when intake to float well was partly clogged. Discharge ascertained by applying mean daily gage height to rating table; shifting-control method used January 4–14, May 19, and June 3–27. Records good except those for periods of shifting control or ice effect, which are fair.

Daily discharge, in second-feet, of Snake River near Heise, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,720	2,670	3,420			2,310	2,800	13,700	12,300	27,600	11,600	9,400
2	3,740	2,710	3,340			2,230	2,930	14,700	12,400	24,500	11,600	9,220
3	3,640	2,710	3,260		2,750	2,190	3,180	13,400	13,100	23,500	11,300	9,180
4	3,550	2,670	3,260			2,230	3,200	11,900	15,100	23,700	11,000	9,220
5	3,450	2,660	3,240			2,230	3,070	11,300	16,600	24,800	10,800	9,110
6	3,360	2,710	3,070		2,350	2,260	3,140	10,700	17,900	23,800	10,600	9,070
7	3,260	2,860	2,990		2,340	2,260	3,280	10,500	20,400	21,700	10,500	9,070
8	3,170	2,800	2,970		2,320	2,290	3,570	10,500	24,000	21,100	10,400	9,070
9	3,070	2,640	2,880	2,750	2,350	2,290	3,720	9,810	26,000	20,200	10,300	9,330
10	3,100	2,570	2,660		2,000	2,240	3,510	9,170	26,200	18,500	10,200	11,000
11	3,030	2,590	2,750			2,180	3,380	9,040	27,000	18,000	10,100	11,400
12	3,050	2,640			2,200	2,130	3,360	9,640	28,000	16,800	10,000	10,400
13	3,050	2,690				2,160	3,200	11,400	28,700	16,300	9,940	10,100
14	3,030	2,660			2,350	2,290	3,140	13,800	29,400	17,000	10,100	8,700
15	2,990	2,660			2,190	2,270	3,120	16,800	29,000	16,500	10,100	7,140
16	2,970	2,860	2,840		2,600	2,260	3,180	19,600	28,000	15,200	9,940	6,600
17	2,970	2,800		2,550	2,350	2,230	3,220	22,200	27,200	14,000	9,740	6,130
18	2,990	2,640		2,540	2,350	2,260	3,220	24,000	26,300	13,600	9,550	6,720
19	3,030	2,750		2,640	2,340	2,230	3,180	36,600	26,500	13,800	9,370	6,600
20	3,030	2,910	2,590	2,520	2,310	2,160	3,080	20,900	27,200	14,200	9,400	6,380
21	3,010	3,200	2,350	2,350	2,600	2,160	3,010	18,000	26,500	14,100	9,630	4,800
22	2,950	3,240	3,030		2,520	2,190	3,030	15,800	25,600	13,800	9,980	4,340
23	2,900	3,220	2,370		2,520	2,260	3,260	14,000	28,700	13,500	9,820	4,270
24	2,940	3,260			2,350	2,240	3,920	13,000	31,500	13,200	9,860	4,290
25	2,990	3,380			2,320	2,260	5,040	12,800	33,900	13,000	9,710	4,420
26	3,030	3,400		2,470	2,190	2,290	6,590	13,800	34,900	12,700	9,630	4,590
27	3,080	3,300	2,300		2,320	2,310	8,570	15,000	34,500	12,300	9,480	4,620
28	3,120	3,200			2,350	2,350	10,800	15,600	35,300	12,100	9,480	4,540
29	3,100	3,120			-------	2,470	12,100	14,700	35,000	11,900	9,480	4,590
30	2,840	3,200			-------	2,620	12,200	13,600	31,500	11,800	9,550	4,740
31	2,670	-------			-------	2,800	-------	12,800	-------	11,700	9,630	-------

NOTE.—Stage-discharge relation affected by ice Dec. 12–19, Dec. 24 to Jan. 16, Jan. 22 to Feb. 5, Feb. 11–13; discharge estimated. Discharge interpolated Oct. 3–8, 24–27, Mar. 11.

Monthly discharge of Snake River near Heise, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	3,740	2,670	3,120	192,000
November	3,400	2,570	2,890	172,000
December	3,420	-------	2,660	164,000
January	-------	-------	2,620	161,000
February	-------	2,000	2,410	134,000
March	2,800	2,130	2,280	140,000
April	12,200	2,800	4,430	264,000
May	36,600	9,040	14,800	910,000
June	35,300	12,300	26,000	1,550,000
July	27,600	11,700	16,900	1,040,000
August	11,600	9,370	10,100	621,000
September	11,400	4,270	7,300	434,000
The year	36,600	2,000	7,980	5,780,000

SNAKE RIVER AT LORENZO, IDAHO

LOCATION.—In sec. 33, T. 5 N., R. 39 E., 500 feet upstream from Oregon Short Line Railroad Bridge and one-fourth mile north of Lorenzo, Jefferson County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—April 7, 1924, to September 30, 1927.

EQUIPMENT.—Friez water-stage recorder on left bank. Discharge measurements made from two cables 1,000 feet downstream or by wading.

CHANNEL AND CONTROL.—Bed composed of gravel drift and sand. Banks subject to overflow at extremely high stages. One channel at both gage and measuring section below discharge of 2,500 second-feet. Two channels at cable section for higher stages.

EXTREMES OF DISCHARGE.—Maximum stage recorded, 9.85 feet at 6 p. m. May 19 (discharge not determined); minimum stage, −0.43 foot at 2 a. m. October 1 (discharge, 318 second-feet).

1924–1927: Maximum stage recorded, that of May 19, 1927; minimum stage, −0.58 foot at 10 a. m. September 29, 1926 (discharge, 258 second-feet).

DIVERSIONS AND REGULATION.—Numerous canal diversions above and below station. Flow controlled to a large extent at Jackson Lake Dam.

ACCURACY.—Stage-discharge relation not permanent; seriously affected by ice and observations discontinued during winter. Rating curve fairly well defined between 1,500 and 15,000 second-feet and extended for higher stages. Eleven discharge measurements obtained at fairly uniform intervals during current year. Operation of water-stage recorder satisfactory except April 10–12. Daily discharge ascertained by applying mean daily gage height to rating table; shifting-control method used July 21 to September 30. Records fair below and poor above 15,000 second-feet.

Daily discharge, in second-feet, of Snake River at Lorenzo, Idaho, for the year ending September 30, 1927

Day	Apr.	May	June	July	Aug.	Sept.	Day	Apr.	May	June	July	Aug.	Sept.
1	------	11,300	8,620	20,100	5,580	4,950	16	1,510	17,900	20,100	8,270	5,170	3,520
2	------	12,600	8,450	17,400	5,430	4,900	17	1,560	20,700	19,000	7,290	5,090	3,030
3	------	11,000	8,710	16,400	5,260	4,840	18	1,580	22,400	18,400	7,050	5,030	2,840
4	------	9,210	9,870	16,400	5,090	4,800	19	1,560	52,000	18,000	7,360	4,920	2,830
5	------	8,540	11,300	16,900	4,950	4,770	20	1,500	19,300	18,400	7,640	4,900	2,820
6	1,330	7,770	12,400	16,200	4,840	4,720	21	1,430	14,800	18,000	7,560	4,950	2,580
7	1,450	7,480	14,700	14,600	4,820	4,700	22	1,560	12,800	16,900	7,360	5,170	2,400
8	1,650	7,320	18,300	13,700	4,800	4,920	23	1,980	11,800	18,600	7,210	5,090	2,350
9	1,930	7,050	20,400	12,900	4,740	5,290	24	2,400	10,800	21,700	7,130	5,110	2,290
10	1,840	6,460	20,200	11,600	4,640	5,920	25	3,370	10,700	23,900	7,020	5,030	2,250
11	1,740	6,150	20,200	11,200	4,600	6,410	26	4,840	10,400	25,000	6,790	4,950	2,290
12	1,640	6,610	21,000	10,500	4,570	5,840	27	6,360	10,300	24,400	6,460	4,900	2,190
13	1,550	8,060	21,400	9,450	4,570	5,640	28	8,450	10,600	24,400	6,220	4,840	1,990
14	1,500	10,600	21,300	9,510	4,840	5,160	29	8,710	10,600	24,900	6,020	4,870	2,070
15	1,490	13,800	21,000	8,980	5,110	4,220	30	9,260	9,640	23,200	5,860	4,950	2,030
							31	------	8,980	------	5,790	5,000	------

NOTE.—Discharge interpolated Apr. 10, 11, and 12. No record Oct. 1 to Apr. 5.

Monthly discharge of Snake River at Lorenzo, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
April	9,260	1,330	2,890	143,000
May	32,000	6,150	11,900	732,000
June	25,000	8,450	18,400	1,090,000
July	20,100	5,790	10,200	627,000
August	5,580	4,570	4,960	305,000
September	6,410	1,990	3,820	227,000
The period				3,120,000

DIVERSIONS FROM SNAKE RIVER BETWEEN HEISE AND SHELLEY GAGING STATIONS, IDAHO

Between Heise and Shelley gaging stations 50 separate canals divert water from Snake River for irrigation. More than one-third of these head in the Great Feeder, an old channel of the river which has been equipped with head gates. Records are available from June 1, 1919, to September 30, 1927.

Stage-discharge relation on many of the canals affected by growth of aquatic plants or by operation of check gates. Rating curves well defined. Gages read daily to hundredths except during September, when occasional readings were made. Records good.

Combined daily discharge, in second-feet, of canals diverting from Snake River between Heise and Shelley gaging stations, Idaho, for the year ending September 30, 1927

Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.
1	2,890	8,060	8,040	6,190	16	8,290	8,600	6,350	4,120
2	2,960	7,460	8,210	5,890	17	8,760	8,180	6,090	4,100
3	3,340	7,480	8,170	5,700	18	9,010	8,080	5,980	4,090
4	3,470	7,060	8,180	5,630	19	8,910	7,780	6,020	4,080
5	3,500	7,850	8,070	5,520	20	9,080	8,000	6,020	3,950
6	3,720	8,000	8,000	5,340	21	9,480	8,360	6,050	3,800
7	4,000	8,070	7,760	5,370	22	9,560	8,500	6,270	3,630
8	4,220	8,350	7,680	5,580	23	9,580	8,410	6,250	3,550
9	4,470	8,730	7,650	5,610	24	9,690	8,270	6,220	3,450
10	4,720	8,310	7,680	5,640	25	9,980	8,330	6,310	3,470
11	5,130	8,510	7,600	5,740	26	9,490	8,410	6,420	3,490
12	5,410	8,550	7,460	5,370	27	9,550	8,360	6,380	3,480
13	5,800	8,030	7,260	5,100	28	9,640	8,350	6,340	3,520
14	7,010	8,900	7,040	4,540	29	9,390	8,350	6,350	3,550
15	8,040	8,830	6,790	4,300	30	9,140	8,430	6,320	3,520
					31		8,260	6,370	

NOTE.—No record Oct. 1 to May 31. Discharge interpolated for days of no gage-height record during September.

Combined monthly discharge of canals diverting from Snake River between Heise and Shelley gaging stations, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
June	9,980	2,890	6,940	413,000
July	8,900	7,060	8,220	505,000
August	8,210	5,980	6,950	427,000
September	6,190	3,450	4,580	273,000
The period				1,620,000

SNAKE RIVER NEAR SHELLEY, IDAHO

LOCATION.—In sec. 17, T. 1 N., R. 37 E., a quarter of a mile above Woodville highway bridge and 3 miles north of Shelley, Bingham County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—March 18, 1915, to September 30, 1927.

EQUIPMENT.—Water-stage recorder on right bank. Discharge measurements made from cable 600 feet above gage or by wading.

CHANNEL AND CONTROL.—Bed composed of coarse gravel and cobblestones. Banks high and not subject to overflow. One channel at all stages. Control formed by lava-rock reef 500 feet below gage.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 14.51 feet at 5 p. m. June 30 (discharge, 36,500 second-feet); minimum stage, 4.76 feet at 12.15 a. m. October 1 (discharge, 1,540 second-feet).

1915–1927: Maximum stage recorded, 16.97 feet at 1.30 p. m. June 17, 1918 (discharge, 47,200 second-feet); minimum stage, 3.53 feet at 11.55 a. m. September 15, 1926 (discharge, 628 second-feet).

DIVERSIONS AND REGULATION.—Most of natural summer flow of river is appropriated by numerous canals diverting above the station in the Idaho Falls district. Summer flow augmented by release of stored water from Jackson Lake Reservoir.

ACCURACY.—Stage-discharge relation changed during winter. Rating curve used October 1 to November 21 based on discharge measurements made in 1926 and checked by measurement on October 6 at discharge of 2,570 second-feet. Curve used April 1 to September 30 is well defined between 3,000 and 31,000 second-feet by 10 discharge measurements made during current year. Operation of water-stage recorder satisfactory except November 13–20 and May 2–13. Daily discharge obtained by applying mean daily gage height to rating table. Records good.

Daily discharge, in second-feet, of Snake River near Shelley, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Apr.	May	June	July	Aug.	Sept.
1	1,720	2,360	3,090	13,900	15,500	35,100	6,260	6,420
2	2,110	2,320	3,170		15,100	31,600	6,110	6,580
3	2,270	2,300	3,350		15,100	27,200	6,110	6,420
4	2,300	2,280	3,590		16,300	25,500	5,810	6,420
5	2,380	2,380	3,700		18,700	25,000	5,520	6,420
6	2,590	2,360	3,480		20,000	24,600	5,230	6,420
7	2,540	2,460	3,400		21,600	22,900	5,230	6,260
8	2,390	2,540	3,480	14,000	24,200	20,400	5,230	6,260
9	2,440	2,700	3,820		26,800	19,100	5,090	6,260
10	2,580	2,730	4,050		28,900	17,500	4,950	6,420
11	2,590	2,800	3,820		29,400	16,300	4,950	7,880
12	2,610	2,770	3,700		29,800	15,500	4,950	8,390
13	2,610		3,700		30,300	13,900	5,230	8,050
14	2,590		3,460	12,000	30,700	13,100	5,660	7,710
15	2,560		3,310	15,100	30,700	13,100	6,260	7,050
16	2,520	2,920	3,380	18,700	30,700	12,000	6,890	6,260
17	2,440		3,310	22,100	29,400	10,500	7,050	5,810
18	2,430		3,270	25,500	28,500	9,090	7,050	5,520
19	2,430		3,350	28,500	27,600	8,390	6,890	5,520
20	2,460		3,310	33,300	27,200	8,740	6,580	5,380
21	2,430	3,230	3,250	29,800	27,200	8,390	6,580	5,090
22	2,410		3,070	24,200	26,300	7,880	6,730	4,550
23	2,280		2,990	20,400	25,500	7,380	6,730	3,930
24	2,200		3,190	17,900	27,200	7,050	6,580	3,590
25	2,150		3,590	15,900	29,400	6,890	6,260	3,480
26	2,120		4,820	14,700	31,600	6,420	6,110	3,700
27	2,100		6,580	15,500	32,900	6,110	6,110	3,820
28	2,180		8,740	16,700	34,200	5,810	5,960	3,700
29	2,270		11,300	18,300	35,500	5,660	6,110	3,700
30	2,350		13,100	18,300	36,000	5,520	6,110	4,300
31	2,410			16,700		5,960	6,260	

NOTE.—No gage-height record Nov. 13–20 and May 2–13; discharge estimated by comparison with that at other stations.

Monthly discharge of Snake River near Shelley, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	2,610	1,720	2,370	146,000
November 1–21	3,230	2,280	2,690	112,000
April	13,100	2,990	4,350	259,000
May	33,300		17,600	1,080,000
June	36,000	15,100	26,700	1,590,000
July	35,100	5,520	14,300	879,000
August	7,050	4,950	6,020	370,000
September	8,390	3,480	5,710	340,000

DIVERSIONS FROM SNAKE RIVER BETWEEN SHELLEY AND BLACKFOOT BRIDGE GAGING STATIONS, IDAHO

Between Shelley and Blackfoot Bridge gaging stations 14 separate canals divert from Snake River for irrigation. Gaging stations are maintained at heading of each canal by the United States Geological Survey for the Idaho State Department of Reclamation to facilitate distribution of the water. Records are available from May 19, 1924, to September 30, 1927. From June 1, 1919, to September 30, 1923, diversions were summarized in two groups with station at Porterville Bridge for the point of division. After October 1, 1923, the intermediate point was at Blackfoot Bridge.

Stage-discharge relation on many of the canals affected by growth of aquatic plants or by operation of check gates. Rating curves well defined. Gages read to hundredths daily except during September when occasional readings were made. Records good.

Combined daily discharge, in second-feet, of canals diverting from Snake River between Shelley and Blackfoot Bridge gaging stations, Idaho, for the year ending September 30, 1927

Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.
1	1,480	3,510	3,270	2,460	16	3,680	3,830	2,300	1,620
2	1,460	2,860	3,280	2,390	17	3,630	3,810	2,230	1,710
3	1,480	2,020	3,220	2,400	18	3,720	3,670	2,240	1,730
4	1,490	1,930	3,110	2,380	19	3,680	3,430	1,960	1,760
5	1,510	1,940	3,090	2,360	20	3,780	3,410	1,750	1,810
6	1,710	2,830	3,030	2,390	21	3,770	3,510	1,860	1,840
7	1,900	3,450	3,000	2,400	22	3,820	3,420	1,890	1,850
8	2,120	3,450	2,960	2,440	23	3,840	3,400	2,090	1,790
9	2,340	3,710	2,900	2,400	24	3,930	3,440	2,300	1,680
10	2,580	3,470	2,840	2,380	25	3,860	3,250	2,460	1,670
11	2,740	3,440	2,730	2,390	26	3,830	3,180	2,450	1,760
12	2,910	3,530	2,770	2,140	27	3,710	3,300	2,460	1,770
13	3,130	3,710	2,540	1,840	28	3,720	3,270	2,540	1,570
14	3,370	3,870	2,400	1,750	29	3,690	3,270	2,510	1,480
15	3,600	3,780	2,300	1,630	30	3,660	3,250	2,490	1,330
					31		3,320	2,500	

NOTE.—No record Oct. 1 to May 31. Discharge interpolated for days of no gage height in September.

Combined monthly discharge of canals diverting from Snake River between Shelley and Blackfoot Bridge gaging stations, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
June	3,930	1,450	3,000	179,000
July	3,870	1,930	3,300	203,000
August	3,280	1,750	2,560	157,000
September	2,460	1,330	1,970	117,000
The period				656,000

SNAKE RIVER (NOS. 1 AND 2 CHANNELS) BELOW BLACKFOOT BRIDGE, NEAR BLACKFOOT, IDAHO

LOCATION.—In NW. ¼ sec. 5, T. 3 S., R. 35 E., half a mile below Blackfoot Bridge and 2 miles west of Blackfoot, Bingham County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—April 24, 1924, to September 30, 1927.

EQUIPMENT.—Friez 8-day water-stage recorder on left bank of No. 2 channel one-fourth mile below head of island where No. 1 channel separates from main river. Discharge made from cables on each channel or by wading.

CHANNEL AND CONTROL.—Bed composed of cobble in gravel drift. Control subject to occasional shifts. Banks low and subject to overflow at high stages. Two channels at gage, except at low stages when No. 1 channel is dry.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 8.30 feet from 6 to 10 p. m. June 30 (discharge not determined because of insufficient data for definition of curve); minimum discharge, 1,700 second-feet at noon September 26 (gage height, 2.87 feet).

1924–1927: Maximum stage recorded, that of June 30, 1927; channels dry on numerous days in summers of 1924 and 1926.

DIVERSIONS AND REGULATION.—Practically entire summer flow above station is appropriated by numerous diversions in Idaho Falls district. One small canal diverts between this and station at Clough ranch. Normal flow is augmented during irrigation season by release of stored water from Jackson Lake for use on Minidoka and Twin Falls tracts.

ACCURACY.—Stage-discharge relation not permanent; seriously affected by ice and observations discontinued during winter. Rating curves for medium and lower stages well defined by 16 discharge measurements made during current year and ranging from 2,000 to 13,000 second-feet; above 13,000 second-feet rating not sufficiently well defined to warrant publication of discharge. Operation of water-stage recorder satisfactory except for few days in May. Daily discharge ascertained by applying mean daily gage height to rating table. Records good except for extremely high stages when gage heights only were obtained.

At this point Snake River is divided into three channels, which are listed from east to west as Nos. 1, 2, and 3. One gage serves for Nos. 1 and 2 channels and one gage for No. 3 channel.

Daily discharge, in second-feet, of Snake River (Nos. 1 and 2 channels) below Blackfoot Bridge, near Blackfoot, Idaho, for year ending September 30, 1927

Day	Apr.	May	June	July	Aug.	Sept.	Day	Apr.	May	June	July	Aug.	Sept.
1		9,860	11,400		2,600	3,330	16	2,320	12,100		6,850	3,800	4,030
2		11,200	10,900		2,620	3,470	17	2,360	14,500		5,880	4,080	3,620
3		12,200	10,700		2,580	3,450	18	2,380	17,000		4,930	4,170	3,260
4		11,800	11,100		2,540	3,410	19	2,420			4,350	4,170	3,260
5		10,400	12,600		2,360	3,410	20	2,360			4,230	4,030	3,150
6		9,410	14,000		2,100	3,430	21	2,300			4,110	4,010	3,000
7		8,710	15,000		2,060	3,330	22	2,160			3,930	4,010	2,410
8		8,220	16,500		2,080	3,220	23	2,060			3,500	3,990	1,840
9		7,980			2,030	3,220	24	2,180			3,310	3,680	1,750
10	2,880	7,320			1,980	3,370	25	2,390	11,200		3,150	3,370	1,740
11	2,830	6,430			2,050	4,230	26	3,090	10,100		2,970	3,240	1,720
12	2,660	6,240			2,080	5,030	27	4,300	10,400		2,650	3,090	1,790
13	2,630	6,540		8,670	2,360	5,090	28	5,920	11,400		2,410	3,020	1,760
14	2,520	7,590		8,020	2,830	5,060	29	7,550	13,000		2,130	3,060	1,840
15	2,390	9,630		7,470	3,390	4,610	30	9,060	13,300		2,090	3,070	2,540
							31		12,200		2,180	3,150	

NOTE.—No record obtained Oct. 1 to Apr. 9. Ratings not sufficiently well defined to warrant publication of discharge May 19–24 and June 9 to July 12.

Monthly discharge of Snake River (Nos. 1 and 2 channels) below Blackfoot Bridge, near Blackfoot, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
April 10–30	9,060	2,060	3,270	136,000
June 1–8	16,500	10,700	12,800	203,000
July 13–31	8,670	2,030	4,260	164,000
August	4,170	1,980	3,020	186,000
September	5,090	1,720	3,180	189,000

SNAKE RIVER (No. 3 CHANNEL) BELOW BLACKFOOT BRIDGE, NEAR BLACKFOOT, IDAHO

LOCATION.—In NW. ¼ sec. 7, T. 3 S., R. 35 E., 2 miles below Blackfoot highway bridge and 3½ miles southwest of Blackfoot, Bingham County

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—May 3, 1924, to September 30, 1927.

EQUIPMENT.—Friez 8-day water-stage recorder on right bank. Discharge measurements made from cable 40 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed composed of coarse gravel over cobbles. Banks not subject to overflow except at extremely high stages. One channel at gage; several overflow channels cross island between Nos. 2 and 3 channels at high stages.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 7.08 feet 4–8 p. m. July 1 (discharge, 6,600 second-feet); minimum stage, 2.06 feet 10 a. m. to 6 p. m. September 26 (discharge, 132 second-feet).

1924–1927: Maximum stage recorded, that of July 1, 1927, channel dry on several days during 1924 and 1925.

DIVERSIONS AND REGULATION.—Practically entire natural summer flow above station is appropriated by numerous diversions in the Idaho Falls district. One small canal diverts between this and station at Clough ranch. Summer flow is augmented by release of stored water in Jackson Lake for use on Minidoka and Twin Falls tracts.

ACCURACY.—Stage-discharge relation not permanent; seriously affected by ice, observations discontinued during winter. Two rating curves used, one from April 10 to June 3 and the other from June 14 to September 30. Rating curves well defined by 19 discharge measurements which range from 158 to 6,430 second-feet and were made during current season. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying mean daily gage height to rating table; shifting-control method used June 4–13. Records good.

Daily discharge, in second-feet, of Snake River (No. 3 channel) below Blackfoot Bridge, near Blackfoot, Idaho, for the year ending September 30, 1927

Day	Apr.	May	June	July	Aug.	Sept.	Day	Apr.	May	June	July	Aug.	Sept.
1	-------	2,250	2,720	6,560	260	507	16	584	2,760	5,210	1,520	642	755
2	-------	2,620	2,590	5,950	278	556	17	584	3,470	5,040	1,270	732	635
3	-------	2,890	2,550	5,210	269	542	18	584	4,200	4,740	970	762	514
4	-------	2,740	2,590	4,700	260	542	19	598	4,880	4,520	808	755	507
5	-------	2,360	2,980	4,580	222	542	20	591	5,860	4,360	815	755	458
6	-------	2,090	3,350	4,400	173	549	21	584	5,900	4,340	808	695	420
7	-------	1,910	3,530	3,990	162	528	22	556	4,700	4,160	702	702	269
8	-------	1,790	3,930	3,390	167	479	23	528	3,740	3,910	549	695	159
9	-------	1,740	4,500	3,000	162	486	24	549	3,130	4,240	472	605	140
10	710	1,570	4,940	2,760	159	528	25	591	2,700	4,720	446	514	134
11	710	1,390	5,000	2,470	167	740	26	762	2,430	5,190	388	472	134
12	665	1,350	5,090	2,230	170	1,030	27	1,010	2,490	5,590	287	432	145
13	658	1,430	5,170	1,960	207	1,050	28	1,340	2,710	5,840	238	406	148
14	635	1,660	5,150	1,730	319	1,050	29	1,770	3,100	6,140	190	420	153
15	605	2,100	5,190	1,690	500	927	30	2,060	3,220	6,430	159	420	282
							31	-------	2,940	-------	177	446	------

NOTE.—No record Oct. 1 to Apr. 9.

Monthly discharge of Snake River (No. 3 channel) below Blackfoot Bridge, near Blackfoot, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
April 10–30	2,060	528	794	33,100
May	5,900	1,350	2,840	175,000
June	6,430	2,550	4,460	265,000
July	6,560	159	2,080	128,000
August	762	159	417	25,600
September	1,050	134	497	29,600
The period				656,000

Combined daily discharge, in second-feet, of Snake River (Nos. 1, 2, and 3 channels) below Blackfoot Bridge, near Blackfoot, Idaho, for the year ending September 30, 1927

Day	Apr.	May	June	July	Aug.	Sept.	Day	Apr.	May	June	July	Aug.	Sept.
1	------	12,100	14,100	------	2,860	3,840	16	2,900	14,900	------	8,270	4,440	4,780
2	------	13,800	13,500	------	2,900	4,030	17	2,940	18,000	------	7,150	4,810	4,260
3	------	15,100	13,200	------	2,850	3,990	18	2,960	21,200	------	5,900	4,930	3,770
4	------	14,500	13,700	------	2,800	3,950	19	3,020	------	------	5,160	4,920	3,770
5	------	12,800	15,600	------	2,580	3,950	20	2,950	------	------	5,080	4,780	3,610
6	------	11,500	17,400	------	2,270	3,980	21	2,880	------	------	4,950	4,700	3,420
7	------	10,600	18,500	------	2,220	3,860	22	2,720	------	------	4,830	4,710	2,680
8	------	10,000	20,400	------	2,250	3,700	23	2,590	------	------	4,650	4,680	2,000
9	------	9,720	------	------	2,190	3,710	24	2,730	------	------	3,780	4,280	1,890
10	3,590	8,890	------	------	2,140	3,900	25	2,980	13,900	------	3,610	3,880	1,870
11	3,540	7,820	------	------	2,220	4,970	26	3,850	12,500	------	3,360	3,710	1,850
12	3,320	7,590	------	------	2,250	6,060	27	5,310	12,900	------	2,940	3,520	1,940
13	3,290	7,970	------	10,600	2,570	6,140	28	7,260	14,100	------	2,650	3,430	1,910
14	3,160	9,250	------	9,750	3,150	6,110	29	9,320	16,100	------	2,370	3,480	1,990
15	3,000	11,700	------	9,160	3,890	5,540	30	11,100	16,500	------	2,190	3,490	2,820
							31	------	15,100	------	2,360	3,600	------

NOTE.—No record Oct. 1 to Apr. 9. Data for May 19–24 and June 9 to July 12, insufficient to warrant publication of discharge.

Combined monthly discharge of Snake River (Nos. 1, 2, and 3 channels) below Blackfoot Bridge, near Blackfoot, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
April 10–30	11,100	2,590	4,070	170,000
June 1–8	20,400	13,200	15,800	251,000
July 13–31	10,600	2,190	5,160	194,000
August	4,930	2,140	3,440	212,000
September	6,140	1,850	3,680	219,000

DIVERSION FROM SNAKE RIVER BETWEEN BLACKFOOT BRIDGE AND CLOUGH RANCH GAGING STATIONS, IDAHO

Between Blackfoot Bridge and Clough ranch gaging stations, one small canal (Smith-Maxwell Canal) diverts water from Snake River for irrigation. A gaging station is maintained at heading of canal by the United States Geological Survey for the Idaho State Department of Reclamation to facilitate distribution of the water. Records are available May 1, 1924, to September 30, 1927.

Stage-discharge relation affected by growth of aquatic plants. Rating curve fairly well defined. Gage read to hundredths daily May 8 to September 30. Records fair.

Daily discharge, in second-feet, of canal diverting from Snake River between Blackfoot Bridge and Clough ranch gaging stations, for the irrigation season of 1927

Day	May	June	July	Aug.	Sept.	Day	May	June	July	Aug.	Sept.
1	0	8	16	19	0	16	7	17	0	2	1
2	0	8	14	18	0	17	7	17	0	1	0
3	0	8	12	19	0	18	7	16	0	1	0
4	0	8	11	18	0	19	7	16	0	1	0
5	0	9	10	17	0	20	7	15	0	1	0
6	0	10	10	15	0	21	7	14	0	1	0
7	0	11	9	17	0	22	7	13	13	1	0
8	4	14	8	19	0	23	7	13	12	0	0
9	6	17	7	19	0	24	7	23	12	0	0
10	6	17	6	15	0	25	7	25	12	0	0
11	6	17	5	18	0	26	7	12	11	0	0
12	6	17	4	17	1	27	7	13	19	0	0
13	7	17	2	3	1	28	7	18	19	0	0
14	7	17	3	2	1	29	7	25	15	0	0
15	7	17	1	2	1	30	7	16	15	0	0
						31	7	-------	17	0	0

NOTE.—No record Oct. 1 to Apr. 30.

Monthly discharge of canal diverting from Snake River between Blackfoot Bridge and Clough ranch gaging stations, for the irrigation season of 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
May	7	0	5.19	319
June	25	8	14.9	887
July	19	0	8.48	521
August	19	0	7.29	448
September	1	0	.17	10
The period				2,180

SNAKE RIVER AT CLOUGH RANCH, NEAR BLACKFOOT, IDAHO

LOCATION.—In sec. 31, T. 3 S., R. 34 E., a quarter of a mile below mouth of Blackfoot River and 14 miles southwest of Blackfoot, Bingham County. Blackfoot River is the only large tributary between station and mouth of Henrys Fork, 60 miles upstream. Portneuf and Bannock Rivers and about 2,500 second-feet of spring water enter between this station and station at Neeley.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—June 6, 1910, to September 30, 1927.

EQUIPMENT.—Friez water-stage recorder on right bank; installed July 6, 1913. Discharge measurements made from cable 50 feet above gage or by wading.

CHANNEL AND CONTROL.—Bed composed of very coarse gravel. Two channels at low and medium stages. Control subject to slight shifts.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 12.62 feet from 6 a. m. to 1 p. m. July 1 (discharge, 33,700 second-feet); minimum stage, 2.31 feet at 12.30 a. m. October 1 (discharge, 618 second-feet).

1910–1927: Maximum stage recorded, 14.8 feet (approximately) at 5 p. m. June 18, 1918 (discharge, about 46,200 second-feet; exact discharge uncertain because of probable shift in stage-discharge relation at this time); minimum stage, 1.93 feet at 6 p. m. August 25, 1919 (discharge, 118 second-feet).

DIVERSIONS AND REGULATION.—Practically entire natural summer flow of river is diverted above station. Flow regulated by storage in Jackson Lake Reservoir and in Blackfoot-Marsh Reservoir on Blackfoot River. Practically entire summer flow is released water from these reservoirs.

ACCURACY.—Stage-discharge relation changed; not seriously affected by ice. Rating curves are well defined by 32 discharge measurements covering range between 2,200 to 25,000 second-feet and made during year. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying mean daily gage height to rating rable, using shifting-control method October 1–31 and July 2 to September 30. Records good.

Daily discharge, in second-feet, of Snake River at Clough ranch, near Blackfoot, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	821	1,790	3,190	1,840	2,200	2,820	2,580	12,600	14,800	33,600	2,950	4,090
2	1,220	1,800	3,260	2,000	2,350	2,800	2,680	14,200	14,200	30,900	3,160	4,400
3	1,590	1,800	3,330	2,350	2,380	2,780	2,750	15,600	13,900	26,800	3,090	4,190
4	1,730	1,840	3,240	2,290	2,520	2,760	2,990	15,400	14,100	23,400	3,000	4,190
5	1,450	1,810	3,160	2,350	2,540	2,840	3,190	13,700	16,000	22,900	2,810	4,190
6	1,530	1,890	3,240	2,500	2,540	2,920	3,140	12,200	17,800	22,000	2,410	4,190
7	1,590	1,920	3,280	2,810	2,520	2,970	2,970	11,100	18,700	20,100	2,320	3,990
8	1,530	2,030	3,110	2,670	2,440	2,970	3,070	10,400	20,400	17,400	2,440	3,800
9	1,490	2,150	2,990	2,670	2,180	2,790	3,170	10,300	23,000	15,400	2,460	3,900
10	1,530	2,280	2,870	2,650	2,130	2,730	3,400	9,450	25,200	14,400	2,320	4,090
11	1,580	2,320	2,840	2,470	1,840	2,730	3,450	8,200	26,200	12,900	2,420	4,820
12	1,550	2,360	2,840	2,270	1,570	2,700	3,290	7,750	26,600	12,000	2,470	6,540
13	1,540	2,400	2,560	2,170	1,510	2,640	3,210	8,050	27,100	10,600	2,710	6,810
14	1,500	2,440	1,930	2,350	1,540	2,620	3,120	9,290	27,100	9,510	3,310	6,670
15	1,400	2,440	1,770	2,520	1,900	2,670	2,990	11,500	27,500	9,230	4,130	6,020
16	1,320	2,420	1,610	2,640	2,130	2,750	2,890	14,600	27,100	8,440	4,850	5,280
17	1,240	2,520	1,450	2,590	2,280	2,700	2,920	17,400	26,600	7,140	5,420	4,610
18	1,170	2,620	2,060	2,460	2,420	2,680	2,970	20,800	25,200	5,720	5,520	4,190
19	1,140	2,600	2,560	2,560	2,500	2,640	3,040	23,900	24,400	5,100	5,520	4,190
20	1,150	2,590	2,830	2,540	2,580	2,600	2,970	28,400	23,400	5,170	5,540	3,990
21	1,170	2,680	2,780	2,320	2,740	2,540	2,920	30,300	23,400	5,210	5,120	3,710
22	1,370	2,890	2,730	1,890	2,900	2,470	2,810	24,800	22,600	4,820	5,140	3,170
23	1,080	3,140	2,560	1,780	3,060	2,450	2,680	20,000	21,200	4,230	5,050	2,280
24	950	3,220	2,410	1,670	3,090	2,420	2,750	17,200	22,100	3,940	4,610	2,100
25	880	3,220	2,290	1,550	2,920	2,400	2,940	15,000	24,800	3,750	4,090	2,060
26	803	3,290	1,990	1,440	2,890	2,380	3,580	13,500	27,100	3,530	3,900	2,000
27	749	3,360	1,890	1,330	2,870	2,410	4,780	13,500	28,900	3,090	3,710	2,140
28	794	3,350	1,860	1,790	2,850	2,420	6,760	14,600	30,300	2,790	3,620	2,200
29	900	3,260	1,750	1,890	-------	2,410	9,450	16,600	31,700	2,530	3,800	2,360
30	1,020	3,170	1,800	2,040	-------	2,440	11,500	17,400	32,700	2,330	3,800	3,140
31	1,440	-------	1,860	2,110	-------	2,500	-------	16,000	-------	2,410	3,900	-------

NOTE.—No gage-height record Nov. 26, Dec. 15, 16, Jan. 23–26, Feb. 21, 22, Feb. 27 to Mar. 3, 23–25, Apr. 8; discharge interpolated.

Monthly discharge of Snake River at Clough ranch, near Blackfoot, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	1,730	749	1,270	78,100
November	3,360	1,790	2,520	150,000
December	3,300	1,450	2,520	155,000
January	2,810	1,330	2,210	136,000
February	3,090	1,510	2,410	134,000
March	2,970	2,380	2,640	162,000
April	11,500	2,580	3,700	220,000
May	30,300	7,750	15,300	941,000
June	32,700	13,900	23,500	1,400,000
July	33,600	2,320	11,300	695,000
August	5,540	2,320	3,730	229,000
September	6,810	2,000	3,980	237,000
The year	33,600	749	6,260	4,540,000

AMERICAN FALLS RESERVOIR AT AMERICAN FALLS, IDAHO

LOCATION.—In secs. 29 and 30, T. 7 S., R. 31 E., at outlet gates 1 mile from American Falls, Power County.

RECORDS AVAILABLE.—March 1, 1926, to September 30, 1927.

GAGE.—Stevens 8-day water-stage recorder attached to upstream retaining wall at west end of dam.

COOPERATION.—Gage-height record and table showing storage capacity of reservoir furnished by United States Bureau of Reclamation.

American Falls Reservoir impounds water for supplemental irrigation of lands in the Minidoka and North and South Side Twin Falls tracts and also stores water for some future irrigation development. It has a capacity of 1,700,000 acre-feet between elevations 4,295.70 and 4,354.50 feet, sea-level datum.

Daily contents, in acre-feet, of American Falls Reservoir at American Falls, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,390	21,040	217,060	407,030	467,320	603,730	789,560	980,610	1,406,370	1,693,270	1,611,270	1,440,310
2	4,670	25,740	226,020	411,900	468,670	609,980	794,750	999,410	1,407,400	1,702,240	1,599,310	1,436,190
3	5,230	30,340	235,590	417,310	471,420	616,550	802,540	1,021,730	1,406,370	1,698,320	1,590,620	1,432,590
4	5,550	34,640	243,380	423,880	473,640	622,670	810,320	1,039,220	1,408,430	1,680,940	1,584,100	1,426,940
5	5,630	39,240	254,650	429,930	476,950	629,120	817,360	1,060,790	1,413,570	1,674,220	1,573,230	1,423,850
6	5,270	43,010	263,300	432,820	481,100	636,210	827,080	1,081,740	1,421,280	1,669,760	1,566,710	1,414,600
7	5,390	48,490	272,840	434,920	486,080	644,260	832,030	1,097,970	1,432,590	1,665,340	1,555,970	1,409,970
8	5,710	53,600	283,080	438,340	490,780	651,770	834,700	1,111,500	1,441,330	1,665,340	1,547,450	1,406,370
9	5,590	59,000	292,430	440,440	495,760	659,410	846,130	1,125,240	1,456,760	1,671,970	1,540,000	1,402,820
10	5,510	64,840	301,790	442,820	500,290	668,370	856,800	1,140,450	-------	1,683,190	1,529,350	1,398,280
11	5,470	69,500	306,160	444,970	502,570	676,010	867,630	1,155,670	1,493,410	1,694,400	1,520,830	1,394,250
12	5,590	74,640	317,660	446,590	505,980	682,670	872,730	1,165,430	-------	1,698,880	1,511,250	1,396,770
13	-------	78,420	327,630	447,670	507,980	688,480	882,140	1,172,020	1,538,930	1,702,240	1,503,880	1,394,250
14	-------	84,260	329,770	449,280	511,110	693,950	888,810	1,177,670	1,551,710	1,701,120	1,498,650	1,399,790
15	-------	89,560	333,800	451,170	512,820	700,100	896,650	1,184,730	1,567,790	1,694,400	1,496,550	1,404,330
16	4,430	95,780	335,460	453,320	517,090	703,510	895,480	1,191,800	1,586,270	1,706,720	1,495,510	1,404,330
17	-------	101,480	337,360	455,740	521,360	710,690	899,010	1,197,450	1,603,660	1,707,840	1,493,410	1,408,430
18	-------	106,430	340,450	457,900	527,700	716,150	902,570	1,222,660	1,613,440	1,708,960	1,492,890	1,410,480
19	4,790	112,490	343,120	459,520	533,570	724,590	911,070	1,243,280	-------	1,703,360	1,492,890	1,408,430
20	4,790	119,160	348,490	462,210	539,140	731,260	917,940	1,271,320	1,625,540	1,697,760	1,492,890	1,408,430
21	4,910	124,580	354,350	464,900	545,010	738,280	923,200	1,317,290	1,624,430	1,693,270	1,491,320	1,408,430
22	-------	132,590	359,240	467,060	554,690	739,680	924,820	1,354,910	1,625,540	1,686,550	1,490,270	1,406,370
23	5,800	139,850	364,120	466,790	564,680	747,060	927,250	1,371,550	1,621,120	1,683,190	1,489,220	1,404,330
24	5,470	149,000	369,090	466,250	572,250	745,650	930,880	1,376,590	1,618,910	1,674,220	1,486,610	1,398,280
25	4,990	157,360	373,850	465,440	578,610	755,600	934,930	1,387,190	1,624,990	1,666,450	1,483,990	1,396,260
26	5,110	169,510	379,100	464,900	584,970	759,560	936,140	1,385,170	1,627,750	1,660,920	1,474,560	1,395,250
27	5,070	178,460	383,850	463,020	591,530	764,610	936,140	1,384,160	1,634,380	1,654,290	1,473,520	1,393,240
28	9,000	186,340	387,860	463,290	597,160	767,140	938,160	1,386,180	1,652,070	1,645,440	1,472,470	1,389,710
29	11,510	196,000	392,670	463,290	-------	772,910	949,310	1,391,220	1,668,660	1,637,700	1,457,810	1,389,200
30	14,400	205,790	397,280	464,090	-------	780,480	963,920	1,396,770	1,676,460	1,628,860	1,455,730	1,389,200
31	17,990	-------	402,410	465,440	-------	781,920	-------	1,402,310	-------	1,620,010	1,447,500	-------

NOTE.—No record Oct. 13, 14, 15, 17, 18, 22, June 10, 19. Gates closed for storage Oct. 27.

SNAKE RIVER AT NEELEY, IDAHO

LOCATION.—In sec. 11, T. 8 S., R. 30 E., half a mile north of Neeley post office, Power County, 4 miles northwest of American Falls, and 32 miles above Minidoka Dam. Portneuf River, Bannock Creek, and about 2,500 second-feet of spring water enter Snake River between this and the station at Clough ranch. Raft River enters 18 miles below Neeley.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—March 17, 1906, to September 30, 1927.

EQUIPMENT.—Friez 8-day water-stage recorder on left bank. Discharge measurements made from cable at gage.

CHANNEL AND CONTROL.—Bed at measuring section rough. Banks high. One channel at all stages. Control composed of lava rock partly overlain with coarse gravel; shifts slightly.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 11.37 feet 6 to 9 p. m. July 2 (discharge, 33,800 second-feet); minimum discharge, about 180 second-feet for several hours October 31, March 20, and April 5, when gates were closed at American Falls Reservoir.

1906–1927: Actual maximum stage doubtful; maximum mean daily stage, 13.5 feet June 20, 1918 (discharge, 48,400 second-feet); minimum discharge, that of October 31, 1926, March 20 and April 5, 1927.

DIVERSIONS AND REGULATION.—Numerous canals near Blackfoot and Idaho Falls divert practically entire natural summer flow of Snake River. American Falls Reservoir about 4 miles above station controls flow except for small fluctuations due to operation of power plant of Idaho Power Co. just below reservoir.

ACCURACY.—Stage-discharge relation not entirely permanent; slightly affected by ice. Rating curve well defined by a great number of discharge measurements, of which 22, ranging from 1,000 to 25,000 second-feet, were made during current year. Operation of water-stage recorder satisfactory except for short periods when well was frozen. Daily discharge ascertained by applying mean daily gage height to rating table, using shifting-control method July 10 to September 30. Records good except those for estimated periods, which are fair.

Daily discharge, in second-feet, of Snake River at Neeley, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
	3,440	3,410	1,220	1,850		2,500	2,340	5,420	17,640	30,430	9,920	9,140
	3,580	2,240	1,230		4,230	2,480	2,340	6,220	17,640	32,770	9,890	9,100
	3,900	2,210	1,220	1,860		2,520	2,340	7,150	16,590	33,740	9,810	9,100
	4,240	2,300	1,150		4,200	2,260	2,320	6,870	14,530	33,220	9,850	9,030
	4,370	2,300	1,130	3,900	3,680	1,910	1,360	6,870	14,620	29,750	9,310	9,000
	4,160	2,200	1,130	4,420	2,960	1,850	2,360	6,870	14,920	26,240	8,780	9,000
	4,240	1,980	1,070	4,390	2,960	1,820	2,380	6,900	15,350	24,030	9,000	8,890
	4,370	1,910	1,040	4,340	2,980	1,840	2,380	6,900	15,790	17,660	9,240	8,960
	4,390	1,920	1,050	4,340	1,860	1,820	2,400	6,990	16,460	11,240	9,200	8,780
	4,310	2,070	1,260	4,310	3,750	1,800	2,380	6,900	16,950	11,360	9,100	8,440
	4,310	2,620	1,590	4,310	2,730	1,800	2,380	6,800	17,730	12,260	8,820	8,370
	4,290	2,610	1,440	4,340	3,110	2,150	2,380	6,990	18,420	11,980	8,580	8,130
	4,340	2,610	2,100	4,290	2,930	2,560	2,380	7,930	20,510	13,480	8,540	7,600
	4,340	2,340		4,210	2,930	2,500	2,420	9,530	22,070	12,260	8,540	7,570
	4,310	2,330		4,260	2,960	2,500	3,020	9,810	20,130	9,380	8,470	7,380
			2,870									
	4,180	2,340		4,260	2,930	2,440	3,440	10,250	21,680	8,680	8,470	7,220
	4,130	2,480		4,260	2,930	2,320	3,410	10,670	23,170	9,240	8,510	7,250
	4,030	2,550	3,000	4,290	3,070	2,320	3,410	11,120	23,170	10,140	8,470	7,280
	3,980	2,140		4,310	2,980	2,300	3,390	12,020	23,520	10,820	8,540	7,220
	3,860	2,100		4,310	3,040	1,390	3,460	10,610	24,380	10,670	8,540	7,280
			3,000									
	3,860	1,640		4,290	3,040	2,630	3,680	11,680	25,510	9,740	8,510	7,280
	3,860	1,620		4,240	3,000	2,930	3,680	16,500	24,690	8,960	8,510	7,280
	4,030	1,400		4,230	3,000	2,910	2,680	17,730	24,840	9,810	8,470	7,280
	4,030	1,260	2,260	4,220	2,980	3,000	3,700	17,320	23,770	9,960	8,440	6,400
	3,730	1,260		4,210	2,980	2,890	4,500	17,000	23,120	9,780	8,610	5,770
	3,320	1,280		4,220	2,980	2,930	5,650	16,900	23,470	9,350	9,000	5,740
	2,930	1,240	2,150	4,220	2,710	2,960	5,950	17,000	23,670	9,240	9,030	5,510
	2,150	1,230		4,230	2,540	2,800	6,070	16,770	24,540	9,170	9,310	5,390
	2,960	1,290		4,240		2,300	5,680	17,090	26,080	9,060	9,240	5,330
	2,260	1,200	1,900	4,230		2,280	5,300	17,410	28,150	8,820	9,170	4,830
	1,380			4,230		2,340		17,680		9,170	9,170	

NOTE.—Stage-discharge relation affected by ice Dec. 14–17, 19–31, Jan. 2–5, Jan. 30 to Feb. 4; discharge estimated. Gage-height record missing Jan. 23, 24, 26–28; discharge interpolated.

Monthly discharge of Snake River at Neeley, Idaho, for the year ending Septe 30, 1927

Month	Discharge in second-feet			Run- acre
	Maximum	Minimum	Mean	
October	4,390	1,380	3,780	2
November	3,410	1,200	2,000	1
December		1,040	2,000	1
January	4,420		3,950	2
February		1,860	3,140	1
March	3,000	1,390	2,360	1
April	6,070	1,360	3,340	1
May	17,700	5,420	11,200	6
June	28,200	14,500	20,800	1,2
July	33,700	8,680	14,900	9
August	9,920	8,440	8,940	5
September	9,140	4,830	7,520	4
The year	33,700	1,040	7,010	5,0

LAKE WALCOTT NEAR MINIDOKA, IDAHO

LOCATION.—In sec. 1, T. 9 S., R. 25 E., in backwater of United States Bu of Reclamation Dam, 6 miles southeast of Minidoka post office, Min County.

RECORDS AVAILABLE.—April 1, 1909, to September 30, 1927; gage heights prior to October 1, 1918.

GAGE.—Hook gage in wood stilling well on face of dam, at entrance to p house. Zero of gage, 4,200 feet above sea level.

ACCURACY.—Gage heights occasionally affected by wind.

COOPERATION.—Gage-height record and table of contents furnished by United States Bureau of Reclamation.

Lake Walcott impounds water for the irrigation of lands in the North Side South Side Minidoka projects of the United States Bureau of Reclamation has a capacity of 107,240 acre-feet between elevations 4,236 and 4,246 feet; vation of spillway 4,240 feet, sea-level datum.

Daily contents, in acre-feet, of Lake Walcott near Minidoka, Idaho, for the year ing September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	S
1	17,660	59,130	38,920	54,720	52,890	95,180	94,020	97,590	103,620	103,260	100,730	
2	18,350	57,300	38,510	54,830	53,970	95,180	96,750	103,380	103,020	101,810		
3	19,140	54,500	37,990	54,830	55,690	95,790	95,310	96,870	103,260	103,860	102,900	
4	22,690	52,250	36,750	54,930	56,330	95,910	96,390	93,200	101,810	102,900	103,620	
5	26,240	49,790	35,600	55,470	57,090	94,720	96,990	90,760	102,660	103,380	104,820	
6	30,320	47,360	34,150	56,980	55,900	94,140	95,310	88,310	103,020	102,290	104,460	
7	31,870	45,240	32,700	57,300	58,270	93,440	95,430	85,170	102,900	103,740	103,620	
8	35,710	43,130	31,770	56,870	60,200	92,270	94,020	83,200	103,140	99,880	103,620	
9	39,030	40,490	30,520	56,330	62,380	92,160	95,180	82,520	103,500	99,280	103,740	1
10	42,070	38,610	29,080	55,790	63,040	91,570	95,430	81,400	103,500	98,560	103,980	1
11	44,400	36,750	28,580	55,150	65,890	90,990	95,180	79,930	103,740	98,440	104,820	1
12	47,670	35,600	25,830	54,720	66,990	90,530	94,020	79,370	104,460	100,610	103,620	1
13	50,310	34,780	27,360	54,400	68,970	90,760	93,440	78,690	105,070	104,100	103,620	1
14	53,000	34,150	28,880	54,070	71,170	90,530	92,510	80,610	105,430	104,220	102,780	1
15	56,330	34,980	30,830	53,430	72,940	92,510	91,920	84,120	102,780	101,690	102,660	1
16	59,130	35,290	33,120	53,210	74,290	93,200	90,060	88,430	103,500	100,730	102,780	1
17	60,420	36,120	35,190	52,780	76,440	94,020	91,460	90,640	105,910	98,200	102,540	1
18	62,380	37,060	37,570	52,350	78,690	93,550	92,270	94,140	105,670	96,750	102,410	1
19	64,030	39,340	40,380	51,920	81,060	94,840	93,200	99,400	104,820	98,440	102,540	1
20	65,670	40,910	42,280	51,710	82,520	94,840	93,090	100,610	105,310	101,570	102,660	1
21	67,100	42,810	44,610	52,030	85,750	93,550	94,490	95,180	104,340	103,980	102,410	1
22	68,310	43,550	46,830	52,030	87,620	94,370	95,430	99,760	103,500	104,340	101,450	1
23	68,860	44,190	49,260	51,490	89,710	96,390	96,390	102,540	103,140	103,740	100,250	1
24	70,840	44,190	51,280	51,490	90,990	96,390	98,080	103,140	101,210	104,940	98,680	1
25	71,940	42,070	51,920	51,390	92,160	98,080	99,520	102,290	100,490	105,670	97,590	1
26	72,260	42,810	52,140	51,170	93,670	97,720	101,210	102,410	100,250	106,030	96,270	1
27	70,950	41,860	53,640	50,850	94,840	97,960	100,610	102,900	100,370	105,670	95,790	1
28	70,070	41,020	54,180	51,060	95,180	96,750	99,760	102,780	100,610	104,820	95,430	1
29	67,760	40,490	54,500	51,600		96,630	99,520	101,810	99,400	103,620	95,180	1
30	65,670	39,650	54,830	52,140		95,310	97,590	103,980	100,370	103,260	95,910	1
31	62,600		54,720	52,570		93,790		104,220		101,090	96,150	

SNAKE RIVER NEAR MINIDOKA, IDAHO

LOCATION.—In sec. 2, T. 9 S., R. 25 E., 100 yards below Howells Ferry, 1 mile below United States Bureau of Reclamation dam, 6 miles southeast of Minidoka post office, Minidoka County, nearest railroad point, and 6 miles above Montgomery Ferry gaging station, which was discontinued December 31, 1910. Raft River enters between this station and station at Neeley.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—April 21, 1910, to September 30, 1927.

EQUIPMENT.—Friez water-stage recorder on right bank. Discharge measurements made from cable 50 feet below gage.

CHANNEL AND CONTROL.—Bed composed of coarse gravel. One channel at all stages. Control shifts slightly.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 13.54 feet at 11 p. m. July 3 (discharge, 32,100 second-feet); minimum stage, 3.79 feet November 21–22 (discharge, 1,110 second-feet).

1910–1927: Maximum stage recorded, 16.02 feet at 1 a. m. June 21, 1918 (discharge, 45,900 second-feet); minimum stage, 4.05 feet from 11 a. m. to 3 p. m. October 13, 1914 (discharge, 960 second-feet).

DIVERSIONS AND REGULATION.—The North Side and South Side (Minidoka) Canals divert water between the Neeley and Minidoka stations. Nearest diversion below station is the P. A. lateral of the Twin Falls North Side Canal Co. near Milner. Flow is partly regulated by storage in Lake Walcott above Minidoka Dam (storage capacity about 67,000 acre-feet above spillway).

ACCURACY.—Stage-discharge relation permanent; not affected by ice. Rating curve is well defined by 20 discharge measurements ranging from 1,100 to 22,000 second-feet and made during year. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying mean daily gage gage height to rating table. Records good.

COOPERATION.—Gage-height record furnished by U. S. Bureau of Reclamation.

Daily discharge, in second-feet, of Snake River near Minidoka, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,400	2,570	1,440	1,940	4,030	2,190	1,710	3,480	16,080	27,870	6,630	6,520
2	2,500	2,580	1,340	1,940	4,010	2,150	1,740	4,320	15,850	29,580	6,490	6,240
3	2,540	2,580	1,480	1,960	3,990	2,260	1,660	5,690	15,510	31,630	6,490	6,380
4	2,440	2,500	1,690	1,910	4,010	2,850	1,690	6,300	12,800	31,180	6,520	6,460
5	2,250	2,340	1,680	2,140	3,970	2,180	1,860	5,920	12,520	29,260	6,600	6,320
6	2,080	2,430	1,600	3,800	2,690	2,160	1,910	5,870	12,660	23,060	6,460	6,160
7	2,220	2,480	1,570	4,500	1,990	2,070	1,870	5,690	12,870	22,980	6,460	5,790
8	2,240	2,420	1,580	4,540	2,000	2,140	1,920	5,440	12,760	16,800	6,520	5,560
9	2,160	2,320	1,550	4,470	2,030	2,120	2,040	5,480	13,540	9,730	6,460	5,410
10	2,190	2,300	1,610	4,540	2,050	2,090	2,310	5,480	13,790	8,010	6,430	5,140
11	2,360	2,280	1,620	4,590	2,050	2,090	2,370	5,060	14,110	8,100	6,430	5,060
12	2,400	2,310	1,740	4,560	2,080	2,040	2,340	5,110	15,180	7,860	6,380	5,210
13	2,340	2,340	2,050	4,520	2,050	1,950	2,320	5,480	16,570	9,540	6,350	5,560
14	2,190	2,320	2,120	4,450	2,000	2,000	2,310	5,440	19,980	11,000	6,380	6,060
15	2,210	1,560	2,110	4,430	2,110	2,140	2,310	5,560	17,410	8,250	6,350	6,680
16	2,440	1,860	2,030	4,360	2,110	2,110	2,550	5,820	17,220	7,140	6,270	5,690
17	2,660	1,680	1,960	4,470	2,140	2,070	2,580	6,350	19,580	7,190	6,300	5,160
18	2,680	1,480	1,940	4,500	2,250	2,090	2,620	6,220	20,340	6,630	6,270	4,990
19	2,540	1,470	1,900	4,540	2,240	2,090	2,480	7,190	20,220	6,400	6,140	4,990
20	2,440	1,180	1,920	4,430	2,150	2,080	2,280	10,020	21,280	6,520	6,110	4,990
21	2,430	1,110	1,990	4,320	2,160	1,980	2,260	9,540	23,190	6,660	6,410	5,360
22	2,620	1,130	1,980	4,450	2,240	1,880	2,190	10,960	21,940	6,540	6,680	5,510
23	2,600	1,140	1,980	4,410	2,260	2,020	2,140	14,580	21,980	6,400	6,600	5,540
24	2,520	1,150	2,050	4,380	2,240	2,250	2,030	15,550	22,020	6,400	6,430	5,440
25	2,780	1,540	1,960	4,340	2,250	2,460	2,580	14,620	20,630	6,400	6,490	4,540
26	2,520	1,520	2,020	4,300	2,260	2,700	3,860	14,440	20,060	6,460	6,710	4,430
27	2,820	1,570	2,050	4,270	2,190	2,650	4,680	14,880	20,550	6,430	6,770	4,320
28	2,550	1,510	1,990	4,190	2,250	2,650	4,900	14,950	22,100	6,630	6,630	4,520
29	2,630	1,620	1,990	4,030	------	2,600	4,780	15,250	23,190	6,630	6,600	4,430
30	2,600	1,590	1,990	3,930	------	2,620	4,010	15,730	24,200	6,600	6,570	4,360
31	2,550	------	1,990	3,990	------	2,150	------	15,960	------	6,630	6,600	------

Monthly discharge of Snake River near Minidoka, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	2,820	2,080	2,450	151,00
November	2,580	1,110	1,900	113,00
December	2,120	1,340	1,840	113,00
January	4,590	1,910	3,970	244,00
February	4,030	1,990	2,500	139,00
March	2,850	1,880	2,220	136,00
April	4,900	1,660	2,540	151,00
May	15,960	3,480	8,790	540,00
June	24,200	12,520	18,000	1,070,00
July	31,630	6,430	12,300	756,00
August	6,770	6,110	6,470	398,00
September	6,960	4,360	5,460	325,00
The year	31,630	1,110	5,710	4,140,00

LAKE MILNER AT MILNER, IDAHO

LOCATION.—In sec. 29, T. 10 S., R. 21 E., in backwater of Twin Falls Co.'s dam at Milner, Cassia County.

RECORDS AVAILABLE.—April 10, 1911, to September 30, 1927.

GAGE.—Hook gage supplemented by float gage in same well at dam; float gage installed June 1, 1920, and consists of target which moves directly with large float in well and automatically indicates stage on graduated scale above gage-house floor. A Lietz and a Friez water-stage recorder have also been used for short periods.

ACCURACY.—Gage heights occasionally seriously affected by wind. Gage read to hundredths twice daily.

COOPERATION.—Gage-height record furnished by North Side Canal Co. (Ltd.) and Twin Falls Canal Co.

Daily gage height, in feet, of Lake Milner at Milner, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept
1	10.44	10.42	10.74	7.86	7.73	7.69	9.68	10.09	10.96	11.00	11.05	11.0
2	10.64	10.52	10.42	7.80	7.79	7.68	9.69	9.98	10.94	10.99	11.02	11.0
3	10.59	10.64	10.08	7.80	7.62	7.74	9.76	9.99	10.95	11.01	11.03	10.9
4	11.02	10.72	10.04	7.84	7.70	7.75	9.93	10.49	10.92	11.00	11.05	11.0
5	10.92	10.54	10.38	7.80	7.70	7.69	9.82	10.64	10.96	10.99	11.08	11.0
6	10.64	10.31	10.40	7.84	7.62	7.53	9.57	10.66	10.98	10.97	11.06	10.9
7	10.24	10.10	10.30	7.86	7.40	7.76	9.73	10.71	10.97	11.00	11.01	10.8
8	10.24	10.29	10.32	7.80	7.66	7.54	9.84	10.76	10.98	10.98	11.06	10.8
9	10.17	10.17	9.96	7.74	7.72	7.62	9.87	10.86	10.96	11.00	11.05	10.8
10	9.88	9.93	9.24	7.79	7.56	7.64	9.94	10.93	10.94	11.04	11.10	10.8
11	9.82	9.83	8.46	7.80	7.75	7.73	9.70	10.90	10.96	11.02	11.06	10.8
12	9.91	10.00	7.94	7.79	7.70	7.70	9.74	10.84	10.97	11.03	10.90	10.8
13	9.95	10.15	7.87	7.80	7.76	7.63	9.93	10.91	10.95	11.02	11.01	10.8
14	9.92	10.42	7.69	7.80	7.62	7.55	9.80	10.90	10.95	11.04	10.99	10.9
15	9.84	10.66	7.80	7.83	7.66	7.87	9.49	10.82	10.94	11.03	11.09	10.8
16	9.79	9.82	7.82	7.85	7.66	7.86	9.04	10.76	10.95	11.04	11.10	10.6
17	9.70	10.66	7.82	7.76	7.66	7.88	9.19	10.58	10.96	11.06	11.08	10.3
18	9.98	10.88	7.79	7.76	7.44	7.80	9.23	10.98	10.95	11.04	11.08	10.3
19	10.20	10.95	7.77	7.85	7.73	8.06	9.54	10.58	10.96	10.94	11.04	10.4
20	10.22	10.92	7.78	7.75	7.64	8.11	9.80	10.99	10.96	10.96	10.96	10.3
21	10.11	10.97	7.80	7.32	7.64	8.15	9.81	10.95	11.00	10.95	10.90	10.4
22	9.98	10.87	7.84	7.66	7.32	8.15	9.67	10.98	10.96	11.00	10.94	10.5
23	9.91	10.81	7.88	7.83	7.58	8.20	9.88	10.90	10.98	10.96	11.04	10.5
24	9.99	10.56	7.76	7.84	7.67	8.02	9.89	10.96	11.00	10.96	10.96	10.3
25	10.05	10.50	7.83	7.92	7.74	8.52	9.86	10.98	10.96	10.94	10.90	10.3
26	10.06	10.69	7.82	7.80	7.62	8.68	10.04	11.02	10.98	11.01	10.88	10.1
27	9.74	10.75	7.76	7.74	7.74	9.15	10.36	10.98	10.99	10.95	11.04	10.0
28	10.03	10.82	7.84	7.72	7.64	9.36	10.46	10.95	10.98	10.84	11.02	9.8
29	10.01	10.86	7.76	7.70	-------	9.90	10.38	10.96	11.00	11.02	11.04	10.0
30	10.12	10.98	7.72	7.76	-------	9.94	10.46	10.98	11.01	11.00	10.92	10.0
31	10.26	-------	7.73	7.74	-------	9.80	-------	10.96	-------	11.08	11.02	-------

SNAKE RIVER AT MILNER, IDAHO

LOCATION.—In sec. 29, T. 10 S., R. 21 E., 500 yards below Milner Dam, at Milner, Twin Falls County. No tributaries enter Snake River between Minidoka station and Milner and no sizable inflow between Milner and station near Twin Falls except seepage and spring water.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—May 10, 1909, to September 30, 1927.

EQUIPMENT.—Friez recorder on left bank below highway bridge, installed May 28, 1919. Discharge measurements made from cable 400 yards above gage, from foot plank midway between gage and cable, or by wading.

CHANNEL AND CONTROL.—Bed at gage composed of lava rock, overlain with very light gravel deposits and occasional loose rock. Left bank high and steep; right bank confines flow in narrow gorge below elevation 15 feet gage datum; full river width above that point. Control practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 20.83 feet at 7 a. m. July 4 (discharge, 26,000 second-feet); minimum stage, 1.56 feet at 7 a. m. October 17 (discharge, 15 second-feet).

1909–1927: Maximum stage recorded, 20.1 feet (original gage) June 12, 1909 (discharge, 44,400 second-feet); minimum discharge, 8 second-feet August 22–26 and October 23 and 24, 1924 (gage height, 1.50 feet).

DIVERSIONS AND REGULATION.—Twin Falls Canals divert water at Milner Dam, just above station. During part of season practically entire flow of river is taken by these and other canals. Flow past the station during irrigation season is regulated at Milner Dam.

ACCURACY.—Stage-discharge relation not permanent; not seriously affected by ice. Rating curves well defined by large number of discharge measurements made in previous years, and checked by 11 measurements ranging from extremely low stages up to 23,000 second-feet made during current year. Operation of water-stage recorder satisfactory except during extremely low stages when staff gage was read to hundredths twice daily. Discharge ascertained by applying mean daily gage height to rating table, using shifting-control method February 21 to March 4, July 19, 20, and September 20. Records good.

COOPERATION.—Gage-height record and seven discharge measurements furnished by Twin Falls Canal Co. and North Side Canal Co. (Ltd.).

Daily discharge, in second-feet, of Snake River at Milner, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	19	964	886	2,950	1,230	345	228	10,540	21,530	42	20
2	18	20	964	1,060	3,250	1,230	141	221	10,060	23,470	26	80
3	18	21	754	849	3,050	1,120	274	219	9,670	25,110	26	20
4	23	211	355	849	2,760	1,480	548	291	7,460	25,110	28	185
5	21	451	455	868	3,050	1,700	754	510	6,520	24,700	29	251
6	19	447	464	1,920	2,760	1,140	369	112	6,640	18,360	27	20
7	17	443	476	3,450	899	1,320	1,130	112	6,700	17,150	24	20
8	17	710	801	3,550	615	1,170	1,190	165	6,020	12,590	27	20
9	17	912	1,780	3,450	1,060	1,100	1,750	538	6,970	4,320	184	22
10	16	743	2,260	3,150	743	1,030	1,240	245	7,210	2,300	32	26
11	16	295	2,150	3,450	1,100	1,030	212	623	7,300	1,160	77	25
12	16	138	1,700	3,450	1,030	997	391	485	8,210	1,310	24	124
13	16	33	1,700	3,450	1,250	507	2,190	126	9,110	2,130	26	514
14	16	29	1,210	3,350	1,140	244	1,630	126	13,680	4,480	25	2,430
15	16	31	1,210	3,150	1,140	515	616	127	11,980	1,990	85	3,050
16	16	26	1,030	3,250	1,170	789	321	124	10,400	738	32	2,680
17	15	31	861	3,250	1,140	795	803	116	12,920	617	31	2,140
18	17	32	843	3,150	1,320	520	460	326	14,610	476	216	1,460
19	18	32	754	3,350	1,440	476	504	246	14,350	22[illegible]	26	1,020
20	18	32	749	3,350	1,400	481	802	3,190	15,210	86	22	460

Daily discharge, in second-feet, of Snake River at Milner, Idaho, for the year ending September 30, 1927—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept
21	17	34	749	2,760	1,270	326	962	4,100	17,120	35	21	44
22	16	32	813	2,860	1,400	332	568	3,710	13,620	33	21	75
23	16	31	964	2,950	1,090	677	315	7,680	15,950	32	25	1,44
24	17	32	868	3,050	1,230	210	430	9,540	13,540	23	24	1,90
25	17	30	837	3,150	1,330	498	197	9,430	15,320	23	24	1,61
26	18	31	837	3,250	1,190	524	268	8,130	13,990	24	21	1,30
27	16	32	831	3,150	1,310	580	709	8,540	14,310	24	109	95
28	18	31	831	3,050	1,230	313	1,420	7,690	15,590	26	38	28
29	18	31	825	2,950	-------	426	1,390	8,830	17,410	28	22	1,48
30	18	603	726	2,760	-------	1,480	853	10,300	17,210	24	181	1,95
31	19	-------	585	2,760	-------	1,010	-------	10,160	-------	30	21	-----

Monthly discharge of Snake River at Milner, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	23	15	17.4	1,07
November	912	19	185	11,0
December	2,290	355	980	60,30
January	3,550	849	2,770	170,00
February	3,250	615	1,540	85,50
March	1,700	210	815	50,10
April	2,190	141	759	45,20
May	10,300	112	3,100	191,00
June	17,410	6,020	11,900	708,00
July	25,110	23	6,070	373,00
August	216	21	48.9	3,01
September	3,050	20	893	53,10
The year	25,110	15	2,420	1,750,00

SNAKE RIVER NEAR KIMBERLY, IDAHO

LOCATION.—In SE. ¼ sec. 32, T. 9 S., R. 18 E., above upper outlet of Devil's Corral, half a mile below Twin Falls, 2½ miles above Shoshone Falls, 4 miles north of Kimberly, Twin Falls County, 6½ miles northeast of the city of Twin Falls.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—July 24, 1923, to September 30, 1927.

EQUIPMENT.—An water-stage recorder on left bank; installed December 15, 1923. Discharge measurements made from cable 300 feet above gage.

CHANNEL AND CONTROL.—Bed composed of lava boulders and solid rock in deep lava canyon; very rough. Control formed by low falls 70 feet below gage; permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, from water stage recorder, 14.76 feet at 10 a. m. July 4 (discharge, 27,200 second-feet); minimum stage, 1.35 feet at 1 p. m. October 29 (discharge, 462 second-feet).

1923–1927: Maximum stage and discharge, that of July 4, 1927; minimum stage recorded, 0.80 foot May 16–20, 1924 (discharge, 378 second-feet).

DIVERSIONS AND REGULATION.—No water diverted from river between this and the station at Milner. Flow past station is regulated directly by diversion of the North and South Side Canals at Milner, where practically the entire flow is diverted during a large part of the irrigation season; flow at such times consists of inflow and seepage between this and the station at Milner.

ACCURACY.—Stage-discharge relation permanent; not affected by ice. Rating curve well defined between 370 and 15,000 second-feet, above which it is extended, based on 48 discharge measurements made during the years 1923 to 1927, of which 7 measurements ranging from 477 to 14,400 second-feet were made during current year. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height determined by inspection of recorder graph, except for days water-stage recorder was not operating. Records excellent except those for June, which are fair.

COOPERATION.—Gage-height record furnished by Idaho Power Co.

Daily discharge, in second-feet, of Snake River near Kimberly, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		471	1,160	1,090	3,550	1,620	1,060	950	11,000	21,200	638	612
2		471	1,360	1,320		1,620	676	638	10,700	23,600	746	950
3		471	1,320	1,240	3,430	1,620	531	612		25,000	576	880
4		471	1,020	1,200	3,290	1,530	625	612	8,800	25,600	542	625
5	490	612	638	1,200	3,570	1,970	1,000	835		25,600	564	625
6		915	531	1,480	3,290	1,620	932	703		19,000	650	950
7		898	932	3,430	2,080	1,360	1,000	553		17,000	576	676
8		915	968	4,010	968	1,580	1,280	576		14,400	542	638
9		1,240	1,620	4,160	1,200	1,400	1,970	650	7,700	6,120	531	625
10	490	1,240	2,550	3,430	1,360	1,400	1,660	850		2,360	676	690
11	490	1,070	2,360	4,010	1,180	1,280	1,020	703		1,580	553	612
12	490	731	2,020	4,010	1,400	1,400	625	1,110		1,710	588	588
13	490	650	1,860	4,010	1,400	1,140	1,280	690		1,710	542	600
14	490		1,710	3,860	1,480	850	2,280	553		4,810	531	1,440
15	490	500	1,440	3,710	1,400	663	1,320	542	12,500	3,160	531	3,430
16	490		1,400	3,710	1,400	1,060	731	553		1,660	564	3,290
17	490		1,280	3,860	1,480	1,140	950	531		1,000	576	2,780
18	490	490	1,220	3,710	1,530	1,110	850	510		1,120	612	2,020
19	480	510	1,220	3,710	1,660	880	820	703		865	850	1,580
20	480	510	1,120	3,860	1,810	865	835			717	676	1,320
21	480	500	1,140	3,290	1,440	880	1,180	4,500	16,300	600	600	968
22	480	500	1,160	3,290	1,970	760	1,070			510	553	1,280
23	471	490	1,220	3,290	1,440	835	775			480	542	1,810
24	471	500	1,400	3,570	1,620	932	731	10,500		471	576	2,450
25	471	490	1,160	3,570	1,620	638	703	10,500	15,100	480	638	2,080
26	471	500	1,220	3,860	1,620	1,000	576	8,970	14,000	480	564	1,760
27	471	510	1,220	3,860	1,620	790	717	9,450	14,000	480	553	1,710
28	471	510	1,200	3,710	1,620	932	1,200	8,700	15,400	520	663	1,120
29	471	500	1,220	3,570	-------	676	1,920	9,450	17,800	490	690	1,490
30	462	500	1,220	3,290	-------	985	1,480	11,000	17,000	531	760	1,790
31	462	-------	1,060	3,300	-------	1,620	-------	11,000	--------	510	676	------

NOTE.—Gage-height record missing Oct. 1–9, Nov. 14–17, Jan. 31, Feb. 1, 2, May 20–23, 28, 31, June 1, 3–24; discharge estimated on basis of comparison with flow at Milner and Twin Falls. Staff gage reading used for June 2. Braced figures show mean discharge for periods indicated.

Monthly discharge of Snake River near Kimberly, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	----------	462	483	29,700
November	1,240	471	622	37,000
December	2,550	531	1,320	81,200
January	4,160	1,090	3,210	197,000
February	----------	968	1,930	107,000
March	1,970	638	1,170	71,900
April	2,280	531	1,060	63,100
May	----------	510	3,560	219,000
June	17,800	----------	12,400	738,000
July	25,600	471	6,570	404,000
August	850	531	609	37,400
September	3,430	588	1,380	82,100
The year	25,600	462	2,860	2,070,000

SNAKE RIVER NEAR TWIN FALLS, IDAHO

LOCATION.—In sec. 33, T. 9 S., R. 17 E., at Perrine Bridge, on Blue Lakes ranch 4 miles north of Twin Falls, Twin Falls County, and 4 miles below Shoshon Falls. Outlet of Blue Lakes enters Snake River 200 feet below gage and Sal mon Falls Creek enters 24 miles downstream.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—September 29, 1911, to June 30, 1917; May 1, 1919, t September 30, 1927.

EQUIPMENT.—Combined inclined and vertical staff set in concrete on left bank 100 feet above bridge; installed August 18, 1921. Discharge measurement made from bridge.

CHANNEL AND CONTROL.—Bed at measuring section very rough. Banks high; no subject to overflow. Control composed of lava boulders and solid rock practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded durin year, 12.5 feet July (discharge, 26,000 second-feet); minimum stage, 2.3 feet at 6 p. m. April 16 July 27, and 7 a. m. August 4 (discharge, 625 second-feet).

1911–1917, 1919–1927: Maximum stage recorded, 13.3 feet at 6 a. m and 7 p. m. June 10, 1914 (discharge, 32,200 second-feet); minimum dis charge, 468 second-feet several periods in June, July, and August, 1915.

DIVERSIONS AND REGULATION.—No water is diverted from river between thi station and that at Milner, except by small ranch ditches. Flow past statio regulated directly by diversions of North Side and South Side Canals a Milner, where practically the entire flow is diverted during later part o irrigation season; flow at such times consists of inflow and seepage betwee this and the station at Milner.

ACCURACY.—Stage-discharge relation permanent; not affected by ice. Ratin curve well defined between 500 and 18,000 second-feet and fairly well define above; based on preceding curve and four discharge measurements, rangin from 7,780 to 15,200 second-feet, made during current year. Gage read t hundredths twice daily. Daily discharge ascertained by applying mea daily gage height to rating table except as indicated in footnote to table o daily discharge. Records good.

Daily discharge, in second-feet, of Snake River near Twin Falls, Idaho, for the yea ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept
1	685	655	1,900	1,180	3,820	1,760	1,320	1,520	12,100	21,700	750	85
2	685	655	3,100	1,370	4,020	1,760	970	820	11,500	24,200	970	89
3	685	655	2,920	1,470	4,420	1,760	750	750	11,200	24,900	820	1,32
4	685	655	2,760	1,370	3,640	1,640	750	750	9,880	26,000	685	1,01
5	685	718	1,010	1,370	3,820	2,150	932	785	7,620	25,700	750	8
6	685	1,010	820	1,420	3,820	1,580	1,140	970	7,860	21,400	785	1,32
7	718	1,090	1,090	3,450	2,760	1,640	970	750	7,860	17,600	820	97
8	685	1,050	1,090	4,420	1,270	1,760	1,420	750	6,900	15,700	750	89
9	685	1,220	1,760	4,640	1,180	1,580	2,150	750	8,350	6,660	718	82
10	685	1,470	3,100	3,820	1,520	1,580	1,880	1,050	8,600	3,450	785	89
11	685	1,370	2,920	4,640	1,370	1,470	1,470	820	8,600	1,880	750	1,05
12	685	1,090	2,600	4,640	1,520	1,520	858	895	9,620	1,880	750	85
13	685	820	2,150	4,420	1,470	1,580	1,090	1,010	10,400	1,880	750	85
14	685	750	2,010	4,420	1,640	1,090	2,920	785	15,700	5,290	750	1,14
15	655	718	1,760	4,020	1,580	932	1,640	718	14,200	3,820	750	4,02
16	655	718	1,580	4,020	1,580	1,010	932	718	11,800	2,150	750	3,64
17	655	750	1,640	4,220	1,640	1,320	718	718	13,200	1,320	718	2,60
18	655	785	1,420	4,220	1,580	1,320	1,090	685	15,700	1,180	785	2,60
19	655	750	1,420	4,220	1,880	1,090	932	750	15,400	1,140	970	2,01
20	655	718	1,320	4,220	1,580	1,010	970	1,010	16,000	895	970	1,64

Daily discharge, in second-feet, of Snake River near Twin Falls, Idaho, for the year ending September 30, 1927—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
21	655	718	1,320	4,020	1,760	1,010	1,180	5,520	17,600	785	858	1,370
22	655	718	1,320	4,020	2,150	970	1,270	3,640	18,000	718	718	1,420
23	685	734	1,370	3,820	1,760	895	1,050	8,350	16,700	685	750	2,010
24	655	750	1,580	4,020	1,760	1,140	785	11,000	17,300	655	750	2,920
25	655	718	1,370	4,020	1,760	895	895	11,200	16,700	655	820	2,600
26	655	718	1,370	4,020	1,880	932	750	9,100	15,100	655	785	2,150
27	655	718	1,420	4,220	1,760	1,140	750	9,880	15,100	625	750	2,150
28	655	718	1,370	4,220	1,880	1,010	1,140	9,100	15,700	655	785	1,580
29	655	718	1,370	4,020	-------	895	2,010	11,000	18,600	685	895	1,420
30	655	685	1,370	3,640	-------	970	1,320	11,800	18,200	685	932	1,880
31	655	-------	1,320	3,640	-------	1,760	-------	11,500	--------	718	932	------

NOTE.—Discharge estimated Dec. 1 and June 30 by comparison with flow at Milner, Kimberly, and Hagerman; interpolated Oct. 16–18, 31, and Nov. 23.

Monthly discharge of Snake River near Twin Falls, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	718	655	671	41,300
November	1,470	655	823	49,300
December	3,100	820	1,730	106,000
January	4,640	1,180	3,590	221,000
February	4,420	1,180	2,170	121,000
March	2,150	895	1,330	81,800
April	2,920	718	1,210	72,000
May	11,800	685	3,840	236,000
June	18,600	6,900	13,000	774,000
July	26,000	625	6,980	429,000
August	970	685	798	49,100
September	4,020	820	1,660	98,800
The year	26,000	625	3,150	2,280,000

SNAKE RIVER NEAR HAGERMAN, IDAHO

LOCATION.—In sec. 2, T. 8 S., R. 13 E., one-eighth mile above Owsley Bridge, just above Upper Salmon Falls, and 4 miles south of Hagerman, Gooding County. Big Wood River enters 11 miles downstream.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—August 24, 1912, to June 18, 1917; July 25, 1919, to September 30, 1927.

EQUIPMENT.—Friez water-stage recorder on right bank; installed April 20, 1921. Discharge measurements made from cable 100 feet below gage.

CHANNEL AND CONTROL.—Control rocky; subject to slight change owing to moss growth.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, from water-stage recorder, 7.18 feet at 4 p. m. July 4 (discharge, 31,400 second-feet); minimum stage, 3.33 feet at 6 a. m. May 17 (discharge, 5,120 second-feet).

1912–1917, 1919–1927: Maximum stage recorded, 7.75 feet at 6 p. m. June 10, 1914 (discharge, 35,100 second-feet); minimum stage, 3.1 feet July 15 to August 2, 1915 (discharge, 4,030 second-feet). Data insufficient in 1916 and 1917 for determination of maximum and minimum stages.

DIVERSIONS AND REGULATION.—No large diversions between this and the station at Milner. Practically entire flow of river is diverted at Milner during part of irrigation season by the Twin Falls Canals, and flow at Owsley Bridge is maintained largely by springs and waste water from irrigation above. Flow directly regulated by diversions of Twin Falls Canals at Milner.

ACCURACY.—Stage-discharge relation changed slightly December 8–11 and January 23–28; not affected by ice. Curve well defined between 5,000 and 20,000 second-feet used January 29 to September 30, and curves parallel thereto used October 1 to December 7 and December 12 to January 22; defined by seven discharge measurements ranging from 5,100 to 19,900 second-feet made during current year. Operation of water-stage recorder satisfactory except for breaks in record during November, December, and January. Daily discharge ascertained by applying to rating table mean daily gage height determined by inspecting recorder graph. Records excellent except estimates, which are good.

Daily discharge, in second-feet, of Snake River near Hagerman, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,330	5,330	5,330	5,970	8,180	6,420	6,190	6,190	16,000	24,900	5,540	5,970
2	5,330	5,330	5,970	5,970	8,750	6,420	5,970	5,750	16,000	28,100	5,540	5,970
3	5,330	5,330	6,190	6,190	9,040	6,420	5,540	5,330	15,300	29,800	5,750	6,420
4	5,330	5,330	6,190	6,190	8,460	6,420	5,540	5,330	14,600	30,600	5,540	6,190
5	5,330	5,330	5,750	6,190	8,180	6,420	5,540	5,330	12,200	30,600	5,540	5,970
6	5,330	5,330	5,750	6,190	8,460	6,650	5,540	5,540	11,900	26,500	5,540	5,970
7	5,330		5,750	6,890	7,640	6,420	5,540	5,970	11,900	21,800	5,540	6,190
8	5,330			8,750	6,650	6,190	5,540	6,190	11,600	21,000	5,540	6,190
9	5,330				5,750	6,420	5,970	5,970	11,600	14,200	5,540	6,190
10	5,330	5,800	6,400		5,970	6,190	6,420	5,970	12,600	8,460	5,540	6,190
11	5,330			8,750	5,970	6,190	6,190	5,970	12,600	6,890	5,540	6,190
12	5,330		7,130		5,970	6,190	5,750	5,970	12,900	6,420	5,540	6,190
13	5,330	5,540	6,650		6,190	6,190	5,330	5,970	14,200	6,420	5,750	6,190
14	5,330		6,420		6,190	5,970	6,420	5,750	16,300	7,640	5,750	6,190
15	5,330		6,190	8,750	6,420	5,750	6,420	5,540	18,100	9,040	5,750	7,910
16	5,330	5,500	5,970		6,420	5,540	5,750	5,540	16,000	7,130	5,750	9,040
17	5,330		6,190		6,420	5,970	5,540	5,540	16,700	6,190	5,750	8,750
18	5,330		6,190		6,420	5,970	5,750	5,540	18,800	5,750	5,750	7,910
19	5,330		6,190	8,600	6,650	5,970	5,540	5,540	19,600	5,750	5,750	7,380
20	5,330		6,190		6,890	5,750	5,540	5,750	19,600	5,540	5,970	7,130
21	5,330	5,540	6,190		6,890	5,750	5,540	8,460	21,000	5,540	5,750	7,380
22	5,330	5,540	6,190	7,640	6,650	5,750	5,750	9,340	21,800	5,330	5,750	7,130
23	5,330	5,540	5,970		6,650	5,540	5,750	10,900	21,000	5,330	5,750	7,380
24	5,330	5,330	5,970		6,420	5,540	5,540	14,600	21,000	5,330	5,540	8,180
25	5,330	5,330	5,970		6,420	5,750	5,330	15,300	21,000	5,330	5,540	8,180
26	5,330	5,330	5,970	8,000	6,420	5,540	5,330	13,900	18,800	5,330	5,750	7,640
27	5,540	5,540	6,190		6,420	5,750	5,330	13,900	18,800	5,330	5,750	7,380
28	5,750	5,330	5,970		6,420	5,540	5,540	14,200	19,600	5,330	5,750	7,380
29	5,750	5,330	5,970	8,460	-------	5,540	6,190	13,900	21,800	5,330	5,750	6,890
30	5,540	5,330	5,970	8,180	-------	5,540	6,420	16,000	21,800	5,330	5,970	7,130
31	5,330	-------	5,970	8,180	-------	5,750	-------	16,000	---------	5,330	5,970	------

NOTE.—Discharge estimated by comparison with flow at Twin Falls and King Hill Nov. 7–12, 14–20, Dec. 6, 8–11, Jan. 9–14, 16–21, 23–28; recorder not operating. Discharge Nov. 13, Dec. 5, Jan. 15 and 22 based upon staff-gage reading. Braced figures show mean discharge for periods indicated.

Monthly discharge of Snake River near Hagerman, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	5,750	5,330	5,370	330,000
November	----------	5,330	5,500	327,000
December	----------	5,330	6,130	377,000
January	----------	5,970	7,920	487,000
February	9,040	5,750	6,890	383,000
March	6,650	5,540	5,980	368,000
April	6,420	5,330	5,760	343,000
May	16,000	5,330	8,430	518,000
June	21,800	11,600	16,800	1,000,000
July	30,600	5,330	11,700	719,000
August	5,970	5,540	5,680	349,000
September	9,040	5,970	6,960	414,000
The year	30,600	5,330	7,760	5,620,000

SNAKE RIVER AT KING HILL, IDAHO

LOCATION.—In sec. 7, T. 5 S., R. 11 E., 300 feet east of Oregon Short Line Railroad station at King Hill, Elmore County. Big Wood River enters from north 20 miles above station.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—May 13, 1909, to September 30, 1927.

EQUIPMENT.—Inclined staff on right bank installed August 24, 1922. Discharge measurements made from cable 100 feet below gage.

CHANNEL AND CONTROL.—Bed composed largely of gravel. Control is lava reef partly overlain with gravel; shifts slightly.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, from high-water mark, 13.4 feet July 4 (discharge, 34,100 second-feet); minimum stage 5.6 feet May 6, July 23–26, 28–31 (discharge, 6,780 second-feet).

1909–1927: Maximum stage recorded, 16.3 feet June 22, 1918 (discharge, 47,200 second-feet); minimum stage, 4.5 feet July 7–9, August 15, 16, 1910 (discharge, 4,760 second-feet).

DIVERSIONS AND REGULATION.—No large diversions for irrigation are made between this and the station at Milner. Flow regulated by diversions at Milner. During parts of irrigation season practically entire flow of river is appropriated, and flow at King Hill is derived largely from springs and seepage water from the Twin Falls tracts.

ACCURACY.—Stage-discharge relation permanent; not affected by ice. Rating curve well defined below 28,000 second-feet by previous curve and 16 discharge measurements made during 1925, 1926, and 1927, 6 of which, ranging between 6,960 and 21,300 second-feet, were made during current year. Gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records good.

Daily discharge, in second-feet, of Snake River at King Hill, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7,250	7,490	7,730	7,980	10,400	9,000	9,000	7,730	17,700	24,900	7,010	7,730
2	7,250	7,490	7,980	7,730	10,900	9,000	8,740	7,490	17,700	29,000	7,250	7,980
3	7,250	7,490	8,230	7,980	11,800	9,000	8,480	7,250	17,300	30,300	7,250	8,230
4	7,250	7,490	8,740	8,230	11,800	9,260	8,230	7,250	16,600	33,300	7,250	8,230
5	7,250	7,250	8,230	8,480	11,200	10,400	7,980	7,010	14,900	31,600	7,250	7,980
6	7,250	7,250	7,730	8,480	10,900	9,800	7,980	6,780	13,600	31,600	7,250	7,980
7	7,250	7,730	7,730	8,480	10,900	9,260	8,230	7,010	13,300	23,700	7,250	7,980
8	7,250	7,730	7,730	10,600	9,000	9,000	8,230	9,000	13,300	23,700	7,250	8,230
9	7,250	7,980	7,980	10,600	7,980	8,740	8,230	8,230	13,600	22,900	7,250	8,230
10	7,250	8,230	8,230	10,600	7,980	8,480	9,000	7,980	14,000	10,900	7,250	7,980
11	7,250	8,230	9,800	10,600	8,230	8,480	8,740	7,730	14,900	8,230	7,250	7,980
12	7,250	7,980	9,530	10,600	7,980	8,230	8,230	7,980	14,600	7,730	7,250	7,980
13	7,250	7,730	9,260	11,200	8,230	8,480	7,730	8,230	15,300	7,730	7,250	8,230
14	7,250	7,730	8,740	10,900	7,980	8,480	8,230	8,230	16,600	7,730	7,250	8,230
15	7,010	7,730	8,480	10,900	8,230	8,230	9,260	7,730	21,400	10,400	7,250	8,230
16	7,250	7,730	8,480	10,900	8,230	8,230	8,230	7,730	19,100	8,230	7,250	8,230
17	7,250	7,730	8,480	10,900	8,480	8,230	7,980	7,730	18,000	8,230	7,490	8,740
18	7,250	7,490	8,230	10,900	8,740	8,230	7,730	8,230	22,200	8,230	7,490	10,400
19	7,250	7,730	8,230	10,900	9,260	8,230	7,730	8,230	21,800	7,490	7,490	9,530
20	7,250	7,490	8,230	10,900	9,260	7,980	7,730	8,740	21,000	7,250	7,250	9,530
21	7,250	7,490	8,230	10,600	12,100	7,980	7,730	9,000	22,200	7,010	7,250	9,260
22	7,250	7,490	8,230	10,400	13,600	7,980	7,730	12,400	24,100	7,010	7,250	9,260
23	7,250	7,490	8,230	10,100	10,900	8,230	7,730	10,400	23,300	6,780	7,250	9,260
24	7,250	7,490	8,230	9,800	9,260	8,230	7,730	16,300	22,600	6,780	7,250	9,260
25	7,490	7,490	8,230	9,800	9,000	8,230	7,250	17,300	22,900	6,780	7,490	10,100
26	7,490	7,490	8,230	10,400	9,000	7,980	7,250	19,100	21,400	6,780	7,490	10,400
27	7,490	7,490	8,230	10,900	9,260	7,730	7,010	16,300	20,600	7,010	7,250	10,600
28	7,730	7,730	8,230	11,200	9,000	8,230	7,250	16,000	21,400	6,780	7,250	9,260
29	7,730	7,730	7,980	10,900	-------	8,230	7,250	16,000	22,200	6,780	7,250	9,000
30	7,730	7,730	7,980	10,400	-------	8,230	7,490	16,000	24,100	6,780	7,250	8,740
31	7,730	-------	7,980	10,400	-------	8,230	-------	17,700	-------	6,780	7,490	-------

NOTE.—Owing to extreme fluctuation in stage, one daily staff reading on July 15 did not represent mean for day; discharge estimated by comparison with that at Hagermen.

Monthly discharge of Snake River at King Hill, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	7,730	7,010	7,330	451,000
November	8,230	7,250	7,640	455,000
December	9,800	7,730	8,310	511,000
January	11,200	7,730	10,100	621,000
February	13,600	7,980	9,630	535,000
March	10,400	7,730	8,520	524,000
April	9,260	7,010	8,000	476,000
May	19,100	6,780	10,400	640,000
June	24,100	13,300	18,700	1,110,000
July	33,300	6,780	13,500	830,000
August	7,490	7,010	7,290	448,000
September	10,600	7,730	8,760	521,000
The year	33,300	6,780	9,840	7,120,000

SNAKE RIVER NEAR MURPHY, IDAHO

LOCATION.—In NW. ¼ sec. 18, T. 2 S., R. 1 E., Ada County, three-fourths mile below Swan Falls power plant, 9 miles northeast of Murphy, Owyhee County, and 38 miles below mouth of Bruneau River.

DRAINAGE AREA.—41,900 square miles (measured on United States Land Office maps).

RECORDS AVAILABLE.—August 29 to October 31, 1912; August 21, 1913, to September 30, 1927.

EQUIPMENT.—An water-stage recorder on right bank a quarter of a mile below house on Glass ranch; installed July 31, 1924. Discharge measurements made from boat at ferry cable 1¼ miles above gage.

CHANNEL AND CONTROL.—Bed composed of lava rock overlain with deposits of sand, silt, and gravel, where not scoured out by current. Banks not subject to overflow. Control premanent.

EXTREMES OF DISCHARGE.—Maximum discharge estimated, 33,500 second-feet July 4–6, when water-stage recorder was not operating; minimum stage recorded, —0.96 foot 11 a. m. to noon August 6 (discharge, 6,250 second-feet).

1912–1927: Maximum stage recorded, 13.95 feet at 10 p. m. June 22, 1918 (discharge, 47,300 second-feet); minimum stage, about —2.25 feet at 6 a. m. August 6, 1917 (discharge, about 5,000 second-feet). Stage probably fell equally low at times of minimum load at power plant above station during low-water periods in 1919 to 1926, inclusive.

DIVERSIONS AND REGULATION.—A number of small pumping plants divert water for irrigation between this and the station at King Hill. Large diurnal fluctuations in stage are caused by operation of gates at dam and by variation in load at power plant, but because of small relative amount of storage obtained, changes are of short duration.

ACCURACY.—Stage-discharge relation permanent; not affected by ice. Rating curve well defined by discharge measurements of previous years but not checked by measurements during current year. Operation of water-stage recorder satisfactory except as indicated in footnote to table of daily discharge. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspection of recorder graph except for periods recorder was not operating. Records fair except those for estimated periods, which are poor.

COOPERATION.—Gage-height record furnished by Idaho Power Co.

Daily discharge, in second-feet, of Snake River near Murphy, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7,270	7,770	8,440	8,100		9,930	8,930		18,700		7,090	7,670
2	7,180	7,570	8,440			9,620	9,770	7,800	18,700	29,000	7,270	8,100
3	7,180	7,670	8,210			9,330	9,620		18,700		7,270	7,880
4	7,180	7,670	8,560			9,620	9,770		18,100		7,570	8,320
5	7,180	7,670	8,680	8,500	11,500	9,930	9,060		17,600		7,180	8,560
								7,400		33,500		
6	7,180	7,570	8,800			9,930	8,680		15,500		7,180	8,320
7	7,180	7,670	8,320			10,300	8,680		14,800		7,270	8,320
8	7,090	7,770	7,990			9,470	9,190	9,000	15,300	24,500	7,370	8,320
9	7,090	7,990	8,210			9,060	8,930	10,300	14,800		7,270	8,440
10	7,090	7,990	7,880	10,900	8,600	9,060	9,190	9,620	14,500	14,800	7,270	8,320
11	7,270	8,560	8,560			8,800	9,770	8,930	16,500	11,000	7,270	8,210
12	7,090	8,320	9,770		8,440	8,560	9,330	9,190	16,500	9,330	7,370	8,320
13	7,180	8,440	10,300		8,210	8,210	8,930	9,470	16,500	8,440	7,180	8,320
14	7,180	8,210	9,470		8,560	8,680	8,680	9,330	17,600	8,320	7,570	8,320
15	7,180	7,880	8,930		8,320	9,190	8,680	9,330	18,100	8,440	7,570	8,440
				11,200								
16	7,180	7,570	8,930		8,560	8,800	9,930	9,470		11,400	7,370	9,060
17	7,090	7,770	7,990		8,930	8,320	8,930	9,770	20,500	9,330	7,470	11,200
18	7,270	8,100	8,440		8,930	7,990	8,680	10,100		8,210	7,570	11,200
19	7,470	7,670	8,320	11,000	9,770	8,440	8,320	10,600	21,900	7,670	7,570	10,600
20	7,370	7,880	8,800	11,000	9,770	8,320	8,320	10,400	21,900	7,570		9,770
21	7,370	7,770	8,680	11,000	10,600	8,100	8,210	10,600	22,200	7,470		9,470
22	7,470	7,990	8,320	11,000	14,800	7,990	8,100	11,600	22,900	7,270		9,620
23	7,470	7,880	8,440	9,930	14,300	8,210	8,210	13,800		7,090		9,470
24	7,370	8,100	8,320	10,100	11,200	8,440	7,770	12,900	23,600	7,180	7,400	9,620
25	7,570	7,570	7,990		9,770	8,320		17,300		7,180		10,300
				10,700								
26	7,470	7,880	8,210		9,620	8,560		18,100		7,000		10,400
27	7,470	7,770	8,440		9,620	8,320	7,600	17,100	22,000	7,090		10,600
28	7,570	7,770	8,320	11,000	9,770	8,440		16,800		7,090	7,470	9,620
29	7,570	7,990	8,210	11,000	-------	8,560		17,100	22,500	7,000	7,570	9,930
30	7,880	8,100	8,100	10,800	-------	8,930		17,100	24,600	7,180	7,670	9,190
31	7,770	-------	8,100	10,600	-------	8,930	-------	18,400	-------	6,910	7,770	-------

NOTE.—Water-stage recorder not operating and discharge estimated by comparison with flow at King Hill and Weiser Jan. 2–18, 25–27, Feb. 1–11, Apr. 25–30, May 1–8, June 16–18, 23–28, 30, July 1–9, Aug. 20–27. Discharge June 29 based upon staff gage reading. Braced figure shows mean discharge for period indicated.

Monthly discharge of Snake River near Murphy, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	7,880	7,090	7,320	450,000
November	8,560	7,570	7,890	469,000
December	10,300	7,880	8,520	524,000
January	----------	----------	10,300	633,000
February	14,800	----------	10,190	561,000
March	10,300	7,990	8,850	544,000
April	9,930	----------	8,640	514,000
May	18,400	----------	11,300	695,000
June	----------	14,500	19,500	1,160,000
July	----------	6,910	14,300	879,000
August	7,770	7,090	7,400	455,000
September	11,200	7,670	9,130	543,000
The year	----------	6,910	10,300	7,430,000

SNAKE RIVER AT WEISER, IDAHO

LOCATION.—In sec. 31, T. 11 N., R. 5 W., one-third mile above wagon bridge at Weiser, Washington County. Between this and the station near Murphy, Sucker Creek, and Owyhee and Malheur Rivers enter Snake River from left and Boise, Payette, and Weiser Rivers from right.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—October 8, 1910, to September 30, 1927. Fragmentary gage-height record obtained by United States Weather Bureau since 1895.

EQUIPMENT.—Inclined concrete gage on right bank. Elevation of zero of gage is at 2,087.22 feet above mean sea level. Discharge measurements made from cable 200 yards below bridge or from bridge.

CHANNEL AND CONTROL.—Bed composed of rocks and coarse gravel. One channel at all stages. Control fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 10.27 feet June 17 (discharge, 56,300 second-feet); minimum stage, 2.25 feet October 1, 2 (discharge, 8,290 second-feet).

1910–1927: Maximum stage recorded, 13.60 feet May 23, 1921 (discharge, 83,100 second-feet); minimum stage, 1.35 feet August 5, 1924 (discharge, 5,100 second-feet). A stage of 15.7 feet was observed March 3, 1910, on old Weather Bureau gage (discharge about 100,000 second-feet).

DIVERSIONS AND REGULATION.—Some water is diverted between Weiser and the station near Murphy by pumping. Diurnal fluctuations during periods of low water due to operations at Swan Falls power plant upstream.

ACCURACY.—Stage-discharge relation permanent; not affected by ice. Rating curve well defined between 5,500 and 60,000 second-feet by preceding curve and five discharge measurements ranging from 9,010 to 50,300 second-feet and made during current year. Gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records good.

COOPERATION.—Gage-height record furnished by United States Weather Bureau.

Daily discharge, in second-feet, of Snake River at Weiser, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8,290	8,870	24,400	11,300	15,500	22,200	25,600	43,800	37,900	41,700	9,260	8,680
2	8,290	9,060	21,600	11,300	20,600	22,200	27,300	44,600	37,900	41,000	9,060	8,680
3	8,480	9,260	21,600	11,300	23,300	21,100	29,800	42,400	33,900	41,700	8,870	8,480
4	8,480	9,460	21,600	11,800	30,400	20,600	31,600	39,600	35,500	45,300	8,870	9,260
5	8,480	9,460	20,000	12,200	33,600	22,200	34,200	36,900	35,200	46,000	9,060	9,660
6	8,480	9,660	19,000	13,600	26,200	21,600	31,000	34,900	33,900	46,700	8,870	10,100
7	8,480	9,860	16,900	14,000	22,700	22,200	28,500	31,000	33,900	43,800	8,680	9,860
8	8,480	10,100	16,000	14,000	20,000	21,100	28,500	29,200	41,000	41,000	8,480	9,860
9	8,480	10,100	14,500	14,000	19,000	21,100	31,600	27,900	47,400	35,500	8,680	9,660
10	8,680	10,300	14,500	14,500	16,900	20,000	31,000	27,900	50,400	34,200	8,870	10,100
11	8,870	10,500	14,000	15,000	15,000	19,500	29,800	27,900	51,100	28,500	8,680	10,700
12	9,060	10,700	14,500	16,000	14,500	19,000	26,800	27,300	52,600	21,100	8,680	10,700
13	8,680	10,900	15,000	15,500	13,600	19,000	26,200	27,300	54,100	16,400	8,680	10,700
14	9,060	10,900	14,500	16,000	13,600	21,100	25,600	27,900	55,600	15,000	9,060	10,900
15	8,480	11,100	13,100	16,400	13,600	25,600	25,600	30,400	55,600	13,100	9,060	10,900
16	8,870	10,900	13,100	16,400	14,000	24,400	26,800	35,500	55,600	13,100	9,460	10,900
17	8,870	10,900	12,600	16,400	14,000	23,300	26,200	39,600	56,300	14,500	9,260	11,300
18	9,060	10,700	12,600	16,400	16,900	22,700	25,600	42,400	53,300	12,600	9,260	13,600
19	9,060	10,500	12,600	16,400	23,300	20,000	23,900	43,800	51,800	12,600	9,260	14,500
20	9,060	10,300	13,100	16,000	24,400	18,500	22,200	43,800	52,600	11,300	9,260	14,000
21	9,060	10,900	12,600	15,500	32,900	18,000	22,200	42,400	54,100	10,500	9,260	14,000
22	9,260	11,800	12,200	15,000	39,600	18,500	21,100	40,300	51,100	10,300	9,060	13,100
23	9,260	12,600	12,200	15,000	34,200	18,500	21,600	38,900	51,800	9,860	9,460	13,600
24	9,260	14,000	11,300	14,500	35,500	18,500	22,700	38,200	52,600	9,860	9,060	13,600
25	9,260	14,500	11,300	14,500	27,900	20,000	24,400	35,500	50,400	9,860	8,870	13,100
26	9,260	15,000	11,300	14,500	23,900	21,100	29,800	38,900	49,600	9,260	8,680	12,600
27	9,260	16,400	11,300	15,000	23,300	21,100	35,500	41,000	51,800	9,660	8,480	13,600
28	9,060	16,900	11,300	15,000	22,200	21,100	41,000	41,000	49,600	9,260	8,680	13,100
29	9,060	19,000	11,800	15,500	-------	21,100	43,800	40,300	45,300	9,260	8,870	13,100
30	8,870	22,200	11,800	15,500	-------	21,100	43,100	39,600	42,400	9,260	8,480	14,500
31	8,870	-------	11,800	15,000	-------	24,400	-------	38,900	-------	9,260	8,680	-------

NOTE.—Discharge estimated July 17 by comparison with flow at Oxbow; interpolated Aug. 20.

Monthly discharge of Snake River at Weiser, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	9,260	8,290	8,840	544,000
November	22,200	8,870	11,900	708,000
December	24,400	11,300	14,600	898,000
January	16,400	11,300	14,600	898,000
February	39,600	13,600	22,500	1,250,000
March	25,600	18,000	21,000	1,290,000
April	43,800	21,100	28,800	1,710,000
May	44,600	27,300	36,700	2,260,000
June	56,300	35,500	47,900	2,850,000
July	46,700	9,260	22,000	1,350,000
August	9,460	8,480	8,920	549,000
September	14,500	8,480	11,600	690,000
The year	56,300	8,290	20,700	15,000,000

SNAKE RIVER AT OXBOW, OREG.

LOCATION.—In NW. ¼ sec. 16, T. 7 S., R. 48 E., at Oxbow station on Homestead branch of Oregon Short Line Railroad, Baker County, five-eighths mile above intake of diversion tunnel for the Oxbow power plant and 1¼ miles southeast of the discontinued Copperfield post office.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—May 22, 1923, to September 30, 1927.

EQUIPMENT.—An water-stage recorder on left bank, installed December 20, 1923. Discharge measurements made from cable at gage.

CHANNEL AND CONTROL.—Bed composed of gravel and boulders. One channel at all stages. Control fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, from water-stage recorder, 17.7 feet June 14, 15, 17 (discharge, 60,400 second-feet); minimum stage, 7.60 feet 10 to 11 a. m. August 29 (discharge, 7,900 second-feet).

1923–1927: Maximum stage recorded, 19.14 feet at 6 a. m. February 6, 1925 (discharge, 70,600 second-feet); minimum stage, 6.30 feet 5 to 6 a. m. August 6, 1924 (discharge, 4,890 second-feet).

DIVERSIONS AND REGULATION.—A number of small pumping plants divert water for irrigation between this and the station at Weiser. Diurnal fluctuations during periods of low water due to operations of Swan Falls power plant above.

ACCURACY.—Stage-discharge relation permanent; not affected by ice. Rating curve used well defined between 5,000 and 65,000 second-feet; checked closely by three discharge measurements made during current year and ranging from 8,790 to 60,600 second-feet. Operation of water-stage recorder satisfactory except for short breaks in December, January, and July. Daily discharge ascertained by applying to rating table mean daily gage height determined by inspection of recorder graph. Records good.

COOPERATION.—Gage-height record furnished by Idaho Power Co.

Daily discharge, in second-feet, of Snake River at Oxbow, Oreg., for the year endi September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep
1	8,170	9,600	23,000	11,900	15,600	23,000	26,800	46,300	40,100	42,900	9,300	8,
2	8,440	9,600	22,600	11,900	17,600	23,000	28,300	47,000	40,100	42,200	9,010	8,
3	8,440	9,600	20,800	11,900	23,500	22,600	30,300	46,300	37,500	41,500	9,300	8,
4	8,440	9,600	20,800	12,600	28,300	21,700	32,600	42,200	36,200	44,200	9,300	9,
5	8,440	9,600	20,800	13,700	34,300	22,200	34,900	38,800	36,200	46,300	9,300	9,
6	8,440	9,600	19,200	14,400	28,800	22,600	33,100	36,200	37,500	47,700	9,010	9,
7	8,440	9,600	18,000	14,400	24,900	22,600	30,300	32,600	38,800	45,600	8,720	9,
8	8,440	9,600	17,200	14,800	20,800	22,600	29,300	30,300	41,500	42,900	8,440	9,
9	8,440	9,910	15,600	14,000	20,000	22,600	30,900	28,300	49,100	39,000	8,170	9,
10	8,440	9,910	14,800	14,000	18,800	21,300	32,600	28,300	53,300	35,500	8,440	9,
11	8,440	10,200	14,400	16,000	18,000	20,800	32,000	28,800	55,400	31,000	8,440	9,
12	8,720	10,500	13,700	16,000	15,600	20,400	28,800	28,300	56,900	26,000	8,170	10,
13	8,720	10,900	14,400	16,000	14,800	19,600	27,800	27,800	59,000	21,000	8,170	10,
14	8,720	10,900	14,800	16,000	14,400	20,800	26,300	28,800	60,400	18,000	8,170	10,
15	8,720	10,900	14,000	16,800	14,000	25,800	26,300	31,400	60,400	14,800	8,720	10,
16	8,440	10,900	12,900	16,800	14,400	25,800	26,800	36,200	59,700	14,000	9,010	11,
17	8,720	10,500	12,900	16,800	14,400	25,400	27,300	40,800	60,400	14,000	9,600	11,
18	8,720	10,200	12,900	16,800	16,000	24,400	27,300	44,900	59,700	16,000	9,600	11,
19	8,720	10,500	12,900	16,000	22,200	22,200	25,400	46,300	56,200	14,000	9,300	13,
20	9,010	11,200	13,300	15,800	23,500	20,400	24,000	46,300	55,400	12,600	9,300	13,
21	9,010	10,900	13,300	15,600	30,300	19,600	22,600	44,900	57,600	11,500	9,010	12,
22	9,010	12,600	13,300	14,400	40,100	19,200	22,600	42,900	55,400	10,900	9,010	12,
23	9,010	13,300	12,900	14,000	36,200	18,800	21,300	40,800	54,700	10,500	9,010	12,
24	9,300	14,000	12,200	14,400	36,800	19,200	21,700	38,800	54,700	10,200	9,010	12,
25	9,300	14,400	12,200	13,700	30,900	20,400	24,000	36,800	53,300	9,910	8,440	11,
26	9,010	16,000	11,900	14,000	26,300	21,700	28,800	36,800	52,600	9,910	8,440	12,
27	9,300	16,000	11,700	14,400	23,500	22,600	34,900	42,200	54,000	9,600	8,440	12,
28	9,300	16,000	11,900	14,800	23,000	23,000	42,200	42,200	53,300	9,600	8,170	12,
29	9,010	15,600	12,200	15,200	------	23,000	46,300	40,800	48,400	9,300	8,440	13,
30	9,300	20,800	12,100	15,600	------	23,000	46,300	41,500	44,900	9,300	8,440	12,
31	9,300	------	12,000	15,600	------	24,900	------	40,800	------	9,010	8,440	----

NOTE.—Gage height missing and discharge estimated Dec. 30, 31, Jan. 20, July 9-14.

Monthly discharge of Snake River at Oxbow, Oreg., for the year ending September 3 1927

Month	Discharge in second-feet			Run-off acre-fee
	Maximum	Minimum	Mean	
October	9,300	8,170	8,770	539,
November	20,800	9,600	11,800	702,
December	23,000	11,500	15,000	922,
January	16,800	11,900	14,800	910.
February	40,100	14,000	23,100	1,280,
March	25,800	18,800	22,100	1,360.
April	46,300	21,300	29,700	1,770.
May	47,000	27,800	38,200	2,350.
June	60,400	36,200	50,800	3,020.
July	47,700	9,010	23,200	1,430.
August	9,600	8,170	8,780	540,
September	13,700	8,720	11,100	660,
The year	60,400	8,170	21,400	15,500,

TRIBUTARY BASINS

GREAT FEEDER CANAL NEAR RIRIE, IDAHO

LOCATION.—In sec. 36, T. 4 N., R. 40 E., 4 miles east of Ririe and 14 miles ea and south of Rigby, Jefferson County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—May 31, 1923, to September 30, 1927.

EQUIPMENT.—Friez 8-day water-stage recorder on left bank 700 feet below hea of canal. Discharge measurements made from cable 500 feet below gage.

CHANNEL AND CONTROL.—Bed composed of cobbles and gravel drift. One channel at all stages. Control fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 6.92 feet at 10 a. m. June 28 (discharge, 3,980 second-feet); canal nearly dry on several days prior to April 28.

1923–1926: Maximum stage recorded, 7.56 feet June 21, 1925 (discharge, 4,740 second-feet); minimum stage, that of April 28, 1927.

DIVERSIONS AND REGULATION.—No diversions above or below gage of sufficient size to affect stage-discharge relation. Flow regulated by canal head gates.

ACCURACY.—Stage-discharge relation not permanent; seriously affected by ice, record discontinued during winter. Rating curves fairly well defined by 12 discharge measurements, ranging between 800 and 2,700 second-feet and made during period April to September. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspection of recorder graph; shifting-control method used June 20–27 and July 27–22. Records good.

Daily discharge, in second-feet, of Great Feeder Canal near Ririe, Idaho, for the year ending September 30, 1927

Day	Apr.	May	June	July	Aug.	Sept.	Day	Apr.	May	June	July	Aug.	Sept.
1	-------	2,570	1,860	3,300	2,670	2,080	16	-------	2,420	3,230	2,790	2,210	1,360
2	-------	2,580	1,940	3,270	2,900	2,070	17	-------	2,610	3,160	2,640	2,160	1,280
3	-------	2,530	2,180	3,230	2,970	2,040	18	-------	2,270	3,260	2,660	2,140	1,350
4	-------	2,440	2,430	3,330	2,920	2,030	19	-------	1,190	3,300	2,830	2,110	1,330
5	-------	2,370	2,510	3,430	2,890	2,030	20	-------	991	3,480	2,930	2,100	1,300
6	-------	2,320	2,760	3,370	2,860	2,030	21	-------	991	3,540	2,870	2,130	1,100
7	-------	2,300	2,970	3,370	2,850	2,020	22	-------	790	3,540	2,840	2,160	1,090
8	-------	2,270	3,010	3,360	2,800	1,480	23	-------	716	3,580	2,770	2,140	1,120
9	-------	2,170	2,520	3,240	2,770	1,510	24	-------	468	3,300	2,690	2,140	1,190
10	-------	2,000	2,240	3,050	2,710	1,890	25	-------	468	3,460	2,660	2,120	1,250
11	-------	1,980	2,130	2,970	2,630	1,900	26	-------	1,180	3,230	2,600	2,110	1,290
12	-------	2,020	2,050	2,860	2,580	1,820	27	-------	2,060	3,160	2,540	2,070	1,280
13	-------	2,160	2,000	2,760	2,520	1,800	28	1,120	2,150	3,640	2,510	2,080	1,260
14	-------	2,320	2,310	2,810	2,370	1,670	29	2,490	2,080	3,480	2,460	2,080	1,340
15	-------	2,410	3,080	2,920	2,270	1,470	30	2,480	1,980	3,470	2,450	2,110	1,370
							31	-------	1,900	-------	2,510	2,110	-------

NOTE.—No record Oct. 1 to Apr. 27 except discharge measurement on Mar. 29 (discharge, 810 second-feet).

Monthly discharge of Great Feeder Canal near Ririe, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
April 28–30	2,490	1,120	2,050	12,100
May	2,580	468	1,890	116,000
June	3,640	1,860	2,890	172,000
July	3,430	2,450	2,900	178,000
August	2,970	2,070	2,410	148,000
September	2,080	1,090	1,560	92,800
The period				719,000

HENRYS FORK NEAR LAKE, IDAHO

LOCATION.—In SW. ¼ sec. 26, T. 15 N., R. 43 E., one-fourth mile below Henrys Lake Reservoir Dam and 4 miles south of Lake post office, Fremont County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—September 21, 1922, to September 30, 1927. May 17, 1920, to September 20, 1922, at site 3 miles downstream just below mouth of Dry Creek.

Monthly discharge of Henrys Fork River at Warm River, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	924	818	854	52,500
November	938	818	856	50,900
December	938	----------	759	46,700
January	905	----------	764	47,000
February	843	640	758	42,100
March	843	724	766	47,100
April	1,780	753	877	52,200
May	3,330	1,600	2,190	135,000
June	2,400	1,530	2,090	124,000
July	1,520	1,100	1,220	75,000
August	1,120	1,020	1,080	66,400
September	1,060	933	1,020	60,700
The year	3,330	----------	1,100	800,000

HENRYS FORK NEAR ASHTON, IDAHO

LOCATION.—In T. 9 N., R. 42 E., one-fourth mile below Ora highway bridge, 3 miles below hydroelectric power plants of Utah Power & Light Co. and 5 miles southwest of Ashton, Fremont County. Station was formerly maintained at Ora highway bridge; described in some previous reports as "North Fork of Snake River near Ora, Idaho." Records at old and new station are comparable.

DRAINAGE AREA.—1,040 square miles.

RECORDS AVAILABLE.—August 20, 1902, to June 30, 1909; April 20, 1920, to September 30, 1927.

EQUIPMENT.—Stevens 8-day water-stage recorder on right bank; installed April 25, 1921. Discharge measurements made from cable, a quarter of a mile below gage.

CHANNEL AND CONTROL.—Bed composed of coarse gravel. Banks high above and below station and not subject to overflow. One channel at all stages. Control not well defined; subject to shift during high stages.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 2.79 feet at 9 p. m. May 17 (discharge, 5,220 second-feet); minimum stage, 0.64 foot at 1 p. m. December 8 (discharge, 1,060 second-feet).

1902–1909, 1920–1927: Maximum stage recorded, 3.11 feet at 11 p. m. May 7, 1925 (discharge, 6,220 second-feet); minimum stage, 0.09 foot at noon August 15, 1924 (discharge, 575 second-feet).

DIVERSIONS AND REGULATION.—No diversions above station. No regulation except that due to operation of gates at dam of the Utah Power & Light Co's. power plant 3 miles above station.

ACCURACY.—Stage-discharge relation not permanent; affected by ice and observations discontinued during winter. Three rating curves used during year are well defined by 14 discharge measurements ranging from 1,200 to 3,800 second-feet. Operation of water-stage recorder satisfactory. Daily discharge obtained by applying mean daily gage height to rating table, using shifting-control method July 29 to August 12. Records good.

CHANNEL AND CONTROL.—Bed composed of cobbles and gravel drift. One channel at all stages. Control fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 6.92 feet at 10 a. m. June 28 (discharge, 3,980 second-feet); canal nearly dry on several days prior to April 28.

1923–1926: Maximum stage recorded, 7.56 feet June 21, 1925 (discharge, 4,740 second-feet); minimum stage, that of April 28, 1927.

DIVERSIONS AND REGULATION.—No diversions above or below gage of sufficient size to affect stage-discharge relation. Flow regulated by canal head gates.

ACCURACY.—Stage-discharge relation not permanent; seriously affected by ice, record discontinued during winter. Rating curves fairly well defined by 12 discharge measurements, ranging between 800 and 2,700 second-feet and made during period April to September. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspection of recorder graph; shifting-control method used June 20–27 and July 27–22. Records good.

Daily discharge, in second-feet, of Great Feeder Canal near Ririe, Idaho, for the year ending September 30, 1927

Day	Apr.	May	June	July	Aug.	Sept.	Day	Apr.	May	June	July	Aug.	Sept.
1	------	2,570	1,860	3,300	2,670	2,080	16	------	2,420	3,230	2,790	2,210	1,360
2	------	2,580	1,940	3,270	2,900	2,070	17	------	2,610	3,160	2,640	2,160	1,280
3	------	2,530	2,180	3,230	2,970	2,040	18	------	2,270	3,260	2,660	2,140	1,350
4	------	2,440	2,430	3,330	2,920	2,030	19	------	1,190	3,300	2,830	2,110	1,330
5	------	2,370	2,510	3,430	2,890	2,030	20	------	991	3,480	2,930	2,100	1,300
6	------	2,320	2,760	3,370	2,860	2,030	21	------	991	3,540	2,870	2,130	1,100
7	------	2,300	2,970	3,370	2,850	2,020	22	------	790	3,540	2,840	2,160	1,090
8	------	2,270	3,010	3,360	2,800	1,480	23	------	716	3,580	2,770	2,140	1,120
9	------	2,170	2,520	3,240	2,770	1,510	24	------	468	3,300	2,690	2,140	1,190
10	------	2,000	2,240	3,050	2,710	1,890	25	------	468	3,460	2,660	2,120	1,250
11	------	1,980	2,130	2,970	2,630	1,900	26	------	1,180	3,230	2,600	2,110	1,290
12	------	2,020	2,050	2,860	2,580	1,820	27	------	2,060	3,160	2,540	2,070	1,280
13	------	2,160	2,000	2,760	2,520	1,800	28	1,120	2,150	3,640	2,510	2,080	1,260
14	------	2,320	2,310	2,810	2,370	1,670	29	2,490	2,080	3,480	2,460	2,080	1,340
15	------	2,410	3,080	2,920	2,270	1,470	30	2,480	1,980	3,470	2,450	2,110	1,370
							31	------	1,900	------	2,510	2,110	------

NOTE.—No record Oct. 1 to Apr. 27 except discharge measurement on Mar. 29 (discharge, 810 second-feet).

Monthly discharge of Great Feeder Canal near Ririe, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
April 28–30	2,490	1,120	2,050	12,100
May	2,580	468	1,890	116,000
June	3,640	1,860	2,890	172,000
July	3,430	2,450	2,900	178,000
August	2,970	2,070	2,410	148,000
September	2,080	1,090	1,560	92,800
The period				719,000

HENRYS FORK NEAR LAKE, IDAHO

LOCATION.—In SW. ¼ sec. 26, T. 15 N., R. 43 E., one-fourth mile below Henrys Lake Reservoir Dam and 4 miles south of Lake post office, Fremont County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—September 21, 1922, to September 30, 1927. May 17, 1920, to September 20, 1922, at site 3 miles downstream just below mouth of Dry Creek.

EQUIPMENT.—Stevens 8-day water-stage recorder on left bank. Measurements made from footbridge just above gage or by wading.

CHANNEL AND CONTROL.—Bed composed of small cobbles and gravel with nearly perpendicular banks. One channel at all stages. Control fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 2.31 feet from 2 p. m. August 26 to 5 p. m. August 28 (discharge, 145 second-feet); minimum stage, 0.42 foot from noon November 5 to noon November 6 (discharge, 5 second-feet).

1920–1926: Maximum stage recorded, 5.40 feet at 7 p. m. June 13, 1926 (discharge, 907 second-feet); minimum discharge, 1 second-foot several days in July, 1923, and October, 1924, when reservoir gates were closed for storage.

DIVERSIONS AND REGULATION.—No diversions between Henrys Lake Reservoir and gaging station and practically none above reservoir. Flow controlled by operation of gates in dam.

ACCURACY.—Stage-discharge relation changed by growth of aquatic plants during summer; seriously affected by ice and observations discontinued during winter. Rating curve well defined between 20 and 550 second-feet by great number of discharge measurements, of which six were made during current year and range from 13 to 145 second-feet. Operation of water-stage recorder satisfactory. Daily discharge ascertained by shifting-control method. Records fair.

COOPERATION.—Gage-height record furnished by North Fork Reservoir Association.

Daily discharge, in second-feet, of Henrys Fork near Lake, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	June	July	Aug.	Sept.	Day	Oct.	Nov.	June	July	Aug.	Sept.
1	30	6	19	30	37	44	16	12	-------	27	33	47	1
2	30	6	19	30	36	45	17	12	-------	27	33	45	1
3	32	6	20	30	36	46	18	12	-------	28	33	60	1
4	30	5	23	32	36	46	19	12	-------	28	33	69	1
5	29	5	22	32	35	33	20	12	-------	30	33	71	1
6	26	5	25	31	34	23	21	11	-------	29	35	71	1
7	19	-------	25	31	33	24	22	30	-------	28	36	77	1
8	13	-------	26	31	33	21	23	25	-------	28	37	85	1
9	13	-------	27	32	33	14	24	10	-------	29	37	86	1
10	13	-------	41	31	33	15	25	9	-------	29	37	86	1
11	14	-------	38	32	33	15	26	8	-------	29	37	119	1
12	22	-------	30	33	33	12	27	6	-------	30	37	145	1
13	31	-------	28	31	34	12	28	6	-------	30	36	59	1
14	15	-------	27	32	84	12	29	6	-------	30	38	38	1
15	15	-------	27	33	62	15	30	6	-------	30	37	40	1
							31	6	-------	-------	37	41	-------

NOTE.—No record Nov. 7 to May 31. Discharge interpolated July 30 to Aug. 4.

Monthly discharge of Henrys Fork near Lake, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	32	6	16.6	1,02
November 1–6	6	5	5.5	6
June	41	19	27.6	1,64
July	38	30	33.5	2,06
August	145	33	55.8	3,43
September	46	12	19.0	1,13

HENRYS FORK AT WARM RIVER, IDAHO

LOCATION.—In sec. 12, T. 9 N., R. 43 E., 300 yards above mouth of Warm River and half a mile from Warm River railroad station, Fremont County; above all main tributaries.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—September 3, 1910, to March 22, 1915; April 3, 1918, to September 30, 1927.

EQUIPMENT.—Au continuous water-stage recorder referred to vertical staff on left bank. Discharge measurements made from cable 25 feet below gage.

CHANNEL AND CONTROL.—Bed composed of cobbles, gravel, and sand. One channel at all stages. Control not permanent owing to growth of moss.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 7.55 feet at 10 p. m. May 18 (discharge, 3,540 second-feet); minimum stage occurred on January 21 or 22 (discharge indeterminate).

1910–1915, 1918–1927: Maximum stage recorded, that of May 18, 1927; minimum stage recorded, 3.50 feet on December 17, 19, and 20, 1924 (discharge, 482 second-feet). Lower discharges may have occurred during winter.

DIVERSIONS AND REGULATION.—Practically none above station.

ACCURACY.—Stage-discharge relation not permanent; affected by ice and by growth of aquatic plants in summer. Rating curve well defined by numerous discharge measurements of which 17, ranging from 700 to 2,500 second-feet, were made during current year. Operation of water-stage recorder satisfactory May 1 to September 30. Staff gage read to hundredths once daily. Daily discharge obtained by shifting-control method, except during ice-affected period. Records good except those for estimated periods, which are fair.

Daily discharge, in second-feet, of Henrys Fork at Warm River, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	893	824	880	810	812	753	753	2,040	1,940	1,520	1,120	1,020
2	893	831	855	874	843	753	782	2,280	1,940	1,400	1,110	1,050
3	893	831	837	905	812	764	753	2,130	1,940	1,420	1,110	1,020
4	893	831	938	874	800	782	753	1,880	1,980	1,400	1,100	1,010
5	861	831	905	812	782	782	753	1,880	2,020	1,370	1,090	1,020
6	861	837	874	782	753	770	753	1,780	2,080	1,340	1,090	1,010
7	861	824	868	812	} 700	753	753	1,820	2,160	1,310	1,100	990
8	924	824	831	782		741	782	1,710	2,340	1,290	1,100	983
9	868	818	812	782		764	794	1,600	2,400	1,270	1,090	1,000
10	849	818	812	753	640	764	782	1,660	2,380	1,250	1,080	1,020
11	861	824	824	782	640	782	782	1,780	2,330	1,240	1,070	1,020
12	855	824	753	782	695	764	782	1,970	2,360	1,200	1,060	1,020
13	849	837	747	812	724	753	782	1,980	2,370	1,180	1,060	1,050
14	874	831		812	753	753	782	2,320	2,380	1,180	1,070	1,060
15	855	837		800	782	782	782	2,670	2,370	1,170	1,090	1,050
16	849	831		812	782	812	782	2,850	2,360	1,160	1,120	1,030
17	831	831		794	812	843	764	2,920	2,300	1,150	1,080	1,020
18	849	837		782	812	812	753	3,330	2,220	1,150	1,070	1,020
19	843	849		782	843	782	753	3,060	2,130	1,140	1,060	1,020
20	843	874		753	812	753	753	2,780	2,110	1,130	1,100	1,020
21	831	886			794	753	753	2,510	2,080	1,130	1,080	1,020
22	831	886	} 700		782	724	764	2,250	1,990	1,130	1,080	1,010
23	831	905			759	741	782	2,150	1,930	1,110	1,060	1,010
24	861	899		625	753	753	782	2,130	1,900	1,100	1,070	1,020
25	831	905			753	753	938	1,940	1,860	1,110	1,060	1,020
26	831	938			724	753	1,000	2,090	1,860	1,120	1,060	1,020
27	849	905		753	724	753	1,150	2,170	1,840	1,150	1,060	1,020
28	831	893		764	735	753	1,370	2,150	1,760	1,130	1,080	1,060
29	824	912		782	-------	753	1,630	2,110	1,660	1,120	1,080	1,060
30	824	899		753	-------	764	1,780	2,080	1,580	1,150	1,020	1,060
31	818	-------		782	-------	782	-------	1,980	-------	1,130	1,020	------

NOTE.—Discharge estimated Dec. 14–31, Jan. 21–26, and Feb. 7–9 because of ice effect.

Monthly discharge of Henrys Fork River at Warm River, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	924	818	854	52,500
November	938	818	856	50,900
December	938	----------	759	46,700
January	905	----------	764	47,000
February	843	640	758	42,100
March	843	724	766	47,100
April	1,780	753	877	52,200
May	3,330	1,600	2,190	135,000
June	2,400	1,580	2,090	124,000
July	1,520	1,100	1,220	75,000
August	1,120	1,020	1,080	66,400
September	1,060	983	1,020	60,700
The year	3,330	----------	1,100	800,000

HENRYS FORK NEAR ASHTON, IDAHO

LOCATION.—In T. 9 N., R. 42 E., one-fourth mile below Ora highway bridge, 3 miles below hydroelectric power plants of Utah Power & Light Co. and 5 miles southwest of Ashton, Fremont County. Station was formerly maintained at Ora highway bridge; described in some previous reports as "North Fork of Snake River near Ora, Idaho." Records at old and new station are comparable.

DRAINAGE AREA.—1,040 square miles.

RECORDS AVAILABLE.—August 20, 1902, to June 30, 1909; April 20, 1920, to September 30, 1927.

EQUIPMENT.—Stevens 8-day water-stage recorder on right bank; installed April 25, 1921. Discharge measurements made from cable, a quarter of a mile below gage.

CHANNEL AND CONTROL.—Bed composed of coarse gravel. Banks high above and below station and not subject to overflow. One channel at all stages. Control not well defined; subject to shift during high stages.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 2.79 feet at 9 p. m. May 17 (discharge, 5,220 second-feet); minimum stage, 0.64 foot at 1 p. m. December 8 (discharge, 1,060 second-feet).

1902–1909, 1920–1927: Maximum stage recorded, 3.11 feet at 11 p. m. May 7, 1925 (discharge, 6,220 second-feet); minimum stage, 0.09 foot at noon August 15, 1924 (discharge, 575 second-feet).

DIVERSIONS AND REGULATION.—No diversions above station. No regulation except that due to operation of gates at dam of the Utah Power & Light Co's. power plant 3 miles above station.

ACCURACY.—Stage-discharge relation not permanent; affected by ice and observations discontinued during winter. Three rating curves used during year are well defined by 14 discharge measurements ranging from 1,200 to 3,800 second-feet. Operation of water-stage recorder satisfactory. Daily discharge obtained by applying mean daily gage height to rating table, using shifting-control method July 29 to August 12. Records good.

Daily discharge, in second-feet, of Henrys Fork near Ashton, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,380	1,060	1,280		1,190	3,250	3,040	2,190	1,580	1,400
2	1,250	1,070	1,200		1,220	3,570	3,020	2,070	1,560	1,410
3	1,230	1,060	1,130		1,230	3,460	3,000	1,940	1,540	1,450
4	1,260	1,070	1,260		1,230	2,920	3,000	2,010	1,540	1,480
5	1,220	1,070	1,340		1,170	3,000	3,120	1,980	1,540	1,460
6	1,220	1,070	1,230		1,170	2,790	3,190	1,870	1,530	1,400
7	1,200	1,060	1,190		1,170	2,870	3,460	1,850	1,490	1,410
8	1,190	1,120	1,070		1,190	2,770	3,730	1,820	1,450	1,400
9	1,180	1,120	1,090		1,220	2,430	3,550	1,820	1,430	1,370
10	1,180	1,100	1,120		1,220	2,650	3,570	1,700	1,450	1,400
11	1,170	1,120			1,170	2,770	3,460	1,710	1,480	1,430
12	1,190	1,120			1,130	3,100	3,620	1,700	1,480	1,430
13	1,170	1,130			1,100	3,000	3,550	1,680	1,480	1,410
14	1,140	1,120			1,100	3,380	3,730	1,680	1,460	1,410
15	1,140	1,120			1,100	3,900	3,530	1,660	1,400	1,450
16	1,140	1,120			1,170	4,480	3,420	1,610	1,530	1,450
17	1,140	1,160			1,160	4,900	3,460	1,630	1,540	1,430
18	1,140	1,200			1,190	5,060	3,290	1,600	1,410	1,400
19	1,130	1,250			1,170	4,570	3,100	1,540	1,480	1,350
20	1,100	1,290			1,130	4,230	2,980	1,530	1,510	1,340
21	1,100	1,330			1,100	3,680	3,060	1,530	1,460	1,340
22	1,120	1,360			1,130	3,340	2,890	1,540	1,410	1,340
23	1,120	1,330			1,140	3,000	2,770	1,600	1,490	1,380
24	1,130	1,220			1,170	3,270	2,710	1,600	1,530	1,430
25	1,100	1,410			1,430	2,920	2,570	1,600	1,510	1,450
26	1,120	1,330			1,650	2,980	2,470	1,530	1,410	1,380
27	1,120	1,260			1,870	3,290	2,630	1,560	1,400	1,380
28	1,100	1,260		1,070	2,320	3,340	2,570	1,530	1,410	1,400
29	1,090	1,260		1,100	2,670	3,380	2,350	1,530	1,490	1,430
30	1,100	1,300		1,120	2,870	3,040	2,280	1,600	1,560	1,410
31	1,070			1,160		3,040		1,530	1,450	

NOTE.—No record Dec. 11 to Mar. 27.

Monthly discharge of Henrys Fork near Ashton, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	1,380	1,070	1,160	71,300
November	1,410	1,060	1,180	70,200
December 1–10	1,340	1,070	1,190	23,600
March 28–31	1,160	1,070	1,110	8,810
April	2,870	1,100	1,360	80,900
May	5,060	2,430	3,370	207,000
June	3,730	2,280	3,100	184,000
July	2,160	1,530	1,710	105,000
August	1,580	1,400	1,480	91,000
September	1,480	1,340	1,410	83,900

DIVERSIONS FROM HENRYS FORK BETWEEN ASHTON AND ST. ANTHONY GAGING STATIONS, IDAHO

Between Ashton and St. Anthony gaging stations six separate canals divert water from Henrys Fork for irrigation. Gaging stations are maintained at headings of each canal by the United States Geological Survey for the Idaho State Department of Reclamation to facilitate distribution of the water. Records are available from June 1, 1919, to September 30, 1927.

Stage-discharge relation on many of the canals affected by growth of aquatic plants or by the operation of check gates. Rating curves well defined. Gages read to hundredths daily except during September, when occasional readings were made. Records good.

Combined daily discharge, in second-feet, of canals diverting from Henrys Fork between Ashton and St. Anthony gaging stations, Idaho, for the irrigation season, 1927

Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.
1	796	816	640	547	16	1,100	966	550	341
2	878	800	711	507	17	1,090	1,020	440	342
3	900	803	708	501	18	1,100	1,060	479	344
4	896	776	792	487	19	1,140	1,050	531	348
5	866	789	779	472	20	1,160	1,110	528	353
6	861	769	831	466	21	1,110	1,130	534	368
7	867	882	824	455	22	1,110	1,070	540	382
8	864	844	832	444	23	1,110	1,090	537	383
9	937	858	831	404	24	1,120	1,080	535	388
10	1,020	964	809	400	25	1,150	1,080	505	379
11	1,030	955	802	396	26	1,180	1,060	500	370
12	1,020	791	811	391	27	1,060	1,030	497	361
13	1,110	834	774	386	28	974	990	497	354
14	1,120	870	796	371	29	806	886	551	345
15	1,130	930	722	356	30	845	794	619	337
					31		894	590	

NOTE.—No record Oct. 1 to May 31; discharge interpolated for days of no gage-height record during September.

Combined monthly discharge of canals diverting from Henrys Fork between Ashton and St. Anthony gaging stations, Idaho, for the irrigation season of 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
June	1,180	796	1,010	60,100
July	1,130	769	935	57,500
August	832	440	648	39,800
September	547	337	399	23,700
The period				181,000

HENRYS FORK AT ST. ANTHONY, IDAHO

LOCATION.—In sec. 1, T. 7 N., R. 40 E., half a mile upstream from bridge on main street of St. Anthony, Fremont County, and 9 miles below mouth of Fall River.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—March 26, 1919, to September 30, 1927.

EQUIPMENT.—Stevens 8-day water-stage recorder on right bank; installed May 8, 1922. Discharge measurements made from cable 600 feet below gage.

CHANNEL AND CONTROL.—Bed composed of coarse gravel and outcrops of lava. One channel at all stages. Control shifts slightly at high stages.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 6.43 feet at 8 a. m. May 18 (discharge, 8,150 second-feet), minimum stage, 3.42 feet from 2 to 9 a. m. July 28 (discharge, 901 second-feet).

1919–1927: Maximum stage recorded, 6.70 feet at 2 a. m. May 8, 1925 (discharge, 9,030 second-feet); minimum stage, 2.87 feet June 28, 1924 (discharge, 476 second-feet).

DIVERSIONS AND REGULATION.—Numerous diversions above and below station. Flow affected by manipulation of canal head gates above station and by operation of Utah Power & Light Co.'s power plant about 17 miles upstream

ACCURACY.—Stage-discharge relation not permanent; seriously affected by ice, observations discontinued during winter. Two rating curves used; well defined by 14 discharge measurements, ranging from 1,000 to 7,000 second-feet, made during year. Operation of water-stage recorder satisfactory. Discharge obtained by applying mean daily gage heights to rating table, using shifting-control method October 1–8 and July 3 to August 17. Records good.

Daily discharge, in second-feet, of Henrys Fork at St. Anthony, Idaho, for the year ending September 30, 1927

Day	Oct.	May	June	July	Aug.	Sept.	Day	Oct.	May	June	July	Aug.	Sept.
1	1,330	4,820	4,100	4,690	1,290	1,430	16	1,050	7,500	6,660	2,090	1,560	1,630
2	1,160	4,740	3,930	4,230	1,300	1,430	17	1,070	8,120	6,540	1,930	1,670	1,610
3	1,150	4,590	4,080	4,160	1,270	1,440	18	1,100	8,150	6,260	1,820	1,490	1,580
4	1,130	3,860	4,230	4,180	1,050	1,460	19	1,090	6,400	6,210	1,690	1,480	1,490
5	1,120	3,740	4,180	3,980	1,060	1,490	20	1,060	5,410	6,100	1,580	1,480	1,530
6	1,100	3,450	4,230	3,450	1,020	1,440	21	1,050	4,000	6,040	1,320	1,410	1,510
7	1,090	3,470	5,140	3,340	1,020	1,460	22	1,060	3,620	6,040	1,170	1,360	1,430
8	1,170	3,590	5,930	3,340	996	1,460	23	1,070	3,690	5,730	1,140	1,360	1,460
9	1,090	2,840	5,930	3,310	996	1,460	24	1,090	3,930	5,870	1,020	1,380	1,610
10	1,070	3,150	5,960	3,290	1,040	1,580	25	1,090	3,640	6,320	1,040	1,400	1,780
11	1,160	3,430	6,240	3,150	1,070	1,650	26	1,100	3,980	6,600	1,060	1,330	1,780
12	1,110	4,030	6,400	3,080	1,060	1,580	27	1,100	4,530	7,470	996	1,270	1,720
13	1,110	4,080	6,520	2,790	1,130	1,530	28	1,160	4,770	7,210	924	1,330	1,740
14	1,090	4,920	6,830	2,700	1,260	1,610	29	1,210	4,720	6,320	1,010	1,440	1,930
15	1,060	6,210	6,630	2,470	1,270	1,650	30	------	4,130	5,440	1,100	1,510	1,930
							31	------	4,100	------	1,110	1,560	------

NOTE.—No gage-height record Nov. 1 to Apr. 30.

Monthly discharge of Henrys Fork at St. Anthony, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October 1–29	1,330	1,050	1,110	63,800
May	8,150	2,840	4,570	281,000
June	7,470	3,930	5,840	348,000
July	4,690	924	2,360	145,000
August	1,670	996	1,290	79,300
September	1,930	1,430	1,580	94,000

DIVERSIONS FROM HENRYS FORK BETWEEN ST. ANTHONY AND REXBURG GAGING STATIONS, IDAHO

Between St. Anthony and Rexburg gaging stations four separate canals divert water from Henrys Fork for irrigation. Gaging stations are maintained at heading of each canal by the United States Geological Survey for the Idaho State Department of Reclamation to facilitate distribution of the water. Records are available from June 1, 1919, to September 30, 1927.

Stage-discharge relation on many of the canals affected by growth of aquatic plants or by operation of check gates. Rating curves well defined. Gages read to hundredths daily except during September, when occasional readings were made. Records good.

Combined daily discharge, in second-feet, of canals diverting from Henrys Fork between St. Anthony and Rexburg gaging stations, Idaho, for the irrigation season of 1927

Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.
1	816	775	699	503	16	870	871	621	375
2	854	759	644	481	17	875	814	661	373
3	867	754	706	456	18	853	798	627	369
4	862	749	706	476	19	853	815	626	367
5	739	780	789	495	20	849	859	638	367
6	751	744	788	486	21	894	865	658	366
7	804	744	803	478	22	903	806	650	364
8	812	814	785	467	23	909	828	676	364
9	719	814	776	456	24	934	795	553	365
10	703	822	782	441	25	943	785	566	364
11	767	845	789	424	26	954	853	567	364
12	796	849	797	411	27	924	852	555	364
13	841	811	706	406	28	843	799	570	363
14	852	812	661	396	29	833	797	557	368
15	879	807	651	384	30	789	670	559	373
					31		678	526	

NOTE.—Discharge interpolated for days of no gage-height record during September.

Combined monthly discharge of canals diverting from Henrys Fork between St. Anthony and Rexburg gaging stations, Idaho, for the irrigation season of 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
June	954	703	843	50,200
July	871	670	799	49,100
August	803	526	667	41,000
September	503	363	409	24,300
The period				165,000

HENRYS FORK NEAR REXBURG, IDAHO

LOCATION.—In sec. 30, T. 6 N., R. 39 E., just below highway bridge and 7 miles west of Rexburg, Madison County. Below all tributaries.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—April 13, 1909, to September 30, 1927.

EQUIPMENT.—Friez water-stage recorder on right bank 250 feet below highway bridge. Discharge measurements made from cable half a mile below gage, from highway bridge, or by wading.

CHANNEL AND CONTROL.—Bed composed of mud, sand, and fine gravel; shifting. Except at bridge, left bank is overflowed at high stages.

EXTREMES OF DISCHARGE.—Maximum discharge recorded during year, 9,490 second-feet June 29 (gage height, 9.90 feet); minimum discharge, 917 second-feet at 11 p. m. August 10.

1909–1927: Maximum discharge, that of June 29, 1927; minimum stage, 2.00 feet on June 28 and 29, 1919 (discharge, 355 second-feet).

DIVERSIONS AND REGULATION.—A large percentage of natural summer flow diverted above station. No regulation except that due to operation of head gates of irrigation canals.

ACCURACY.—Stage-discharge relation not permanent; seriously affected by ice, observations discontinued during winter. Rating curve fairly well defined by 18 discharge measurements made during year and practically covering range of stage. Operation of water-stage recorder satisfactory except May 22–27. Discharge obtained by shifting-control method. Records fair.

Daily discharge, in second-feet, of Henrys Fork near Rexburg, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Apr.	May	June	July	Aug.	Sept.
1	1,300	1,220	-------	4,330	4,810	7,600	1,520	1,690
2	1,380	1,200	-------	4,770	4,710	6,590	1,560	1,690
3	1,300	1,200	-------	5,050	4,690	6,160	1,480	1,700
4	1,320	1,240	-------	4,950	5,080	5,840	1,300	1,670
5	1,340	1,250	-------	4,330	5,600	5,740	1,170	1,670
6	1,320	1,290	1,350	4,130	6,220	5,430	1,050	1,680
7	1,300	1,300	1,310	3,730	6,640	5,010	1,000	1,620
8	1,320	1,330	1,350	3,830	7,270	4,500	991	1,610
9	1,440	1,360	1,500	3,630	7,800	4,210	956	1,620
10	1,440	1,400	1,420	3,230	8,130	4,270	934	1,650
11	1,450	1,420	1,290	3,530	8,240	4,230	945	1,860
12	1,450	1,460	1,220	3,830	8,360	4,090	985	1,910
13	1,440	1,470	1,140	4,230	8,580	3,950	1,030	1,950
14	1,420	1,460	1,080	4,330	8,820	3,620	1,200	1,950
15	1,390	1,470	1,090	5,160	9,060	3,380	1,440	2,080
16	1,350	1,470	1,110	6,150	8,890	2,940	1,610	2,160
17	1,330	1,440	1,150	7,510	8,720	2,520	1,870	2,160
18	1,350	1,470	1,080	8,450	8,440	2,340	1,800	2,080
19	1,380	1,570	1,090	9,090	8,160	2,080	1,690	1,950
20	1,330	1,700	1,070	8,680	8,000	1,830	1,650	1,910
21	1,280	1,860	991	8,190	7,710	1,670	1,660	1,870
22	1,220	2,070	956		7,540	1,440	1,550	1,790
23	1,200	2,030	974		7,270	1,270	1,560	1,750
24	1,170	1,980	985		7,000	1,240	1,550	1,750
25	1,130	1,940	1,080	5,000	7,350	1,190	1,610	1,950
26	1,150	2,030	1,440		7,920	1,220	1,620	1,990
27	1,200	1,980	1,930		8,480	1,140	1,540	1,990
28	1,220	1,860	2,370	5,390	9,100	1,120	1,510	1,990
29	1,280	1,860	3,030	5,580	9,490	1,100	1,540	2,160
30	1,270	1,860	3,830	5,420	8,500	1,220	1,640	2,440
31	1,240	-------	-------	5,060	-------	1,480	1,730	-------

NOTE.—No record Dec. 1 to Apr. 5. No gage-height record May 22-27; discharge estimated.

Monthly discharge of Henrys Fork near Rexburg, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	1,450	1,130	1,320	81,200
November	2,070	1,200	1,570	93,400
April 6-30	3,830	956	1,430	70,900
May	9,090	3,230	5,240	322,000
June	9,490	4,690	7,560	450,000
July	7,600	1,100	3,240	199,000
August	1,870	934	1,410	86,700
September	2,440	1,610	1,880	112,000

WARM RIVER AT WARM RIVER, IDAHO

LOCATION.—In sec. 13, T. 9 N., R. 43 E., at highway bridge half a mile above mouth and half a mile northeast of Warm River, Fremont County. Robinson Creek enters one-fourth mile below station.

DRAINAGE AREA.—144 square miles (measured on Forest Service maps).

RECORDS AVAILABLE.—January 24, 1912, to March 22, 1915; April 3, 1918, to September 30, 1927.

EQUIPMENT.—Vertical staff on downstream side of highway bridge bent near right bank. Discharge measurements made by wading.

CHANNEL AND CONTROL.—Bed composed of cobbles in gravel drift. Control subject to shift.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 2.36 feet at 2.30 p. m. May 16 (discharge, 543 second-feet); minimum discharge, 178 second-feet on December 25–27 (gage height, 1.20 feet).

1912–1915, 1918–1927: Maximum stage recorded, 2.3 feet (original gage) June 2, 1912 (discharge, 900 second-feet); minimum stage, 1.00 foot December 19, 1924 (discharge, 123 second-feet).

DIVERSIONS AND REGULATION.—None.

ACCURACY.—Stage-discharge relation affected slightly by growth of aquatic plants; not affected by ice owing to spring-fed character of stream. Three well-defined rating curves used; checked by 16 discharge measurements, ranging from 200 to 400 second-feet, made during current year. Gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table using shifting-control method April 25–29 and August 11 to September 30. Records good.

Daily discharge, in second-feet, of Warm River at Warm River, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	201	196	201	190	198	198	204	451	412	298	237	225
2	201	196	201	190	204	198	204	490	418	267	237	231
3	201	196	201	190	198	198	204	431	412	267	243	231
4	201	196	219	190	198	198	204	387	425	267	243	231
5	201	196	207	190	198	198	204	399	405	267	243	231
6	201	196	204	196	193	198	204	367	393	267	237	228
7	201	196	198	196	193	198	204	361	393	267	237	228
8	201	196	196	193	193	198	204	348	425	267	237	222
9	201	196	196	187	193	204	204	335	393	255	237	222
10	201	196	201	187	193	204	198	386	380	249	237	228
11	201	196	201	193	193	204	198	418	361	237	234	228
12	201	196	190	204	193	204	198	431	361	237	234	228
13	201	196	190	204	193	204	198	409	361	237	234	228
14	201	190	196	204	193	204	198	471	361	246	240	228
15	196	196	196	204	193	204	204	490	354	237	234	228
16	196	201	196	204	193	198	204	543	361	237	234	228
17	196	201	201	204	193	198	204	537	361	249	234	228
18	196	196	201	198	193	198	204	523	361	249	234	228
19	196	201	201	198	198	193	204	484	380	237	234	228
20	196	201	196	198	198	193	204	451	393	237	234	222
21	196	201	196	201	198	193	198	418	393	237	231	222
22	196	201	190	193	198	193	204	399	393	237	231	222
23	196	204	184	193	187	193	210	405	393	243	231	228
24	196	201	184	193	193	198	216	393	393	249	225	228
25	196	201	178	198	193	198	237	367	393	249	225	228
26	196	201	178	198	193	198	246	298	393	249	231	228
27	196	201	178	193	193	198	273	361	393	249	231	228
28	196	201	184	193	198	198	316	373	361	243	231	228
29	196	201	184	193	-------	198	338	393	301	243	231	228
30	196	201	190	193	-------	204	370	393	298	243	231	228
31	196	-------	190	198	-------	204	-------	386	-------	243	231	-------

Monthly discharge of Warm River at Warm River, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	201	196	198	12,200
November	204	190	198	11,800
December	219	178	194	11,900
January	204	187	196	12,100
February	204	187	195	10,800
March	204	193	199	12,200
April	370	198	222	13,200
May	543	298	416	25,600
June	425	298	381	22,700
July	298	237	250	15,400
August	243	225	234	14,400
September	231	222	227	13,500
The year	543	178	243	176,000

ROBINSON CREEK AT WARM RIVER, IDAHO

LOCATION.—In sec. 13, T. 9 N., R. 43 E., at Oregon Short Line Railroad bridge 300 yards above mouth of creek and a third of a mile northeast of Warm River, Fremont County.

DRAINAGE AREA.—About 41 square miles (measured on Forest Service map).

RECORDS AVAILABLE.—January 24, 1912, to March 22, 1915; April 4, 1918, to September 30, 1927.

EQUIPMENT.—Gage is a vertical staff attached to downstream side of pile bent of railroad bridge near right bank. Discharge measurements made from bridge one-fourth mile upstream or by wading.

CHANNEL AND CONTROL.—Bed composed of cobbles in gravel drift. Banks covered with brush; not subject to overflow. One channel at all stages. Control is well-defined cobble riffle 100 feet below gage; subject to shifts.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 3.52 feet at 5.15 p. m. May 17 (discharge, 910 second-feet); minimum discharge, 59 second-feet October 22, 23 (gage height, 0.64 foot). Lower stage may have occurred during ice-affected period.

1912–1915, 1918–1927: Maximum stage recorded, 4.3 feet May 28, 1912 (discharge, 1,140 second-feet); minimum discharge (estimated), 32 second-feet December 18–20, 1925.

DIVERSIONS AND REGULATION.—None.

ACCURACY.—Stage-discharge relation seriously affected by ice and by growth of aquatic plants. Rating curve well defined by 15 discharge measurements made during year and ranging from 75 to 750 second-feet. Gage read to hundredths once daily. Daily discharge ascertained by shifting-control method except during ice-affected period. Records good.

Daily discharge, in second-feet, of Robinson Creek at Warm River, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	74	62	83			71	69	594	594	284	109	100
2	66	62	83			74	69	528	560	256	109	100
3	66	62	89			77	71	469	594	228	107	100
4	64	62	153			80	74	431	627	217	107	98
5	64	62	105			80	80	431	709	202	107	98
6	64	62	87			69	83	431	594	202	107	95
7	64	62	80			64	92	437	798	202	104	95
8	80	62	71			62	92	406	834	177	100	94
9	69	62	71			63	92	368	729	177	100	94
10	66	62	71			64	89	431	739	177	100	130
11	69	62	74		71	64	89	521	726	177	104	111
12	64	64				66	89	541	726	152	104	104
13	63	64				66	89	580	620	132	100	107
14	60	62				66	92	702	654	138	104	107
15	60	71				66	95	812	597	113	114	118
16	60	80		73		66	98	862	584	112	111	111
17	60	80				66	95	910	521	132	97	90
18	63	64				64	95	890	479	124	97	90
19	62	66				62	92	729	473	112	97	90
20	62	92				62	92	661	447	112	100	90
21	60	89	64		84	64	86	560	415	112	104	90
22	59	95			80	64	98	580	381	112	104	94
23	59	105			77	66	113	528	381	114	97	94
24	60	95			74	66	128	528	381	111	97	97
25	62	92			69	69	320	495	317	111	97	94
26	62	95			69	69	338	476	299	114	97	90
27	64	80			69	69	431	594	317	112	97	90
28	64	73			71	69	476	547	317	111	97	100
29	63	95			-------	69	501	495	281	109	97	111
30	62	92			-------	69	505	560	284	112	97	118
31	62	-------			-------	69	-------	551	-------	109	104	------

NOTE.—Stage-discharge relation affected by ice Dec. 12 to Feb. 20; discharge estimated on basis of observer's notes and weather records.

Monthly discharge of Robinson Creek at Warm River, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	80	59	63.8	3,920
November	105	62	74.5	4,430
December	153		72.5	4,460
January			73.0	4,490
February	84		71.9	3,990
March	80	62	67.6	4,160
April	505	69	158	9,400
May	910	368	569	35,000
June	834	281	533	31,700
July	284	109	151	9,280
August	114	97	102	6,270
September	118	90	100	5,950
The year	910	59	170	123,000

DIVERSIONS FROM FALL RIVER ABOVE GAGING STATION NEAR SQUIRREL, IDAHO

Above gaging station near Squirrel three separate canals divert water from Fall River for irrigation. Gaging stations are maintained at heading of each canal by the United States Geological Survey for the Idaho State Department of Reclamation to facilitate distribution of the water. Records are available from June 1, 1919, to September 30, 1927.

Stage-discharge relation of these canals affected by growth of aquatic plants. Rating curves fairly well defined. Gages read daily to hundredths except during September, when occasional readings were made. Records good.

Combined daily discharge, in second-feet, of canals diverting from Fall River above gaging station near Squirrel, Idaho, for irrigation season of 1927

Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.
1	0	192	185	78	16	123	106	115	51
2	0	202	167	73	17	134	164	108	51
3	36	204	168	68	18	119	157	105	51
4	49	160	170	64	19	135	182	96	49
5	38	186	166	59	20	147	174	95	49
6	39	199	167	54	21	148	193	96	49
7	41	198	157	53	22	168	191	87	47
8	64	205	155	53	23	170	192	91	45
9	61	208	153	53	24	189	195	92	45
10	61	219	155	53	25	200	192	90	45
11	64	203	155	54	26	195	198	90	46
12	66	204	141	54	27	179	192	87	45
13	88	191	127	54	28	164	193	88	45
14	94	0	125	54	29	198	197	87	45
15	117	185	128	53	30	184	195	86	43
					31		195	83	

NOTE.—Discharge interpolated for days of no gage height during September.

Combined monthly discharge of canals diverting from Fall River above gaging station near Squirrel, Idaho, for the irrigation season of 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
June	200	0	109	6,490
July	219	0	183	11,300
August	185	83	123	7,560
September	78	43	52.8	3,140
The period				28,500

FALL RIVER NEAR SQUIRREL, IDAHO

LOCATION.—In sec. 35, T. 9 N., R. 44 E., 9 miles southeast of Marysville and 4 miles northeast of Squirrel post office, Fremont County. Marysville Canal diverts half a mile upstream. Station was formerly known as "Fall River near Fremont, Idaho."

DRAINAGE AREA.—390 square miles.

RECORDS AVAILABLE.—January 1, 1904, to June 30, 1909; May 2, 1918, to September 30, 1927. For station at Wilson's sawmill, 3 miles upstream August 24, 1902, to December 31, 1903.

EQUIPMENT.—Vertical staff on left bank; installed January 1, 1904. Discharge measurements made from cable 200 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed composed of boulders in gravel drift. Control formed by riffle below gage; fairly permanent. Banks high, clean, and not subject to overflow. One channel at all stages.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 6.25 feet June 27 (discharge, 6,440 second-feet); minimum stage, 1.74 feet February 9 (discharge, 256 second-feet).

1904–1909, 1918–1927: Maximum stage recorded, that of June 27, 1927; minimum stage, 1.46 feet at 1 p. m. January 19, 1924 (discharge, 124 second-feet).

DIVERSIONS AND REGULATION.—Three irrigation canals divert above station. No regulation except that due to head-gate changes of canals above station.

ACCURACY.—Stage-discharge relation not permanent; affected by ice December 12–17. Three rating curves used are fairly well defined by 16 discharge measurements, ranging between 400 and 5,700 second-feet, made during current year. Staff gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table, using shifting-control method May 13–16 and June 25, except during ice-affected period. Records good.

Daily discharge, in second-feet, of Fall River near Squirrel, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	476	419	542	333	392	406	392	1,540	1,590	3,700	1,010	850
2	490	419	558	419	447	399	365	1,520	1,560	3,700	990	823
3	476	426	558	433	476	412	392	1,310	1,720	3,620	990	788
4	447	426	565	462	433	412	392	1,300	1,910	3,700	1,040	788
5	476	419	550	454	392	392	365	1,240	2,050	3,620	942	780
6	462	419	520	454	379	399	352	1,190	2,260	3,160	914	771
7	433	440	498	490	365	406	379	1,290	2,840	3,090	914	771
8	419	392	476	447	327	392	392	1,240	3,160	3,320	895	754
9	419	433	454	433	256	419	406	1,190	3,060	3,150	877	754
10	447	433	440	476	392	392	392	1,300	3,140	3,540	868	1,050
11	433	433	447	447	268	365	399	1,470	3,510	3,090	914	823
12	462	447	}	447	290	365	392	1,520	3,750	3,020	877	805
13	462	462	}	433	327	386	379	1,900	3,670	2,640	895	805
14	433	483	}	406	352	406	392	2,070	4,230	2,790	895	823
15	447	462	290	433	327	392	406	2,490	4,050	2,360	933	788
16	462	440	}	440	365	399	412	3,100	4,070	2,150	895	771
17	462	469	}	426	379	406	406	3,510	4,070	1,940	859	754
18	462	490	340	447	392	392	406	3,360	3,990	2,080	841	737
19	447	520	327	352	365	365	392	2,660	4,310	2,000	823	720
20	447	550	392	365	433	399	379	2,570	4,390	1,940	823	720
21	433	779	365	}	392	379	365	1,880	4,230	1,680	823	720
22	433	628	365	}	419	379	406	1,980	4,230	1,490	805	712
23	433	710	315	}	392	399	412	1,670	4,390	1,370	796	712
24	433	628	}	}	406	386	462	1,560	4,710	1,260	805	841
25	433	669	}	270	365	379	612	1,590	5,650	1,200	762	788
26	433	581	}	}	406	365	779	1,970	5,760	1,140	771	823
27	433	565	300	}	392	365	924	2,120	6,440	1,070	762	805
28	433	528	}	419	412	386	1,180	2,040	5,840	1,070	762	805
29	440	520	}	426	-------	372	1,290	1,620	4,820	1,070	771	841
30	426	520	}	379	-------	379	1,400	1,540	4,180	1,030	762	805
31	426	-------	279	340	-------	406	-------	1,640	-------	990	868	-------

NOTE.—Stage-discharge relation affected by ice Dec. 12–17, 24–30, Jan. 21–27; discharge estimated.

Monthly discharge of Fall River near Squirrel, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	490	419	446	27,400
November	779	392	504	30,000
December	565	279	382	23,500
January	490	270	389	23,900
February	476	256	376	20,900
March	419	365	390	24,000
April	1,400	352	521	31,000
May	3,510	1,190	1,850	114,000
June	6,440	1,560	3,790	226,000
July	3,700	990	2,320	143,000
August	1,040	762	867	53,300
September	1,050	712	791	47,100
The year	6,440	256	1,050	764,000

DIVERSIONS FROM FALL RIVER BETWEEN SQUIRREL AND CHESTER GAGING STATIONS, IDAHO

Between Squirrel and Chester gaging stations 10 separate canals divert water from Fall River for irrigation. Gaging stations are maintained at the heading of each canal by the United States Geological Survey for the Idaho State Department of Reclamation to facilitate distribution of water. Records are available from June 1, 1919, to September 30, 1927.

Stage-discharge relation on many of the canals affected by growth of aquatic vegetation or by operation of check gates. Rating curves fairly well defined. Gage read to hundredths daily except during September, when occasional readings were made. Records good.

Combined daily discharge, in second-feet, of canals diverting from Fall River between Squirrel and Chester gaging stations, Idaho, for irrigation season of 1927

Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.
1	365	797	589	378	16	761	751	561	295
2	401	811	623	385	17	768	706	507	294
3	390	796	620	383	18	784	696	533	296
4	397	814	618	382	19	796	678	488	298
5	403	790	580	381	20	797	680	483	297
6	434	781	589	378	21	806	679	488	298
7	436	761	581	377	22	818	721	466	297
8	414	748	577	378	23	860	720	467	296
9	360	758	580	378	24	896	673	453	297
10	587	817	581	358	25	866	619	451	282
11	644	775	596	337	26	876	626	441	267
12	622	779	557	317	27	838	669	439	254
13	626	757	561	296	28	740	676	359	238
14	722	745	568	296	29	820	597	298	223
15	740	749	571	294	30	463	561	311	207
					31		550	314	

NOTE.—Discharge interpolated for days of no gage-height record during September.

Combined monthly discharge of canals diverting from Fall River between Squirrel and Chester gaging stations, Idaho, for the irrigation season of 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
June	896	365	648	38,600
July	817	550	719	44,200
August	623	268	511	31,400
September	385	267	315	18,700
The period				133,000

FALL RIVER NEAR CHESTER, IDAHO

LOCATION.—In sec. 13, T. 8 N., R. 41 E., half a mile above mouth and 2 miles north of Chester post office, Fremont County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—April 23, 1920, to September 30, 1927.

EQUIPMENT.—Stevens 8-day water-stage recorder on right bank, installed August 10, 1920. Discharge measurements made from cable 100 feet downstream or by wading.

CHANNEL AND CONTROL.—Bed composed of boulders in drift and lava outcrop. Control is a well-defined rock ledge immediately below gage. One channel at all stages.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 6.60 feet at 2 p. m. June 27 (discharge, 6,380 second-feet); minimum stage, 2.25 feet 4 to 8 p. m. August 10 (discharge, 296 second-feet).

1920–1927: Maximum stage recorded, that of June 27, 1927; minimum stage 1.01 feet at 6 p. m. August 7, 1923 (discharge, 9 second-feet).

DIVERSIONS AND REGULATION.—A number of irrigation canals divert above station but none between station and Henrys Fork half a mile below. No regulation except that due to manipulation of canal head gates above station.

ACCURACY.—Stage-discharge relation not entirely permanent; seriously affected by ice and observations discontinued during winter. Rating curves well defined by 22 discharge measurements covering stages between 200 and 5,600 second-feet and made during current year. Operation of water-stage recorder satisfactory. Daily discharge obtained by applying mean daily gage height to rating table using shifting-control method July 31 to August 7. Records good.

Daily discharge, in second-feet, of Fall River near Chester, Idaho, for the year ending September 30, 1927

Day	Apr.	May	June	July	Aug.	Sept.	Day	Apr.	May	June	July	Aug.	Sept.
1	-------	2,030	1,780	3,150	452	499	16	-------	3,620	3,880	1,450	427	554
2	-------	1,840	1,720	2,840	433	472	17	-------	4,100	3,900	1,360	420	533
3	-------	1,660	1,870	2,810	396	420	18	-------	3,930	3,860	1,310	402	519
4	-------	1,530	2,060	3,020	384	414	19	396	3,540	3,930	1,280	402	512
5	-------	1,410	2,200	2,740	355	414	20	384	2,880	3,910	1,190	402	499
6	-------	1,280	2,390	2,370	328	408	21	367	2,260	3,790	967	402	485
7	-------		2,760	2,500	339	408	22	384	2,110	3,710	802	390	478
8	-------		3,230	2,390	323	402	23	402	1,900	3,810	717	379	478
9	-------	1,440	3,280	2,430	312	402	24	433	1,710	4,200	637	379	606
10	-------		3,210	2,840	301	614	25	569	1,720	4,870	606	373	645
11	-------		3,390	2,370	339	599	26	828	1,980	4,960	569	373	591
12	-------	1,740	3,660	2,150	333	506	27	987	2,200	5,680	478	367	554
13	-------	1,890	3,670	1,990	355	526	28	1,310	2,230	5,200	390	396	577
14	-------	2,470	3,950	1,910	390	606	29	1,570	1,860	4,260	433	465	708
15	-------	3,020	3,980	1,760	396	591	30	1,760	1,610	3,640	512	506	725
							31	-------	1,740	-------	499	591	------

NOTE.—No record Oct. 1 to Apr. 18. Discharge May 7-11 estimated and May 2, 4, and 5 interpolated.

Monthly discharge of Fall River near Chester, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
April 19–30	1,760	367	782	18,600
May	4,100	1,280	2,110	130,000
June	5,680	1,720	3,560	212,000
July	3,150	390	1,630	100,000
August	591	301	391	24,000
September	725	402	525	31,200
The period				516,000

TETON RIVER NEAR ST. ANTHONY, IDAHO

LOCATION.—In sec. 15, T. 7 N., R. 41 E., half a mile above Oregon Short Line Railroad bridge and 4 miles southeast of St. Anthony, Fremont County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—April 19, 1920, to September 30, 1927. April 23, 1903, to June 30, 1909, at Hog Hollow highway bridge, three-quarters of a mile upstream; records comparable.

EQUIPMENT.—Stevens 8-day water-stage recorder on right bank; installed May 2, 1921. Discharge measurements made from cable 50 feet below gage.

CHANNEL AND CONTROL.—Bed composed of fine, compact gravel drift. Control subject to shifts at high stages or during ice-affected periods.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 5.64 feet at 8 p. m. June 14 (discharge, 4,100 second-feet); minimum stage, 0.20 foot at 9 p. m. October 11 (discharge, 414 second-feet). Even lower stages may have occurred during period of no record.

1903–1909, 1920–1927: Maximum stage recorded, 6.90 feet at 3 p. m. June 5, 1909 (discharge, 7,820 second-feet); minimum stage, 1.00 foot March 12, 1906 (discharge, 88 second-feet).

DIVERSIONS AND REGULATION.—Several irrigation canals divert in Teton River Basin 20 miles above station. No regulation except that from manipulation of canal head gates.

ACCURACY.—Stage-discharge relation not permanent; seriously affected by ice, observations discontinued during winter. Standard rating curve well defined by 21 discharge measurements made during current year and covering stages from 400 to 4,100 second-feet. Operation of water-stage recorder satisfactory. Discharge obtained by shifting-control method. Records good.

Daily discharge, in second-feet, of Teton River near St. Anthony, Idaho, for the year ending September 30, 1927

Day	Oct.	Apr.	May	June	July	Aug.	Sept.
1	609		1,540	1,480	3,530	1,050	686
2	565		1,500	1,480	3,040	985	711
3	487		1,370	1,590	2,930	979	696
4	474		1,200	1,880	3,040	944	681
5	456		1,100	2,260	3,070	922	686
6	439		1,030	2,430	2,820	899	681
7	435		1,040	2,730	2,570	888	671
8	443		1,030	3,310	2,520	871	671
9	439		990	3,620	2,560	866	686
10	427		933	3,600	2,400	855	748
11	422		927	3,770	2,240	866	817
12	422		1,010	3,820	2,100	855	764
13			1,130	3,920	1,920	871	769
14			1,390	3,990	1,780	933	806
15			1,920	4,070	1,690	944	822
16			2,460	3,930	1,590	939	790
17			3,000	3,850	1,480	888	769
18			3,370	3,740	1,440	849	732
19			2,990	3,720	1,440	833	711
20		506	2,610	3,780	1,420	833	701
21		484	2,230	3,720	1,370	838	696
22		506	1,850	3,470	1,310	828	691
23		588	1,470	3,390	1,290	811	686
24		764	1,360	3,590	1,260	817	717
25		871	1,280	3,700	1,220	801	753
26		1,080	1,460	3,720	1,200	780	758
27		1,280	1,860	4,000	1,200	748	737
28		1,440	1,900	4,080	1,160	737	727
29		1,480	1,800	4,030	1,140	711	817
30		1,440	1,720	3,850	1,140	722	860
31			1,650		1,120	706	

NOTE.—No record Oct. 13 to Apr. 19. Discharge Apr. 26 and May 19–22 interpolated because of no gage-height record.

Monthly discharge of Teton River near St. Anthony, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October 1–12	609	422	468	11,100
April 20–30	1,480	484	949	20,700
May	3,370	927	1,650	101,000
June	4,080	1,480	3,350	199,000
July	3,530	1,120	1,900	117,000
August	1,050	706	857	52,700
September	860	671	735	43,700

DIVERSIONS FROM TETON RIVER BETWEEN GAGING STATION NEAR ST. ANTHONY AND MOUTH OF RIVER, IDAHO

Between St. Anthony gaging station and mouth of Teton River 15 separate canals divert water for irrigation. Gaging stations are maintained at heading of each canal by the United States Geological Survey for the Idaho State Department of Reclamation to facilitate distribution of the water. Records are available from June 1, 1919, to September 30, 1927.

Stage-discharge relation on these canals is affected by growth of aquatic plants. Rating curves are fairly well defined. Gage read to hundredths daily except during September, when occasional readings were made. Records fair.

Combined daily discharge, in second-feet, of canals diverting from Teton River between St. Anthony gaging station and mouth of river, Idaho, for the irrigation season, 1927

Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.
1	661	1,080	925	633	16	1,190	989	822	523
2	676	987	895	625	17	1,180	908	785	520
3	701	964	887	618	18	1,190	951	714	516
4	751	1,000	842	612	19	1,170	1,000	698	513
5	799	1,000	805	606	20	1,210	1,010	699	514
6	794	1,150	803	601	21	1,300	1,020	705	519
7	993	1,050	780	598	22	1,350	1,060	709	520
8	850	1,090	760	599	23	1,400	1,130	734	522
9	963	1,100	786	595	24	1,410	1,100	738	526
10	889	998	786	582	25	1,450	1,000	700	529
11	915	958	799	582	26	1,490	1,010	677	532
12	1,010	1,010	790	575	27	1,420	978	668	539
13	1,040	968	805	561	28	1,190	926	670	550
14	1,110	932	864	543	29	1,160	944	666	558
15	1,020	987	826	525	30	1,130	943	638	572
					31		937	641	

NOTE.—Discharge interpolated for days of no gage-height record during September.

Combined monthly discharge of canals diverting from Teton River between St. Anthony gaging station and mouth of river, Idaho, for the irrigation season 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
June	1,460	661	1,080	64,300
July	1,150	908	1,010	62,100
August	925	638	762	46,900
September	633	513	560	33,300
The period				207,000

BLACKFOOT RIVER NEAR BLACKFOOT, IDAHO

LOCATION.—In sec. 27, T. 3 S., R. 34 E., 2 miles above junction with Snake River and 8 miles southwest of Blackfoot, Bingham County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—July 27, 1913, to September 30, 1927.

EQUIPMENT.—Friez water-stage recorder on right bank. Discharge measurements made from cable 100 yards below gage or by wading.

CHANNEL AND CONTROL.—Bed composed of gravel. Control presumably of same material; fairly permanent. One channel at all stages. Banks covered with heavy growth of brush and willows which may affect stage-discharge relation at high stages.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 8.37 feet at 9 p. m. May 29 (discharge estimated, 699 second-feet); channel probably dry several periods in June.

1913–1927: Maximum stage recorded, 9.60 feet at 12.30 p. m. May 21, 1921 (discharge, 868 second-feet); no flow on numerous days in 1919–1927.

DIVERSIONS AND REGULATION.—Diversions for the Fort Hall Canals and smaller diversions are made above gage. Flow regulated by storage in Blackfoot-Marsh Reservoir of the United States Indian Service.

ACCURACY.—Stage-discharge relation not permanent; records discontinued during winter. Rating curves fairly well defined by 19 discharge measurements, ranging from 10 to 500 second-feet made during open-water season. Operation of water-stage recorder satisfactory. Daily discharge ascertained by shifting-control method. Records good.

Daily discharge, in second-feet, of Blackfoot River near Blackfoot, Idaho, for the year ending September 30, 1927

Day	Apr.	May	June	July	Aug.	Sept.	Day	Apr.	May	June	July	Aug.	Sept.
1	------	676	362	379	82	278	16	81	44	53	46	506	178
2	------	688	409	346	148	273	17	91	38	98	17	592	201
3	------	699	359	374	120	132	18	117	77	50	9	546	234
4	------	673	297	476	96	99	19	146	142	46	9	566	270
5	------	663	263	496	85	101	20	134	261	68	7	466	220
6	------	609	266	406	68	72	21	111	324	18	12	349	181
7	------	569	227	192	75	42	22	108	359	3	17	287	142
8	------	514	113	96	161	38	23	120	419	3	11	225	106
9	------	524	26	82	210	82	24	117	416	18	8	183	82
10	------	496	11	85	130	117	25	155	464	74	7	132	82
11	82	334	3	63	117	196	26	249	446	144	7	117	96
12	84	227	2	72	161	359	27	384	374	244	6	124	118
13	82	190	3	98	210	354	28	504	466	268	8	155	167
14	84	108	2	78	290	199	29	639	619	222	9	227	302
15	82	72	19	57	496	167	30	665	492	268	21	256	379
							31	------	322	------	36	249	------

NOTE.—No record Oct. 1 to May 3. Discharge estimated May 29 and June 11–14.

Monthly discharge of Blackfoot River near Blackfoot, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
April 11–30	665	81	202	8,010
May	699	38	397	24,400
June	409	2	131	7,800
July	496	6	114	7,010
August	592	68	240	14,800
September	379	38	176	10,500
The period				72,500

MUD LAKE NEAR TERRETON, IDAHO

LOCATION.—One gage in NW. ¼ sec. 3, T. 6 N., R. 35 E., at the C. O. Magill ranch, in backwater of Camas Creek, 6 miles northeast of Terreton, Jefferson County, 7 miles southwest of Hamer, and 15 miles northwest of Roberts, and another at Owsley Canal Co.'s pump house, 5½ miles southwest of Magill ranch gage.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—April 4, 1921, to September 30, 1927.

EQUIPMENT.—Magill ranch gage, a vertical staff on left bank of Camas Creek, 20 feet upstream from bridge; installed September 25, 1927. Prior thereto vertical staff on bridge pier near left bank was used. Owsley Canal Co.'s gage a vertical staff on west wing wall of Owsley Canal Co.'s pump house intake; installed October 4, 1925. Both gages at about same datum. Elevation of zero gages is 4,775.33 feet above mean sea level.

EXTREMES OF CONTENTS.—Maximum stage recorded during year, 6.88 feet May 14, 15 (contents, 35,200 acre-feet); minimum stage, 1.50 feet September 6–8 (contents, 6,720 acre-feet). Mean maximum and minimum stages determined by graphic comparison of readings on two gages.

1921–1927: Maximum stage recorded, 9.20 feet May 5, 1923 (contents, 61,660 acre-feet); minimum stage recorded, that of September 6–8, 1927.

DIVERSIONS AND REGULATION.—Considerable water diverted from tributaries to Mud Lake and from diversions by pumping and gravity from the lake during irrigation season. No regulation except as the supply in the lake is affected by pumping.

COOPERATION.—Gage-height record partly furnished by Owsley Canal Co.

Daily contents, in acre-feet, of Mud Lake near Terreton, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8,660	11,700	18,000	23,000	27,800	30,800	34,500	34,400	32,400	21,800	9,060	6,940
2	8,660	11,900	18,300	23,100	27,900	30,800	34,600	34,300	32,400	21,300	8,850	6,880
3	8,660	12,100	18,600	23,200	27,900	31,000	34,700	34,300	32,500	20,700	8,720	6,830
4	8,660	12,300	18,800	23,300	28,000	31,200	34,700	34,300	32,500	20,200	8,520	6,770
5	8,660	12,400	19,000	23,400	28,100	31,400	34,800	34,300	32,500	19,600	8,430	6,750
6	8,660	12,500	19,300	23,600	28,100	31,500	34,800	34,300	32,500	18,900	8,300	6,720
7	8,660	12,600	19,600	23,800	28,200	31,700	34,800	34,300	32,400	18,300	8,170	6,720
8	8,660	12,700	19,800	23,900	28,200	32,000	34,900	34,300	32,100	17,800	8,080	6,720
9	8,750	12,800	20,000	24,100	28,400	32,100	34,900	34,300	31,800	17,200	7,980	6,770
10	8,890	13,000	20,200	24,300	28,600	32,200	35,000	34,300	31,500	16,700	7,890	6,800
11	9,060	13,200	20,500	24,500	28,700	32,300	35,000	34,300	31,200	16,200	7,800	6,830
12	9,230	13,500	20,800	24,700	28,900	32,400	35,100	34,300	30,800	15,700	7,710	6,880
13	9,440	13,700	20,900	25,000	29,000	32,500	35,100	34,300	30,500	15,200	7,590	6,960
14	9,650	13,800	20,900	25,200	29,100	32,900	35,200	34,300	30,100	14,700	7,470	7,020
15	9,830	14,000	21,000	25,500	29,200	33,200	35,200	34,300	29,700	14,300	7,330	7,070
16	10,000	14,300	21,100	25,700	29,400	33,300	34,900	34,300	29,300	13,800	7,190	7,130
17	10,200	14,500	21,200	25,800	29,500	33,300	34,800	34,200	29,000	13,400	7,160	7,160
18	10,300	14,700	21,400	26,100	29,600	33,400	34,700	33,900	29,000	13,100	7,160	7,190
19	10,400	15,000	21,500	26,200	29,700	33,500	34,600	33,600	28,200	12,700	7,210	7,190
20	10,600	15,200	21,600	26,400	29,800	33,600	34,500	33,100	27,900	12,300	7,270	7,210
21	10,600	15,500	21,800	26,500	29,900	33,700	34,500	32,600	27,200	12,000	7,360	7,210
22	10,700	15,700	22,000	26,700	30,100	33,800	34,500	32,300	26,800	11,700	7,360	7,240
23	10,800	16,000	22,300	26,800	30,200	33,900	34,600	32,200	26,500	11,400	7,360	7,240
24	10,900	16,200	22,400	26,900	30,300	34,000	34,700	32,200	25,500	11,100	7,360	7,270
25	10,900	16,500	22,600	27,000	30,400	34,100	34,800	32,300	24,900	10,800	7,330	7,330
26	11,000	16,700	22,600	27,200	30,400	34,200	34,800	32,300	24,200	10,500	7,300	7,360
27	11,100	17,000	22,600	27,300	30,600	34,200	34,700	32,300	23,900	10,200	7,270	7,390
28	11,200	17,200	22,700	27,400	30,700	34,300	34,600	32,300	23,600	9,980	7,210	7,440
29	11,200	17,200	22,700	27,500	-------	34,300	34,500	32,300	23,000	9,760	7,160	7,470
30	11,400	17,300	22,800	27,700	-------	34,400	34,400	32,400	22,700	9,510	7,100	7,500
31	11,500	-------	22,800	27,700	-------	34,400	-------	32,400	-------	9,260	7,020	-------

NOTE.—Record of daily contents determined from gage-height graph based on readings obtained from gages at Magill ranch and at Owsley Canal Co.'s pump house.

CAMAS CREEK NEAR DUBOIS, IDAHO

LOCATION.—In NE. ¼ SE. ¼ sec. 13, T. 11 N., R. 38 E., 2 miles north of Lone Tree Reservoir, 2 miles downstream from 18-mile shearing corral, 5½ miles south of Idmon, and 19 miles northeast of Dubois, Clark County.

DRAINAGE AREA.—216 square miles (measured on United States Geological Survey map of Mud Lake Basin).

RECORDS AVAILABLE.—April 11, 1921, to September 10, 1927, when station was discontinued.

EQUIPMENT.—Stevens continuous water-stage recorder on right bank. Discharge measurements made from wagon bridge 2 miles above gage or by wading.

CHANNEL AND CONTROL.—Bed composed of lava boulders and gravel; practically permanent. Banks fairly high and brushy; right bank subject to overflow. Control well defined.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year from well-defined mark in well, 5.05 feet early morning of May 2 (discharge, 1,190 second-feet); minimum stage, 1.08 feet September 4 and 7 (discharge, 27 second-feet).

1921–1927: Maximum stage recorded, 5.75 feet May 21, 1922 (discharge 1,550 second-feet); minimum discharge, 7.8 second-feet from 8 p. m. August 2 to 2 a. m. August 3, 1926 (gage height, 0.67 foot).

DIVERSIONS AND REGULATION.—Two stock-watering ditches of the Wood Live Stock Co. are principal diversions above station. Several small irrigation ditches divert from tributaries upstream. Some water stored in Frazier Reservoir, which has a capacity of 2,000 to 3,000 acre-feet, on West Camas Creek and released during low-water period for use above gaging station.

ACCURACY.—Stage-discharge relation permanent; seriously affected by ice, observations discontinued during winter. Rating curve well defined below and fairly well defined above 600 second-feet by 15 discharge measurements of which 5, ranging from 35 to 548 second-feet, were made during current year. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height determined by inspection of recorder graph. Records excellent.

Daily discharge, in second-feet, of Camas Creek near Dubois, Idaho, for the year ending September 30, 1927

Day	May	June	July	Aug.	Sept.	Day	May	June	July	Aug.	Sept.
1		333	117	43	28	18	555	436	35	35	
2	694	377	105	43	29	19	574	363	34	34	
3	673	333	94	42	29	20	593	333	34	33	
4	485	452	85	41	27						
5	519	468	77	39	28	21	555	326	34	36	
						22	452	271	37	35	
6	421	485	69	37	28	23	436	231	34	33	
7	468	502	62	35	27	24	391	208	36	30	
8	391	519	56	36	28	25	310	187	38	28	
9	252	593	50	35	28						
10	240	574	47	34	28	26	254	166	41	29	
						27	290	158	42	28	
11	254	502	44	31		28	485	144	41	28	
12	292	537	41	31		29	574	129	41	28	
13	288	502	40	34		30	452	123	44	31	
14	271	502	41			31	363		45	31	
15	336	468	41								
				40							
16	436	452	39								
17	485	436	37								

NOTE.—Discharge estimated Aug. 14–17 by comparison with that at stations in near-by drainage basins. Braced figure shows mean discharge for period indicated.

Monthly discharge of Camas Creek near Dubois, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
May 2–31	694	240	426	25,300
June	593	123	370	22,000
July	117	34	51.0	3,140
August		28	34.8	2,140
September 1–10	29	27	28.0	555
The period				53,100

CAMAS CREEK AT CAMAS, IDAHO

LOCATION.—In E. ½ SE. ¼ sec. 21, T. 8 N., R. 36 E., half a mile above mouth of Beaver Creek, 350 feet above bridge of Oregon Short Line Railroad at Camas, Jefferson County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—April 13, 1925, to September 30, 1927.

EQUIPMENT.—Stevens 8-day water-stage recorder on left bank; installed March 26, 1927. From August 21, 1925, to March 25, 1927, gage used was vertical staff on right bank 30 feet below present site and at same datum but reading slightly lower owing to fall in stream. Discharge measurements made from wagon bridge 330 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed composed of fine gravel and sand. Banks low several channels at high stages. Control not well defined; subject to growth of aquatic plants.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, from water-stage recorder, 1.96 feet at 1 a. m. May 4 (discharge, 204 second-feet); minimum stage, 0.18 foot October 1 (discharge, 2.7 second-feet).

1925–1927: Maximum stage and discharge recorded, that of May 4, 1927 channel dry June 1–7, 1926.

DIVERSIONS AND REGULATION.—A number of irrigation and stock-water diversions above station. Flow past station affected to some extent by losses through lava crevices in Lone Tree Reservoir, 29 miles upstream. Gates in dam not changed during year.

ACCURACY.—Stage-discharge relation not permanent; seriously affected by ice during winter. Rating curve used October 1 to November 20 is well defined by 10 discharge measurements made during 1926 and 1927. Rating curve used after March 25 is well defined below 160 second-feet by nine discharge measurements ranging from 9.4 to 144 second-feet and made during the current year. Gage read to hundredths once daily October 1 to November 20. Operation of water-stage recorder March 26 to September 30, not entirely satisfactory. Daily discharge obtained by applying to rating table daily staff-gage height or mean daily gage height determined by inspection of recorder graph, except as indicated in footnote to table of daily discharge. Records good except those for estimated periods, which are poor.

COOPERATION.—Gage-height record prior to August 19 furnished by Camas Mutual Irrigation District.

Daily discharge, in second-feet, of Camas Creek at Camas, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept
1	2.7	12					14	80	96	51		1
2	7.5	10					14	86	95	49		1
3	6.5	10					14	120	94	47	20	1
4	6.5	12					15	155	93	44		1
5	6.5	12					14	115	92	42		1
6	7.5	13					14	106	89	39		1
7	5.8	13					13	102	85	37		1
8	5.1	15					14	98	88	35		1
9	6.5	17					16	95	89			1
10	9.5	15					15	93	93		15	1
11	8.5	13					15	86	102	20		1
12	8.5	14				8	15	83	93			1
13	9.5	14					15	81	88			1
14	9.5	14					15	79	90			1
15	9.5	13			8		16	78	85	13		1
			10	8							25	
16	8.5	13					19	78	84			1
17	6.5	13						80	83			1
18	5.8	14						81	82			1
19	5.8	13						89	81		21	1
20	6.5	13					15	92	80	10	20	1
21	8.5							97	79		19	1
22	10							114	76		17	1
23	12							102	73		16	1
24	12					10	21	98	69		14	1
25	12					15	21	94	64		13	1
		12										
26	12					11	24	92	60		12	1
27	12					15	37	90	59		11	
28	10					15	48	90	57		12	
29	10				-------	24	62	93	56	20	13	
30	12				-------	21	72	98	54		14	
31	12	-------			-------	15	-------	98	-------		12	-------

NOTE.—Because of ice or missing gage heights discharge estimated Nov. 21 to Mar. 23, Mar. 25, 27, Apr. 17–23, July 9–14, 16–31, Aug. 1–18, Sept. 29, 30; interpolated Apr. 5, 6, June 17–20 22, 23, 24, 27, 28, 30, July 2–6 Aug. 23–25. Result of discharge measurements used Mar. 24 and 26. Braced figures show mean discharge for periods indicated.

Monthly discharge of Camas Creek at Camas, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	12	2.7	8.55	526
November	17		12.8	762
December			10.0	615
January			8.0	490
February			8.0	440
March	24		10.0	615
April	72		20.9	1,240
May	155	78	94.9	5,840
June	102	54	81.0	4,820
July	51		22.5	1,380
August			17.4	1,070
September		10	13.3	791
The year	155	2.7	25.7	18,600

BEAVER CREEK AT DUBOIS, IDAHO

LOCATION.—In NW. ¼ sec. 21, T. 10 N., R. 36 E., at Ed F. Palmer ranch, half a mile north of Dubois, Clark County. This stream is locally known as Dry Creek.

DRAINAGE AREA.—220 square miles (measured on United States Geological Survey map of Mud Lake Basin).

RECORDS AVAILABLE.—April 15, 1921, to September 30, 1927.

EQUIPMENT.—Stevens continuous water-stage recorder on left bank; installed May 8, 1927. Prior to May 8, 1927, gage was vertical staff attached to cottonwood tree on left bank, 175 feet below recorder site. Discharge measurements made from highway bridge at Dubois or by wading.

CHANNEL AND CONTROL.—Bed composed of lava rock and gravel. Banks steep and brushy; one channel at all stages. Control fairly well defined but occasionally fouled by drift.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 3.2 feet April 27, 28 (discharge, 293 second-feet); minimum stage, 0.58 foot July 21–23 (discharge, 5 second-feet). Lower stage may have occurred during period of no record.

1921–1927: Maximum discharge, 637 second-feet May 20, 1922 (gage height, 4.9 feet); stream reported dry August 3 to about November 30, 1924.

DIVERSIONS AND REGULATION.—A few small diversions several miles upstream. During summer practically entire flow is diverted below gage for irrigation.

ACCURACY.—Stage-discharge relation changed slightly on April 27 and 28; affected by ice; record discontinued during winter. Rating curve used prior to April 27 is well defined by several discharge measurements made in 1925 and 1926 and checked closely by two measurements made in March of current year. Curve used subsequent to May 8 is well defined by nine discharge measurements, ranging from 8.2 to 169 second-feet, made during current year. Gage read to hundredths once daily prior to May 8; thereafter operation of water-stage recorder was satisfactory. Daily discharge ascertained by applying to rating table daily staff gage height or mean daily gage height determined from inspection of recorder graph except as indicated in footnote to table of daily discharge; shifting-control method, defined by two measurements, used April 27 to May 8. Records excellent May 8 to June 30; others good except those for estimated periods, which are fair.

Daily discharge, in second-feet, of Beaver Creek at Dubois, Idaho, for the year endir September 30, 1927

Day	Mar.	Apr.	May	June	July	Aug.	Sept.
1			126	129	32	13	1
2			92	149	26	14	1
3			76	122	24	14	1
4			64	151	20	15	
5			61	144	18	14	1
		15					
6			56	144	17	12	1
7			97	154	15	11	
8			71	168	13	11	
9			65	175	12	11	1
10			58	168	11	11	1
11		19	53	163	9	12	1
12		14	53	163	8	12	1
13		12	51	151	8	12	1
14		15	55	140	9	13	1
15		16	71	129	9	14	1
16		27	91	113	7	14	1
17		26	111	111	7	13	1
18		29	126	99	6	11	
19		18	131	84	6	10	
20		16	138	77	6	11	
21		12	138	70	5	14	
22		29	129	60	5	13	
23	9	24	124	47	5	13	
24	11	52	103	41	6	12	
25		114	84	33	6	11	
26	14	231	74	30	7	11	
27		293	91	26	8	11	
28		293	158	27	8	11	1
29	18	179	161	46	10	12	1
30		138	142	39	15	15	1
31			129		14	13	

NOTE.—Discharge estimated or interpolated because of ice or missing gage heights Mar. 24, 25, 27–31 Apr. 1–10, Aug. 13–15, Sept. 20 and 21. Result of discharge measurement used Mar. 23 and 26. Braced figures show mean discharge for periods indicated.

Monthly discharge of Beaver Creek at Dubois, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
March 23–31			15.0	268
April	293		56.9	3,390
May	161	51	96.1	5,910
June	175	26	105	6,250
July	32	5	11.4	70
August	15	10	12.4	763
September	16	6	9.9	590
The period				17,900

BEAVER CREEK AT CAMAS, IDAHO

LOCATION.—In NE. ¼ sec. 21, T. 8 N., R. 36 E., three-eighths mile above confluence with Camas Creek and one-fourth mile northwest of Oregon Short Line Railroad depot at Camas, Jefferson County. Locally this stream i known as Dry Creek.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—April 25, 1921, to September 30, 1927.

EQUIPMENT.—Vertical staff attached to highway bridge on right bank. Discharge measurements made from highway bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of gravel. Control is a fairly well defined gravel riffle 250 feet below gage; fairly permanent. Banks may be overflowed at extremely high stages.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 2.18 feet at 7.25 p. m. April 27 (discharge, 90 second-feet); stream reported dry October 1 to April 25, May 4–7, 11–17, and June 22 to September 30.

1921–1927: Maximum discharge, 153 second-feet June 1, 1921, and March 18 and 19, 1926. No flow past station except during spring of each year.

DIVERSIONS AND REGULATION.—During summer entire flow is diverted for irrigation near Dubois, 14 miles above gage.

ACCURACY.—Stage-discharge relation permanent during year. Rating curve well defined and closely checked by four discharge measurements made during current year. Gage read to hundredths twice daily April 26–27 and once daily thereafter. Daily discharge ascertained by applying daily gage height to rating table. Records good.

COOPERATION.—Gage-height record furnished by Camas Mutual Irrigation District.

Daily discharge, in second-feet, of Beaver Creek at Camas, Idaho, for the year ending September 30, 1927

Day	Apr.	May	June	Day	Apr.	May	June	Day	Apr.	May	June
1	0	46	39	11	0	0	55	21	0	36	1
2	0	36	55	12	0	0	55	22	0	42	0
3	0	27	42	13	0	0	52	23	0	41	0
4	0	0	47	14	0	0	42	24	0	32	0
5	0	0	55	15	0	0	42	25	0	25	0
6	0	0	47	16	0	0	33	26	34	14	0
7	0	0	49	17	0	0	30	27	78	22	0
8	0	2	47	18	0	6	18	28	86	46	0
9	0	8	62	19	0	20	6	29	82	62	0
10	0	1	63	20	0	28	5	30	54	55	0
								31		47	

NOTE.—Discharge interpolated May 2 and June 18 because of missing gage heights; estimated May 8 because channel was dry part of the day. Channel reported dry except for days discharge is shown.

Monthly discharge of Beaver Creek at Camas, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
April	86	0	11.1	660
May	62	0	19.2	1,180
June	63	0	28.2	1,680
The year	86	0	4.86	3,520

LITTLE LOST RIVER NEAR HOWE, IDAHO

LOCATION.—In SE. ¼ sec. 11, T. 6 N., R. 28 E., a quarter of a mile above diversion dam of Blaine County Investment Co., 7 miles from Berenice, and 8 miles northwest of Howe, Butte County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—April 27, 1921, to September 30, 1927.

EQUIPMENT.—Vertical staff on left bank. Discharge measurements made by wading.

CHANNEL AND CONTROL.—Bed composed of cobbles and gravel; subject to cutting by swift velocity. One channel at all stages. Banks fairly high. No well-defined control.

EXTREMES OF DISCHARGE.—Maximum stage recorded, 1.65 feet June 23–29 (discharge, 168 second-feet); minimum stage 0.59 foot April 1 (discharge, 36 second-feet).

1921–1927: Maximum discharge recorded, 176 second-feet June 14, 1923 (gage height, 1.64 feet); minimum stage, 0.23 foot April 15 and 20, 1923 (discharge, 13 second-feet).

DIVERSIONS AND REGULATION.—Numerous irrigation diversions above and below station. Water is stored in small reservoir of Blaine County Investment Co. on Dry Creek, about 40 miles upstream, and during irrigation season is released and carried through Corral and Wet Creeks to Little Lost River and diverted into the company's main canal one-quarter mile below gage.

ACCURACY.—Stage-discharge relation not permanent; observations discontinued during winter. Rating curve fairly well defined between 25 and 150 second-feet used October 1–31; curve well defined between 30 and 180 second-feet used March 27 to September 30, based upon six discharge measurements ranging from 42.9 to 166 second-feet and made during August of current year. Gage read to hundredths once daily. Daily discharge determined by applying daily gage height to rating table except as indicated in footnote to table of daily discharge. Records good.

COOPERATION.—Gage-height record furnished by water master for Little Lost River.

Daily discharge, in second-feet, of Little Lost River near Howe, Idaho, for the year ending September 30, 1927

Day	Oct.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	56		36	91	117	152	85	72
2	56		40	91	110	152	79	68
3	56		44	91	104	145	77	66
4	58		42	98	104	145	73	66
5	60		40	98	117	145	71	67
6	60		38	98	124	131	72	64
7	61		39	98	138	124	72	66
8	64		51	98	138	124	74	67
9	69		53	91	115	124	69	69
10	66		53	85	115	117	72	75
11	67		52	74	145	117	74	98
12	69		50	74	145	110	72	85
13	70		50	75	152	110	73	85
14	68		49	74	152	104	79	85
15	66		51	91	152	104	77	85
16	66		52	98	152	104	74	79
17	62		52	117	152	104	69	78
18	62		50	117	152	98	68	77
19	66		48	124	152	98	68	75
20	64		42	124	160	98	71	73
21	64		50	117	160	98	73	72
22	63		55	117	160	91	69	72
23	59		55	110	168	91	69	74
24	56		52	104	168	91	66	74
25	56		53	98	168	91	65	91
26	56		54	98	168	98	67	85
27	56	44	57	104	168	91	66	79
28	55	42	66	117	168	91	67	79
29	57	41	75	117	168	85	68	79
30	57	39	85	110	160	85	79	82
31	57	38		110		79	74	

NOTE.—Discharge interpolated Mar. 28–31, Apr. 2, 4, June 2, July 4, and Sept. 30.

Monthly discharge of Little Lost River near Howe, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	70	55	61.4	3,780
March 27-31	44	38	40.8	405
April	85	36	51.1	3,040
May	124	74	100	6,150
June	168	104	147	8,750
July	152	79	110	6,760
August	85	65	72.0	4,430
September	98	64	76.2	4,530

BLAINE COUNTY INVESTMENT CO.'S CANAL NEAR HOWE, IDAHO

LOCATION.—In sec. 11, T. 6 N., R. 28 E., 600 feet below head of canal, 5 miles northwest of Berenice, and 7 miles northwest of Howe, Butte County.

RECORDS AVAILABLE.—April 11, 1924, to September 30, 1927.

EQUIPMENT.—Vertical staff on left bank; installed June 26, 1927. Prior to June 26, 1927, a vertical staff on left bank, 535 feet above present site was used. Discharge measurements made by wading.

CHANNEL AND CONTROL.—Bed composed of gravel, silt, and fine sand; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 1.55 feet June 22, 23 (discharge, 85 second-feet); canal dry for about six hours on May 18, and for long periods during nonirrigation season.

1924–1927: Maximum discharge recorded, 85 second-feet July 5, 1925, and June 22, 23, 1927; maximum gage height, 1.60 feet, July 5, 1925; no flow at times during nonirrigation periods.

DIVERSIONS AND REGULATION.—No diversions above gage. Flow regulated by operation of gates in diversion dam at head of canal.

ACCURACY.—Stage-discharge relation not permanent; observations discontinued during winter. Rating curve used subsequent to June 26 is well defined by six discharge measurements ranging from 0 to 83 second-feet; curves applicable prior to June 26 are defined by eight measurements made during current year. Gage read to hundredths once daily. Daily discharge determined by applying daily gage height to rating table using shifting-control method May 5–18. Records good.

COOPERATION.—Gage-height record and five discharge measurements furnished by water master for Little Lost River.

Blaine County Investment Co.'s canal diverts water from right side of Little Lost River in sec. 11, T. 6 N., R. 28 E., and uses it for irrigation.

Daily discharge, in second-feet, of Blaine County Investment Co.'s canal near Howe Idaho, for the year ending September 30, 1927

Day	Oct.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.8			28	55	72	17	12
2	7.8			32	47	72	17	10
3	7.8			38	39	58	17	10
4	8.6			38	40	56	16	10
5	12		4.0	39	46	55	12	10
6	12			39	51	52	13	9.
7	12			38	61	48	13	10
8	12			38	64	46	13	10
9	18			35	69	43	12	15
10	18			30	70	38	12	16
11	19			19	69	33	12	19
12	21		9.0	17	69	34	11	18
13	21			17	70	40	11	12
14	23			18	73	40	11	14
15	24			29	74	40	11	15
16	24			38	74	44	11	15
17	21		9.7	57	75	37	11	15
18	21		10	45	78	37	11	15
19	21		10	57	78	37	11	11
20	21		10	65	81	37	11	11
21	21		8.5	65	82	37	11	11
22	21		6.5	54	85	37	11	10
23	17		6.5	51	85	37	11	10
24	14		6.5	51	84	37	11	10
25	18		6.5	37	84	37	10	13
26	18		6.5	36	83	37	10	14
27	18	21	7.7	38	83	32	10	14
28	18		7.7	51	83	27	10	14
29	26	21	19	53	83	25	10	14
30	26		27	50	83	17	14	14
31	26			44		17	12	

NOTE.—Braced figures show estimated mean discharge for periods indicated; estimates based on reliable information furnished by water master.

Monthly discharge of Blaine County Investment Co.'s canal near Howe, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	26	7.8	17.9	1,10
March 27-31			21.0	20
April	27		8.37	49
May	65	17	40.2	2,47
June	85	39	70.6	4,20
July	72	17	40.6	2,50
August	17	10	12.0	73
September	19	9.7	12.7	75

BIG LOST RIVER AT HOWELL RANCH, NEAR CHILLY, IDAHO

LOCATION.—In sec. 30, T. 8 N., R. 21 E., at Howell ranch, 9 miles southwest o Chilly, Custer County, and 22 miles northwest of Mackay, nearest railroad point.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—April 25, 1904, to August 31, 1906; July 1, 1907, to November 14, 1914; May 11, 1920, to September 30, 1927.

EQUIPMENT.—Friez water-stage recorder on left bank, installed June 17, 1920 Discharge measurements made from cable 50 feet above gage or by wading

CHANNEL AND CONTROL.—Bed composed of sand, gravel, and cobbles. Channe straight. Banks covered with brush and subject to overflow at high stages Control composed of gravel and cobbles; may shift at high stages.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 4.64 feet at 7 to 9 a. m. June 13 (discharge, 2,490 second-feet); minimum discharge, 40 second-feet 3 to 3.30 p. m. November 2 (gage height, 1.03 feet).

1904–1914, 1920–1927: Maximum stage recorded, 5.94 feet 4 to 8 a. m. June 12, 1921 (discharge, 3,500 second-feet); minimum discharge, 35 second-feet April 2, 1909.

DIVERSIONS AND REGULATION.—Several small diversions above station. Hammerly ditch, capacity about 20 second-feet, diverts one-fourth mile below gage. No regulation.

ACCURACY.—Stage-discharge relation changed slightly during winter owing to ice (observations discontinued) and from August 31 to September 27. Rating curve used prior to November 14 is well defined by discharge measurements made during 1925 and 1926; curve used thereafter well defined between 50 and 2,400 second-feet by eight measurements made subsequent to winter. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height determined by inspection of recorder graph, except as shown in footnote to daily-discharge table; shifting-control method used August 31 to September 30. Records excellent except those for estimated periods, which are fair.

COOPERATION.—Results of three discharge measurements furnished by water commissioner for Big Lost River.

Daily discharge, in second-feet, of Big Lost River at Howell ranch, near Chilly, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Apr.	May	June	July	Aug.	Sept.
1	73	63		354	513	1,220	324	160
2	73	63		299	508	1,140	320	152
3	72	63		284	547	1,090	311	144
4	70	63	60	269	608	1,050	288	144
5	72			254	772	845	276	152
6	70			236	1,120	815	269	142
7	75		60	244	1,680	860	261	134
8	73	55	60	226	2,160	875	247	134
9	73		59	210	1,830	875	240	139
10	73		59	207	1,830	815	230	191
11	73		59	226	2,100	744	230	182
12	72		59	272	2,260	688	223	177
13	72	48	59	307	2,380	654	250	216
14	70		62	430	2,320	640	244	204
15	70			723	2,210	589	236	185
16	70		64	1,140	2,040	518	213	177
17	70		62	1,620	1,880	502	197	177
18	70		67	1,330	1,830	518	188	171
19	68		61	1,030	1,940	508	194	168
20	68		62	815	1,990	508	240	162
21	68		62	688	1,830	475	213	160
22	66		70	589	1,880	450	194	157
23	66		78	508	1,940	435	182	155
24	65		98	465	1,800	421	177	152
25	65		127	491	1,680	486	168	157
26	65		160	647	1,990	440	162	149
27	63		188	751	1,830	394	160	144
28	56		182	716	1,380	376	155	144
29	56		210	640	1,220	358	197	152
30	60		299	583	1,210	349	197	162
31	68			535		328	174	

NOTE.—Discharge estimated because of ice or missing gage heights Nov. 5–7, 8–12, Apr. 1–6, 14, 15, and June 24. Braced figures show mean discharge for periods indicated.

Monthly discharge of Big Lost River at Howell ranch, near Chilly, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	75	56	68.5	4,210
November 1–13			56.9	1,470
April	299		89.6	5,330
May	1,620	207	551	33,900
June	2,380	508	1,640	97,600
July	1,220	328	644	39,600
August	324	155	225	13,800
September	216	134	161	9,580

BIG LOST RIVER (EAST CHANNEL) ABOVE MACKAY RESERVOIR, NEAR MACKAY, IDAHO

LOCATION.—In sec. 32, T. 8 N., R. 23 E., 3 miles above Mackay Dam, above flow line of reservoir, and 7½ miles above Mackay, Custer County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—May 9, 1919, to September 30, 1927.

EQUIPMENT.—Stevens 8-day water-stage recorder on right bank. Discharge measurements made from suspension footbridge 20 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed composed of gravel; fairly permanent. One channel at low and medium stages; right bank overflowed at high stages. Control fairly well defined.

EXTREMES OF DISCHARGE.—Maximum mean daily stage recorded during year, 3.18 feet June 13 (discharge, 800 second-feet); channel reported dry, December 20 to noon May 17.

1919–1927: Maximum stage recorded, 3.37 feet June 16, 1922 (discharge, 999 second-feet); no flow April 27 to May 16, 1920, in winter of 1923, for long periods in 1924, January 1 to May 7, 1925, January 11 to May 2, 1926, and December 20, 1926, to May 17, 1927.

DIVERSIONS AND REGULATION.—No diversions between gage and reservoir. Several canals divert water in vicinity of Chilly above "dry beds" which extend from a few miles above gage to a point about 15 miles above. No regulation except as affected by diversions above gage.

ACCURACY.—Stage-discharge relation changed very slightly during frozen period when channel was practically dry. Rating curve used prior to December 20 is fairly well defined by measurements made in 1926 and shape of previous curve. Rating curve used subsequent to May 16 is well defined below and extended above 750 second-feet, by six discharge measurements made during year. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height determined by inspection of recorder graph except as indicated in footnote to table of daily discharge. Records good except those for estimated period, which are poor.

COOPERATION.—Gage-height record and two discharge measurements furnished by water commissioner for Big Lost River.

The record at this station represents a portion of the natural flow of Big Lost River and, taken in conjunction with the record for west channel of Big Lost River and with the record for east and west channels of Warm Spring Creek, will show the entire flow of Big Lost River at this point. The combined flow of Big Lost River and Warm Spring Creek represents practically the entire surface flow at this point into Mackay Reservoir, situated a short distance below. For record at station on west channel of river and on east and west channels of Warm Spring Creek see pages 71, 76, and 78, respectively. For combined flow of both channels of Big Lost River and both channels of Warm Spring Creek see page 73.

Daily discharge, in second-feet, of Big Lost River (east channel) above Mackay Reservoir, near Mackay, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	May	June	July	Aug.	Sept.
1	2.6	0.7	0.2	0	107	353	59	6.4
2	2.4	.7	.2	0	100	329	59	6.0
3	2.4	.7	.2	0	95	331	56	5.5
4	2.4	.6	.2	0	112	329	40	5.0
5	2.2	.7	.2	0	154	283	31	5.0
6	2.2	.7	.2	0	238	230	26	4.4
7	2.4	.7	.2	0	386	223	25	4.2
8	2.6	.7	.2	0	539	223	21	3.4
9	2.6	.7	.2	0	665	221	18	3.4
10	2.6	.7	.1	0	574	223	16	5.2
11	2.4	.7	.1	0	627	232	16	5.5
12	2.4	.7	.1	0	750	219	15	6.0
13	2.4	.7		0	800	199	15	7.6
14	2.2	.7		0	775	197	16	8.4
15	2.2	.7		0	750	180	14	8.0
16	1.8	.7	.1	0	706	160	13	6.8
17	1.8	.7		58	665	148	13	6.0
18	2.0	.4		183	609	142	12	5.5
19	2.0	.3		178	609	138	12	5.2
20	1.8	.2	0	170	627	132	12	5.0
21	1.6	.2	0	146	591	119	12	5.0
22	1.4	.2	0	119	591	109	11	5.0
23	1.4	.2	0	95	627	97	10	5.0
24	1.2	.3	0	73	646	85	9.2	5.0
25	1.0	.3	0	66	609	97	8.4	6.0
26	1.0	.2	0	76	627	105	8.4	5.7
27	.9	.2	0	119	706	85	7.6	5.5
28	1.2	.2	0	164	556	70	6.4	5.5
29	1.2	.2	0	158	443	64	6.8	5.7
30	1.0	.2	0	138	400	61	7.2	6.4
31	.9	-------	0	119	-------	60	7.2	-------

NOTE.—Channel reported dry Dec. 20 to noon May 17. Braced figure shows mean discharge for period indicated.

Monthly discharge of Big Lost River (east channel) above Mackay Reservoir, near Mackay, Idaho, for the year ending September, 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	2.6	0.9	1.88	116
November	.7	.2	.50	30
December	.2	0	.09	6
May	183	0	60 1	3,700
June	800	95	523	31,100
July	353	60	176	10,800
August	59	6.4	18.8	1,160
September	8.4	3.4	5 58	332
The year	800	0	65 3	47,200

NOTE.—No flow during months for which no discharge is given.

BIG LOST RIVER (WEST CHANNEL) ABOVE MACKAY RESERVOIR, NEAR MACKAY, IDAHO

LOCATION.—In sec. 5, T. 7 N., R. 23 E., 3 miles above Mackay Dam, above flow line of reservoir, and 7½ miles above Mackay, Custer County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—May 9, 1919, to September 30, 1927.

EQUIPMENT.—Stevens 8-day water-stage recorder on left bank; installed May 4, 1920. Discharge measurements made from suspension footbridge just above gage or by wading.

CHANNEL AND CONTROL.—Bed composed chiefly of gravel. Channel winding; banks subject to overflow at extremely high stages. Control of gravel; fairly well defined but subject to change.

EXTREMES OF DISCHARGE.—Maximum mean daily stage recorded during year, 3.00 feet June 14 (discharge, 493 second-feet); minimum stage, 0.93 foot April 5 to May 5 and May 14–16 (discharge, 15 second-feet).

1919–1927: Maximum discharge (estimated), 1,200 second-feet June 5–16, 1921, when water-stage recorder was not operating (gage height, from high-water mark on gage, 4.45 feet); minimum stage, 0.84 foot May 3–6, 1925 (discharge, 13 second-feet).

DIVERSIONS AND REGULATION.—No diversions between station and reservoir. Several canals divert water above "dry beds" which extend from a point a few miles above station to a point about 15 miles above near Chilly. No surface flow passes the "dry beds" except during fairly high stages.

ACCURACY.—Stage-discharge relation changed very slightly September 6–20; not affected by ice owing to spring inflow above gage. Rating curve used prior to September 7 is well defined below 500 second-feet by nine discharge measurements made during 1926 and 1927, of which seven were made during the current year. Operation of water-stage recorder satisfactory except for short periods when recorders clock was not running properly. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspection of recorder graph except as noted in footnote to daily discharge table; shifting-control method used September 6–30. Recorded excellent.

COOPERATION.—Gage-height record and three discharge measurements furnished by water commissioner for Big Lost River.

The record at this station represents a portion of the natural flow of Big Lost River and taken in conjunction with record for east channel of Big Lost River and with the record for east and west channels of Warm Spring Creek will show the entire surface flow of Big Lost River at this point. The combined flow of Big Lost River and Warm Spring Creek represents practically the entire flow at this point into Mackay Reservoir, situated a short distance downstream. For record at station on east channel of river and on east and west channels of Warm Spring Creek see pages 70, 76, and 78, respectively. For combined flow of both channels of Big Lost River and Warm Spring Creek see page 73.

Daily discharge, in second-feet, of Big Lost River (west channel) above Mackay Reservoir, near Mackay, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	37	30	26	23	19	18	16	15	78	259	84	50
2	37	30	26	23	19	18	16	15	74	249	80	50
3	37	30	26	23	19	18	16	15	72	241	74	50
4	37	30	26	23	19	18	16	15	76	233	66	50
5	37	30	26	23	19	18	15	15	87	208	60	50
6	36	30	26	23	19	18	15	16	110	181	59	46
7	36	31	26	23	19	18	15	16	169	173	57	45
8	35	30	26	23	19	18	15	16	251	171	54	46
9	35	30	25	23	19	18	15	16	323	171	54	48
10	36	30	25	23	19	18	15	16	298	164	54	52
11	37	30	25	23	19	18	15	16	332	173	54	51
12	37	30	25	23	19	18	15	16	402	169	52	52
13	36	29	25	23	19	18	15	16	477	161	54	56
14	36	29	24	23	19	18	15	15	493	169	59	52
15	35	29	24	23	19	18	15	15	487	157	57	52
16	34	29	24	23	19	18	15	15	471	141	56	52
17	34	29	24	22	19	18	15	32	430	136	56	51
18	34	28	23	22	19	18	15	71	399	127	54	50
19	32	28	23	22	19	18	15	80	399	123	54	50
20	32	28	23	22	19	16	15	80	421	121	57	49

Daily discharge, in second-feet, of Big Lost River (west channel) above Mackay Reservoir, near Mackay, Idaho, for the year ending September 30, 1927—Con.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
21	32	28	23	21	19	16	15	72	399	114	56	48
22	31	28	23	21	19	16	15	69	390	108	54	47
23	31	28	23	21	19	16	15	66	424	104	51	46
24	31	28	23	20	19	16	15	60	430	97	50	46
25	31	28	24	20	19	16	15	57	399	103	50	51
26	31	27	24	20	18	16	15	62	411	103	50	50
27	30	26	24	20	18	16	15	74	461	99	50	50
28	30	26	24	20	18	16	15	87	375	91	50	50
29	30	26	24	19	-------	16	15	93	318	89	51	50
30	30	26	24	19	-------	16	15	87	282	89	51	51
31	30	-------	23	19	-------	16	-------	82	-------	85	50	------

NOTE.—Because of missing gage heights discharge interpolated Feb. 16, 17, Aug. 21, 28, 29, and Sept 19-23.

Monthly discharge of Big Lost River (west channel) above Mackay Reservoir, near Mackay, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	37	30	33.8	2,008
November	31	26	28.7	1,710
December	26	23	24.4	1,500
January	23	19	21.8	1,340
February	19	18	18.9	1,050
March	18	16	17.2	1,060
April	16	15	15.1	898
May	93	15	42.6	2,620
June	493	72	325	19,300
July	259	85	149	9,160
August	84	50	56.7	3,490
September	56	45	49.7	2,960
The year	493	15	65.2	47,200

Combined daily discharge, in second-feet, of Big Lost River (east and west channels) and Warm Spring Creek (east and west channels) above Mackay Reservoir, near Mackay, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	148	138	140	134	128	126	122	98	356	858	294	162
2	148	138	140	134	127	126	121	98	344	811	289	162
3	148	138	140	134	127	126	120	98	335	801	272	162
4	148	140	140	134	127	127	119	99	358	787	239	162
5	149	143	140	134	127	127	118	99	422	704	220	161
6	147	145	140	134	127	127	117	100	542	614	211	156
7	148	148	140	135	127	127	114	101	785	595	205	155
8	152	147	139	133	128	128	113	101	1,070	592	194	156
9	153	145	138	135	128	128	112	101	1,310	587	190	161
10	153	144	139	135	129	128	112	101	1,190	579	188	178
11	149	144	139	135	129	128	112	100	1,280	600	187	174
12	148	144	142	135	131	128	110	100	1,500	583	181	180
13	146	143	141	135	129	128	110	100	1,670	555	181	191
14	143	143	138	135	129	131	108	99	1,680	566	189	188
15	141	143	138	135	128	130	102	100	1,630	529	184	189
16	142	143	138	135	127	131	100	99	1,550	489	183	189
17	142	146	138	134	126	131	99	196	1,440	467	183	187
18	134	145	137	134	126	131	98	398	1,340	442	180	186
19	132	145	137	134	126	129	99	407	1,340	427	179	184
20	132	142	137	136	124	127	101	400	1,380	418	182	182
21	134	142	136	130	124	127	100	374	1,320	393	180	175
22	132	142	136	133	124	127	101	341	1,300	374	173	170
23	131	142	135	132	125	127	100	309	1,380	356	168	170
24	131	144	135	131	125	127	99	275	1,410	333	166	173
25	131	144	136	131	125	127	99	269	1,330	366	162	185
26	130	141	135	131	126	127	98	289	1,380	375	163	182
27	125	140	135	131	127	127	97	355	1,520	343	163	182
28	124	140	135	132	126	126	97	427	1,240	321	159	184
29	126	140	136	131	-------	126	95	429	1,050	317	163	189
30	131	140	136	130	-------	126	95	401	946	305	163	193
31	137	-------	135	128	-------	126	-------	374	-------	299	163	------

Combined monthly discharge of Big Lost River (east and west channels) and Warm Spring Creek (east and west channels) above Mackay Reservoir, near Mackay, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	153	124	140	8,610
November	148	138	143	8,510
December	142	135	138	8,480
January	136	128	133	8,180
February	131	124	127	7,050
March	131	126	128	7,870
April	122	95	106	6,310
May	429	98	221	13,600
June	1,680	335	1,150	68,400
July	858	299	509	31,300
August	294	159	192	11,800
September	193	155	176	10,500
The year	1,680	95	263	191,000

MACKAY RESERVOIR NEAR MACKAY, IDAHO

LOCATION.—In sec. 12, T. 7 N., R. 23 E., 4 miles northwest of Mackay, Custer County.

RECORDS AVAILABLE.—January 1, 1919, to September 30, 1927.

EQUIPMENT.—Vertical staff on head-gate tower near right end of dam; read to hundredths once daily. Datum of gage 6,000 feet above mean sea level.

EXTREMES OF CONTENTS.—Maximum stage recorded during year, 47.50 feet May 21 (contents, 22,240 acre-feet); no available storage October 1 to November 3.

1919–1927: Maximum stage recorded, 63.62 feet June 26, 1922 (contents, 40,500 acre-feet); minimum contents, water surface below bottom of outlet tunnel for periods of varying length in 1919, 1920, 1924, 1926, and 1927; minimum stage, 6.6 feet August 24 to September 2, 1919.

COOPERATION.—Gage-height record furnished by Utah Construction Co., through water commissioner for Big Lost River.

Stored water from this reservoir is used for irrigation of land near Arco, under the Utah Construction Co.'s Carey Act project. About 7,000 acres is under cultivation at present. Elevation of crest of spillway corresponds to 62.0 feet on gage, at which stage capacity of reservoir is 38,400 acre feet, about 2,400 acres of land being submerged.

Daily contents, in acre-feet, of Mackay Reservoir near Mackay, Idaho, for the year ending September 30, 1927

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	6,922	12,110	15,810	18,310	20,450	20,720	17,350	18,470	4,697	198
2	0	7,066	12,260	15,890	18,360	20,500	20,610	16,750	17,900	4,259	189
3	0	7,228	12,400	16,020	18,430	20,550	20,570	16,150	17,350	3,775	172
4	167	7,393	12,540	16,150	18,520	20,590	20,570	15,650	16,860	3,229	155
5	499	7,559	12,690	16,230	18,600	20,640	20,540	15,200	16,230	2,765	139
6	832	7,728	12,830	16,320	18,650	20,660	20,550	14,990	15,570	2,337	129
7	1,200	7,939	12,960	16,440	18,700	20,680	20,570	14,890	15,050	1,940	120
8	1,404	8,130	13,020	16,550	18,740	20,730	20,590	14,860	14,630	1,532	117
9	1,645	8,307	13,040	16,610	18,780	20,780	20,610	14,870	14,210	1,078	105
10	1,903	8,486	13,310	16,690	18,830	20,820	20,610	14,600	13,770	649	145
11	2,114	8,666	13,490	16,770	18,870	20,840	20,610	14,730	13,330	558	180
12	2,344	8,849	13,640	16,850	18,910	20,840	20,610	15,130	12,880	558	198
13	2,570	9,034	13,740	16,930	18,950	20,840	20,580	15,930	12,470	551	204
14	2,747	9,201	13,860	17,010	19,030	20,840	20,570	16,830	12,120	540	217
15	2,954	9,364	13,990	17,090	19,120	20,840	20,590	17,590	11,720	518	223

Daily contents, in acre-feet, of Mackay Reservoir near Mackay, Idaho, for the year ending September 30, 1927—Continued

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Ju'y	Aug.	Sept.
16	3,287	9,599	14,100	17,200	19,210	20,840	20,640	17,970	11,300	481	223
17	3,603	9,791	14,190	17,320	19,320	20,840	20,750	18,130	10,910	444	185
18	3,867	9,984	14,310	17,450	19,430	20,840	21,250	18,120	10,500	437	155
19	4,091	10,180	14,470	17,510	19,540	20,810	21,620	18,110	10,070	426	129
20	4,306	10,380	14,560	17,590	19,660	20,790	21,950	18,210	9,631	401	95
21	4,524	10,580	14,660	17,670	19,730	20,790	22,240	18,270	9,170	367	72
22	4,720	10,780	14,790	17,760	19,820	20,790	22,220	18,380	8,672	357	45
23	4,958	10,910	14,920	17,840	19,910	20,820	22,160	18,710	8,177	322	33
24	5,265	11,020	15,030	17,920	19,960	20,810	21,870	19,080	7,728	298	45
25	5,527	11,120	15,110	17,970	20,010	20,790	21,450	19,270	7,371	286	62
26	5,799	11,270	15,190	18,020	20,050	20,790	20,620	19,510	7,039	276	67
27	6,091	11,370	15,310	18,140	20,100	20,770	19,970	20,060	6,687	256	55
28	6,390	11,460	15,420	18,260	20,140	20,750	19,740	20,100	6,260	246	62
29	6,629	11,620	15,520	-------	20,190	20,750	19,340	19,700	5,861	229	80
30	6,801	11,770	15,610	-------	20,270	20,750	18,710	19,090	5,475	210	108
31	-------	11,930	15,720	-------	20,360	-------	18,030	-------	5,086	204	------

NOTE.—No available storage Oct. 1 to Nov. 3.

BIG LOST RIVER BELOW MACKAY RESERVOIR, NEAR MACKAY, IDAHO

LOCATION.—In sec. 18, T. 7 N., R. 24 E., 450 feet below Oleson suspension bridge, half a mile above heading of Streeter ditch, 1½ miles below Mackay Dam, and 2½ miles above Mackay, Custer County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—December 1, 1903, to August 31, 1906; May 12, 1912, to April 29, 1913; January 1, 1919, to September 30, 1927. From April 29, 1913, to March 15, 1915, records were obtained 1 mile below present site. Streeter ditch diverts water between these two points.

EQUIPMENT.—Friez water-stage recorder on left bank installed May 4, 1920. Discharge measurements made from cable just below gage or by wading.

CHANNEL AND CONTROL.—Bed composed of gravel; shifts occasionally. Moss growth at times affects stage-discharge relation.

EXTREMES OF DISCHARGE.—Maximum mean daily stage recorded during year, 4.14 feet June 17 and 18 (discharge, 1,430 second-feet); minimum stage, 1.23 feet November 5–8 (discharge, 25 second-feet).

1903–1906, 1912–1915, 1919–1927: Maximum stage recorded, 5.79 feet June 10, 1921 (discharge, 2,990 second-feet); minimum stage, that of November 5–8, 1926.

DIVERSIONS AND REGULATION.—Numerous diversions above Mackay Reservoir, but Sharp ditch is only diversion between gage and reservoir. Flow past gage regulated by operation of gates in Mackay Dam. Prior to 1917 regulation from storage above was practically negligible.

ACCURACY.—Stage-discharge relation not permanent; not affected by ice. Rating curve is well defined by seven discharge measurements ranging between 82 and 1,370 second-feet and made during year. Operation of water-stage recorder satisfactory. Daily discharge ascertained March 8 to July 11 by applying to rating table mean daily gage height determined by inspecting recorder graph, and for rest of year by shifting-control method. Records good.

COOPERATION.—Gage-height record and two discharge measurements furnished by water commissioner for Big Lost River.

Daily discharge, in second-feet, of Big Lost River below Mackay Reservoir, near Mackay, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	171	171	47	77	90	102	116	99	697	1,200	510	178
2	171	171	47	77	90	102	116	93	650	1,140	515	181
3	171	171	49	77	90	102	116	93	650	1,110	515	181
4	171	71	52	77	93	105	113	93	634	1,080	486	174
5	171	25	52	80	93	105	113	93	629	1,050	458	171
6	171	25	52	80	93	105	110	93	681	988	434	168
7	171	25	52	80	93	105	110	93	816	872	406	168
8	174	25	52	80	93	108	110	93	1,080	843	406	168
9	174	27	56	80	93	108	110	93	1,330	816	458	171
10	174	29	59	80	93	108	110	93	1,330	843	402	178
11	174	32	61	82	93	108	110	93	1,300	816	286	185
12	174	34	61	82	93	110	110	93	1,300	816	217	185
13	174	34	61	82	93	110	110	93	1,300	761	217	188
14	174	34	61	82	96	110	108	96	1,330	761	232	188
15	174	36	61	85	99	110	108	96	1,400	734	232	192
16	174	38	64	85	99	110	108	93	1,400	729	224	195
17	174	38	64	85	99	110	108	99	1,430	686	210	199
18	171	40	66	85	99	110	108	135	1,430	660	199	206
19	168	38	69	85	99	110	108	168	1,400	671	199	202
20	164	38	69	85	99	110	108	206	1,400	665	213	199
21	161	40	71	85	102	110	108	217	1,360	650	206	195
22	161	40	71	85	102	110	108	340	1,300	650	199	185
23	161	40	71	88	102	110	105	366	1,260	634	192	181
24	161	42	74	88	102	110	102	416	1,260	604	185	178
25	157	42	74	88	102	113	102	462	1,300	593	181	185
26	157	42	74	88	102	113	102	788	1,300	583	181	192
27	157	42	74	88	102	113	99	634	1,300	568	181	185
28	157	42	74	88	102	113	99	568	1,330	558	181	188
29	157	44	74	88	-------	113	99	634	1,300	539	178	199
30	161	44	77	90	-------	113	99	713	1,260	529	178	206
31	164	-------	77	90	-------	113	-------	713	-------	510	178	-------

Monthly discharge of Big Lost River below Mackay Reservoir, near Mackay, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	174	157	168	10,300
November	171	25	50.7	3,020
December	77	47	63.4	3,900
January	90	77	83.6	5,140
February	102	90	96.6	5,360
March	113	102	109	6,700
April	116	99	108	6,430
May	788	93	257	15,800
June	1,430	629	1,170	69,600
July	1,200	510	763	46,900
August	515	178	286	17,600
September	206	168	186	11,100
The year	1,430	25	279	202,000

WARM SPRING CREEK (EAST CHANNEL) NEAR MACKAY, IDAHO

LOCATION.—In NE. ¼ sec. 5, T. 7 N., R. 23 E., 500 feet above junction with west channel of Warm Spring Creek, 3½ miles above Mackay Dam, and 7½ miles northwest of Mackay, Custer County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—May 1, 1919, to September 30, 1927.

EQUIPMENT.—Vertical staff on right bank; installed May 3, 1920. Discharge measurements made from suspension bridge 125 feet above gage or by wading.

CHANNEL AND CONTROL.—Bed composed of sand and gravel. Banks steep and covered with brush. One channel at all stages. Channel congested by growth of moss during summer.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 2.54 feet June 14 (discharge, 154 second-feet); minimum discharge, 15 second-feet April 15–19 (gage height, 1.28 feet April 16).

1919–1927: Maximum discharge recorded, 225 second-feet June 15, 1922; minimum discharge, 9 second-feet May 8, 9, 13, and 14, 1919, and May 18–21, 1920.

DIVERSIONS AND REGULATION.—Natural flow practically all diverted during irrigation season. Flow during summer represents return flow from irrigation above. Entire flow stored in Mackay Reservoir 3½ miles below. No regulation.

ACCURACY.—Stage-discharge relation affected by growth of moss and by brush along banks; not affected by ice owing to inflow of springs above. Rating curve well defined. Seven discharge measurements, ranging from 22.4 to 122 second-feet, were made during current year. Gage read to hundredths once or twice a week. Daily discharge ascertained by shifting-control method except as indicated in footnote to table of daily discharge. Records only fair because of infrequent gage readings.

COOPERATION.—Gage-height record and three discharge measurements furnished by water commissioner for Big Lost River.

The record at this station represents a portion of the natural flow of Big Lost River and taken in conjunction with the record for west channel of Warm Spring Creek and east and west channels of Big Lost River will show the entire surface flow of Big Lost River which enters Mackay Reservoir a short distance below. For record from station on west channel of Warm Spring Creek and east and west channels of Big Lost River see pages 70, 71, and 78, respectively. For record of combined flow of both channels of Big Lost River and Warm Spring Creek see page 73.

Daily discharge, in second-feet, of Warm Spring Creek (east channel) near Mackay, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	19	22	a 21	21	22	22	16	48	82	41	22
2	a 22	20	22	21	20	22	a 22	16	47	a 74	a 42	22
3	22	20	22	21	20	22	22	16	47	71	39	a 22
4	22	21	a 22	21	20	22	21	17	a 46	68	36	
5	23	22	22	21	a 20	a 22	21	17	53	a 65	33	
6	23	a 22	22	21	20	22	20	17		63	a 30	23
7	24	22	22	22	20	22	20	a 17	a 67	62	29	
8	24	22	22	22	21	22	19	17	90	60	28	
9	a 24	22	22	22	21	22	a 19	17	a 113	a 58	a 27	
10	24	22	22	22	22	22	19	17	112	58	27	a 27
11	23	22	a 22	22	22	22	18	16	a 110	58	27	27
12	22	22	22	a 22	a 22	a 22	17	16	124	a 58	26	28
13	22	a 22	22	22	22	22	17	16	139	58	a 26	28
14	21	22	22	22	22	22	16	a 16	a 154	58	27	29
15	20	22	22	a 22	22	22	15	16	145	57	27	29
16	a 20	22	22	22	21	23	a 15		136	a 57	a 28	30
17	20	22	22	22	21	23	15	a 28	126	a 57	28	a 30
18	20	22	a 22	22	21	23	15		a 117	52	28	30
19	20	22	22	22	a 21	a 23	15	40	116	a 46	27	29
20	20	a 22	22	22	21	23	16		115	45	a 27	28
21	20	22	21	22	21	23	16	a 42	a 114	44	26	27
22	20	22	21	22	21	23	16	40	116	43	a 25	26
23	a 20	22	20	21	22	23	a 16	39	117	a 42	a 25	25
24	20	22	20	21	22	23	16	a 37	a 119	42	25	a 25
25	20	22	a 20	21	22	23	16	40	a 113	43	24	25
26	19	22	20	21	a 22	a 23	16	42	120	a 43	23	26
27	19	a 22	20	21	22	23	16	45		42	a 23	26
28	18	22	20	21	22	23	16	a 48	a 108	41	23	27
29	18	22	21	a 21	-------	a 23	16	48	100	40	22	27
30	a 18	22	21	21	-------	23	a 16	49	91	a 39	a 22	28
31	18	-------	21	21	-------	23	-------	a 49	-------	40	22	------

a Gage readings observed on these dates.

NOTE.—Discharge estimated May 15, 16, 18–20, June 5, 6, 26, 27, Sept. 4–9; interpolated for other days of missing gage heights. Braced figures show mean discharge for periods indicated.

Monthly discharge of Warm Spring Creek (east channel) near Mackay, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	24	18	20.9	1,290
November	22	19	21.7	1,290
December	22	20	21.5	1,320
January	22	21	21.5	1,320
February	22	20	21.2	1,180
March	23	22	22.5	1,380
April	22	15	17.5	1,040
May	49	16	28.7	1,760
June	154	46	103	6,130
July	82	39	53.7	3,300
August	42	22	27.8	1,710
September	30	22	26.0	1,550
The year	154	15	32.1	23,300

WARM SPRING CREEK (WEST CHANNEL) NEAR MACKAY, IDAHO

LOCATION.—In NE. ¼ sec. 5, T. 7 N., R. 23 E., about 500 feet above junction with east channel of Warm Spring Creek, 3½ miles above Mackay Dam, above flow line of reservoir, and 7½ miles above Mackay, Custer County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—May 8, 1919, to September 30, 1927.

EQUIPMENT.—Stevens 8-day water-stage recorder on right bank. Discharge measurements made from suspension footbridge just below gage or by wading.

CHANNEL AND CONTROL.—Bed composed chiefly of gravel. One channel at all stages. Control formed by well-defined gravel riffle; subject to change.

EXTREMES OF DISCHARGE.—Maximum mean daily stage recorded during year, from water-stage recorder, 2.27 feet June 14 (discharge, 257 second-feet); minimum stage recorded, 0.64 foot April 29 and 30 (discharge, 64 second-feet).

1919–1927: Maximum stage recorded, 3.38 feet June 12, 1921 (discharge, 411 second-feet); minimum discharge, 61 second-feet May 7, 1925.

DIVERSIONS AND REGULATION.—Practically entire flow diverted during irrigation season. Flow during summer represents return flow from irrigation above. Entire flow passing gage impounded in Mackay Reservoir below. No regulation.

ACCURACY.—Stage-discharge relation not permanent; not affected by ice owing to inflow from springs. Standard rating curve well defined. Seven discharge measurements ranging from 80.6 to 219 second-feet, were made during current year. Operation of water-stage recorder satisfactory. Daily discharge ascertained by shifting-control method. Records good.

COOPERATION.—Gage-height record and three discharge measurements furnished by water commissioner for Big Lost River.

The record at this station represents a portion of the natural flow of Big Lost River and taken in conjunction with the record for east channel of Warm Spring Creek and the record for east and west channels of Pig Lost River will show practically entire surface flow of Big Lost River which enters Mackay Reservoir a short distance below. For record from stations on east channel of Warm Spring Creek and on east and west channels of Big Lost River, see pages 70, 71, and 76, respectively. For record of combined flow of both channels of Big Lost River and Warm Spring Creek see page 73.

Daily discharge, in second-feet, of Warm Spring Creek (west channel) near Mackay, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	86	88	92	90	88	86	84	67	123	164	110	84
2	87	87	92	90	88	86	83	67	123	159	108	84
3	87	87	92	90	88	86	82	67	121	158	103	84
4	87	88	92	90	88	87	82	67	124	157	97	84
5	87	90	92	90	88	87	82	67	128	148	96	83
6	86	92	92	90	88	87	82	67	141	140	96	83
7	86	94	92	90	88	87	79	68	163	137	94	83
8	90	94	91	88	88	88	79	68	191	138	91	84
9	91	92	91	90	88	88	78	68	212	137	91	87
10	90	91	92	90	88	88	78	68	202	134	91	94
11	87	91	92	90	88	88	79	68	207	137	90	91
12	87	91	95	90	90	88	78	68	228	137	88	94
13	86	91	94	90	88	88	78	68	251	137	86	99
14	84	91	92	90	88	91	77	68	257	142	87	99
15	84	91	92	90	87	90	72	69	251	135	86	100
16	86	91	92	90	87	90	70	68	233	131	86	100
17	86	94	92	90	86	90	69	78	222	126	86	100
18	78	95	92	90	86	90	68	104	212	121	86	100
19	78	95	92	90	86	88	69	109	212	120	86	100
20	78	92	92	92	84	88	70	110	217	120	86	100
21	80	92	92	87	84	88	69	114	212	116	86	95
22	80	92	92	90	84	88	70	113	207	114	83	92
23	79	92	92	90	84	88	69	109	217	113	82	94
24	79	94	92	90	84	88	68	105	217	109	82	97
25	79	94	92	90	84	88	68	106	212	120	80	103
26	79	92	91	90	86	88	67	109	217	119	82	100
27	75	92	91	90	87	88	66	117	228	117	82	100
28	75	92	91	91	86	87	66	128	202	119	80	101
29	77	92	91	91	------	87	64	130	185	117	83	106
30	82	92	91	90	------	87	64	127	173	116	83	108
31	88	------	91	88	------	87	------	124	------	114	84	------

Monthly discharge of Warm Spring Creek (west channel) near Mackay, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	91	75	83.4	5,130
November	95	87	91.6	5,450
December	95	91	91.9	5,650
January	92	87	89.9	5,530
February	90	84	86.8	4,820
March	91	86	87.9	5,400
April	84	64	73.7	4,390
May	130	67	89.2	5,480
June	257	121	196	11,700
July	164	109	131	8,060
August	110	80	88.7	5,450
September	108	83	94.3	5,610
The year	257	64	100	72,700

SHARP DITCH NEAR MACKAY, IDAHO

LOCATION.—In sec. 12, T. 7 N., R. 23 E., 250 feet below head of ditch, half a mile below Mackay Reservoir, and 3½ miles northwest of Mackay, Custer County.

RECORDS AVAILABLE.—June 6, 1912, to October 24, 1914, and March 24, 1919, to September 30, 1927.

EQUIPMENT.—Vertical staff on right bank; installed April 20, 1920. Discharge measurements made from footbridge or by wading.

CHANNEL AND CONTROL.—Channel congested at times by moss, weeds, and silt deposits. Control composed of gravel and sand; poorly defined.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 1.30 feet June 19–30 (discharge, 37 second-feet); ditch probably dry except for leakage through head gates during period January 1 to March 29.

1912–1914, 1919–1927: Maximum stage recorded, 2.50 feet June 23, 1921 (discharge, 42 second-feet); ditch usually dry during winter and on other days when water is shut off.

DIVERSIONS AND REGULATION.—Station above all diversions. Flow controlled by head gate and by a small wasteway above gage.

ACCURACY.—Stage-discharge relation changed after October 10 and prior to April 23 and May 6–15. During current year eight discharge measurements were made, ranging between 20 and 37 second-feet. Rating curve well defined. Gage read to hundredths once daily May 1 to September 10; infrequently at other times. Daily discharge ascertained May 16 to September 30 by applying gage height to rating table and for rest of year by shifting-control method, except as indicated in footnote to table of daily discharge. Records fair.

COOPERATION.—Gage-height record and four discharge measurements furnished by water commissioner for Big Lost River.

Sharp ditch diverts from east side of Big Lost River in sec. 12, T. 7 N., R. 23 E., a mile above heading of Streeter ditch and half a mile below Mackay Reservoir. The water is used for irrigation on land northwest of Mackay and above Streeter ditch.

Daily discharge, in second-feet, of Sharp ditch near Mackay, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	15						16	23	35	25	21
2							2	16	23	35	25	21
3	19							20	23	35	25	21
4	17							20	25	35	25	21
5	17		8				4	20	25	35	25	21
6	17							20	25	33	24	20
7	17							20	25	32	22	20
8	17							20	27	29	22	20
9	17							21	28	26	22	20
10	15						6	22	28	26	22	20
11								20	28	26	21	20
12								21	28	25	21	21
13		8						21	30	25	22	22
14								21	30	25	22	22
15					0	0		21	30	25	22	22
16				0				23	30	25	22	22
17								26	30	25	22	22
18							10	28	30	25	22	22
19								28	37	25	22	22
20			4					25	37	25	22	22
21	15							25	37	25	22	22
22								25	37	25	22	22
23							12	25	37	25	21	22
24							12	25	37	25	21	22
25							13	26	37	25	20	22
26		4					13	25	37	25	20	
27							14	25	37	25	20	
28							15	25	37	25	20	22
29					-------		15	25	37	25	20	
30					-------	2	16	25	37	25	20	
31					-------		-------	25	-------	25	20	------

NOTE.—On basis of data furnished by water commissioner for Big Lost River, discharge estimated Oct. 1, 2, 11–31, Nov. 1–30, Dec. 1–31, Mar. 30, 31, Apr. 1–22, Sept. 26–30; discharge interpolated Oct. 4–9, Apr. 24–30, May 16, 17, Sept. 11–13, 15, 16, 18, 20, 22, and 24. No flow reported Jan. 1 to Mar. 29 except possibly for small leakage through head gates. Braced figures show mean discharge for periods indicated.

Monthly discharge of Sharp ditch near Mackay, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October			15.8	972
November			7.5	450
December			5.2	320
January	0	0	0	0
February	0	0	0	0
March		0	.1	6
April	16		8.8	520
May	28	16	22.7	1,400
June	37	23	31.1	1,850
July	35	25	27.3	1,680
August	25	20	22.0	1,350
September		20	21.4	1,270
The year	37	0	13.6	9,820

PORTNEUF RIVER AT TOPAZ, IDAHO

LOCATION.—In sec. 23, T. 9 S., R. 37 E., at Oregon Short Line Railroad bridge one-fourth mile west of Topaz flag station, Bannock County, 1¼ miles above diversion dam of Portneuf-Marsh Valley Canal Co., and 6 miles southeast of McCammon.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—January 12, 1913, to September 30, 1915; July 20, 1919, to September 30, 1927.

EQUIPMENT.—Vertical staff fastened to abandoned bridge pile on left bank at upstream side of railroad bridge; installed July 20, 1919. Discharge measurements made from cable 500 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed composed of sand and gravel. Hardpan and conglomerate formation about 700 feet below gage forms control; affected by moss growth.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 3.06 feet May 1 (discharge, 492 second-feet); minimum stage, 1.03 feet October 12 (discharge, 138 second-feet).

1913–1915, 1919–1927: Maximum stage recorded (on old gage), 6.1 feet April 3, 1913 (discharge, 902 second-feet); minimum stage, 0.92 foot August 17 and 30, 1919 (discharge, 116 second-feet).

DIVERSIONS AND REGULATION.—Numerous ranch diversions above. Stored water from Portneuf-Marsh Valley Canal Co.'s reservoir is diverted for irrigation 1¼ miles below gage. Water is stored during winter and spring in the Portneuf-Marsh Valley Canal Co.'s reservoir near Chesterfield and released during irrigation season.

ACCURACY.—Stage-discharge relation permanent; not affected by ice on account of warm springs. Rating curve is well defined between 100 and 450 second-feet; based on preceding curve and six discharge measurements, ranging from 161 to 430 second-feet, made during the current year. Gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records good.

Daily discharge, in second-feet, of Portneuf River at Topaz, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	147	151	174	155	155	174	302	492	334	258	285	192
2	143	151	170	157	155	170	318	460	326	267	276	192
3	143	151	166	157	155	170	294	412	318	294	267	192
4	140	151	162	157	155	174	285	396	334	326	267	190
5	140	151	162	157	157	174	276	396	334	310	267	190
6	140	155	162	157	155	174	267	396	358	294	267	188
7	140	155	162	157	155	178	249	396	388	276	267	186
8	140	155	162	157	155	182	258	372	380	267	267	186
9	140	153	162	157	155	180	258	334	428	258	258	178
10	140	153	160	157	155	178	258	326	412	267	258	170
11	140	153	159	155	155	178	258	318	412	258	258	170
12	138	155	157	155	155	174	267	310	412	258	249	170
13	140	157	157	155	155	178	258	310	412	258	258	170
14	142	157	157	155	157	178	258	310	412	267	258	168
15	143	157	157	155	159	182	230	350	396	267	267	168
16	147	159	157	155	162	178	230	412	380	258	267	168
17	147	157	157	155	166	176	226	476	365	258	267	166
18	151	155	157	155	168	176	222	460	350	249	249	166
19	147	155	155	155	170	176	214	476	334	249	210	164
20	147	155	155	155	170	172	210	428	334	249	192	162
21	147	162	155	155	186	176	208	380	310	267	194	162
22	147	166	155	157	208	176	202	365	294	267	190	155
23	147	170	155	159	190	176	200	334	276	267	188	162
24	147	174	155	157	182	182	222	318	249	276	186	162
25	147	178	155	157	178	186	240	294	249	276	188	162
26	147	182	155	155	174	194	276	302	249	276	190	160
27	145	186	155	155	174	214	334	302	220	276	190	159
28	151	186	155	155	174	240	412	334	230	294	194	162
29	151	182	155	155	------	258	428	326	249	294	206	162
30	151	178	155	155	------	267	460	318	267	294	198	162
31	151	------	155	155	------	285	------	350	------	285	192	------

Monthly discharge of Portneuf River at Topaz, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	151	138	145	8,920
November	186	151	162	9,640
December	174	155	159	9,780
January	159	155	156	9,590
February	208	155	166	9,220
March	285	170	190	11,700
April	460	200	271	16,100
May	492	294	369	22,700
June	428	220	334	19,900
July	326	229	273	16,800
August	285	186	235	14,400
September	192	155	171	10,200
The year	492	138	219	159,000

PORTNEUF RIVER AT POCATELLO, IDAHO

LOCATION.—In sec. 27, T. 6 S., R. 34 E., at highway bridge at foot of Carson Street, in west end of Pocatello, Bannock County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—August 31, 1911, to September 30, 1927. For station 1 mile upstream, May 18, 1897, to October 14, 1899.

EQUIPMENT.—Vertical staff attached to pile of Carson Street highway bridge near left bank; installed September 8, 1919. From May 14 to September 30, 1927, a Stevens 8-day recorder temporarily installed on left bank one-third mile below bridge staff and at different datum was used. Discharge measurements made from cable 500 feet below recorder site, from Carson Street bridge, or by wading.

CHANNEL AND CONTROL.—Bed composed of rocks and boulders; very rough. One channel except at extremely high stages when left bank is overflowed. Control shifts.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 5.70 feet May 1–3 (discharge, 821 second-feet); minimum stage, 0.95 foot (at recorder site), at 6 a. m. July 20 (discharge, 56 second-feet).

1911–1927: Maximum stage recorded, 7.8 feet May 30, 1917 (discharge, in excess of 2,000 second-feet during period May 13 to June 14, 1917, when left bank was overflowed); minimum stage, 1.92 feet June 24 and 28, 1919 (discharge, 44 second-feet).

1897–1899: Maximum stage recorded, 12.80 feet May 18, 1897 (discharge, 1,880 second-feet); minimum stage, 6.10 feet July 4–11, 13, 17, and 18, 1898 (discharge, 14 second-feet).

DIVERSIONS AND REGULATION.—Numerous ranch diversions above gage. The largest single diversion is canal of Portneuf-Marsh Valley Canal Co., which irrigates land near Downey. No regulation below head of Portneuf-Marsh Valley Canal Co.'s canal. Storage reservoir of company near Chesterfield has capacity of about 28,000 acre-feet.

ACCURACY.—Stage-discharge relation not permanent; affected by growth of moss and by ice. Rating curve used October 1 to May 13, is fairly well defined by discharge measurements made in 1926 and two measurements made in March and April of the current year; curves used subsequent to May 13 poorly defined, based on 21 measurements ranging from 104 to 704 second-feet and made after May 13 of current year. Staff gage read to half-tenths one to three times a week, October 1 to May 13; operation of water-stage recorder satisfactory for rest of year. Daily discharge December 1 to May 13 ascertained by applying to rating table daily staff gage height or mean daily gage height determined by inspection of recorder graph, and for rest of year by shifting-control method, except as indicated in footnote to table of daily discharge. Records fair.

Daily discharge, in second-feet, of Portneuf River at Pocatello, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	104	209	287		287	445	411	821	443	133	100	156
2	104	212	287	190	287	421	420	821	422	137	98	152
3	125	215	287		287	397	454	821	412	141	96	145
4	140	218	280	191	287	373	489	765	406	141	100	145
5	140	218	274	203	287	373	523	709	401	136	96	141
6	140	218	267	216	287	373	514	696	391	131	96	133
7	140	218	264	228	287	373	506	682	422	126	100	130
8	140	218	260	233	282	368	497	628	475	130	100	126
9	140	218	257	238	277	362	497	601	475	116	100	152
10	144	218	247	241	272	356	497	575	464	112	103	149
11	148	225	238	244	267	351	504	549	432	96	109	149
12	148	231	228	247	257	340	510	471	417	93	116	145
13	148	238		251	247	329	516	471	391	88	112	149
14	151	238	180	255	252	329	523	508	370	85	122	156
15	153	241		259	257	329	510	546	350	80	137	164
16	156	244		263	267	329	497	579	330	78	149	158
17	160	247		267	277	329	484	642	300	80	156	152
18	164	247		262	287	329	471	705	266	80	156	145
19	164	247		257	308	308	454	687	247	75	145	152
20	164	247	210	252	329	308	437	653	242	68	133	149
21	170	252		247	340	308	420	619	220	75	133	145
22	176	257			351	319	454	513	206	78	164	137
23	182	259		190	362	330	489	486	164	85	164	133
24	200	262			373	340	523	443	177	88	156	137
25	200	265			373	351	576	401	168	93	156	137
26	200	267		290	373	358	629	391	145	93	152	149
27	200	272			396	366	682	396	145	93	141	189
28	200	277	190	287	420	373	737	417	137	94	133	185
29	200	282		287	-------	382	793	453	141	96	130	181
30	200	287		287	-------	392	800	464	137	97	140	211
31	204	-------		287	-------	401	-------	470	-------	99	149	------

NOTE.—Braced figures show mean discharge estimated because of ice, for periods indicated. Discharge estimated Apr. 30 on account of discredited gage height; interpolated because of missing gage height Oct. 1, 5, 6, 8, 10, 12, 14, 15, 17, 19, 21, 22, 25–27, 29, 31; Nov. 2, 3, 5, 8, 9, 11, 12, 15, 16, 18, 19, 21, 23–25, 27–29; Dec. 1, 2, 4, 5, 7, 8, 10, 11; Jan. 5, 6, 8, 10, 11, 13–16, 18–20, 29–31; Feb. 2–4, 6, 8–10, 12, 14, 16, 17, 19, 21–23, 25, 28; Mar. 2, 3, 5, 6, 8–10, 12, 14–17, 22–24, 26, 27, 29–31; Apr. 1, 3, 4, 6, 7, 9–11–13, 15–17, 19, 20, 22, 23, 25, 26; May 2, 6; July 5, 6, 28–31; Aug. 2, 30; Sept. 16.

Monthly discharge of Portneuf River at Pocatello, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	204	174	161	9,900
November	287	209	242	14,400
December	287		224	13,800
January			242	14,900
February	420	247	306	17,000
March	445	398	356	21,900
April	800	411	527	31,400
May	821	371	580	35,700
June	475	137	310	18,400
July	141	68	101	6,210
August	164	96	127	7,810
September	211	126	152	9,040
The year	821	68	277	200,000

NORTH SIDE MINIDOKA CANAL NEAR MINIDOKA, IDAHO

LOCATION.—In sec. 1, T. 9 S., R. 25 E., 650 feet below Minidoka Dam and 6 miles south of Minidoka, Minidoka County.

RECORDS AVAILABLE.—May 1, 1909, to September 30, 1927.

EQUIPMENT.—Friez 8-day water-stage recorder on left bank, installed October 31, 1914. Discharge measurements made from suspension footbridge at gage.

CHANNEL AND CONTROL.—Rock cut; practically permanent but rough.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 9.90 feet at 6 a. m. June 17 and 10 p. m. July 12 (discharge, 1,590 second-feet); channel dry most of winter.

1909–1927: Maximum stage recorded, that of June 17 and July 12, 1927; minimum stage, no flow at various times when head gates were closed.

DIVERSIONS AND REGULATION.—No diversions above station and none below near enough to affect stage-discharge relation. Flow controlled by head gates at Minidoka Dam.

ACCURACY.—Stage-discharge relation changed during period of no flow and May 26; seriously affected by ice, observations discontinued during winter. Three rating curves used. All well defined by discharge measurements of previous years and sustained by 18 measurements, ranging between 400 and 1,600 second-feet and made during current year. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height obtained from recorder graph. Records excellent.

COOPERATION.—Gage-height record furnished by United States Bureau of Reclamation and Minidoka Irrigation District. Twelve discharge measurements furnished by Twin Falls Canal Co.

North Side Minidoka Canal diverts water from right bank of Snake River in sec. 1, T. 9 S., R. 25 E. for irrigation of land in North Side Minidoka project of United States Bureau of Reclamation. Project comprises about 20 miles of main canal and 260 miles of laterals.

Daily discharge, in second-feet, of North Side Minidoka Canal near Minidoka, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Mar.	Apr.	May	June	Ju'y	Aug.	Sept.
1	299	417	358	------	301	1,180	1,010	1,310	1,580	1,420
2	294	420	358	------	301	1,200	1,000	1,310	1,560	1,410
3	292	426	354	------	302	1,220	1,050	1,310	1,500	1,370
4	299	428	354	------	302	1,270	1,070	1,310	1,460	1,370
5	304	425	359	------	304	1,370	1,080	1,340	1,460	1,350
6	302	421	354	------	332	1,400	1,130	1,420	1,450	1,310
7	300	415	350	------	377	1,390	1,260	1,480	1,460	1,320
8	300	420	356	------	396	1,390	1,410	1,540	1,440	1,260
9	288	425	359	------	396	1,340	1,470	1,560	1,400	1,200
10	286	428	358	------	396	1,300	1,500	1,570	1,310	1,120
11	287	425	354	------	396	1,300	1,510	1,570	1,260	1,040
12	292	429	353	------	394	1,300	1,510	1,570	1,250	995
13	294	420	132	------	394	1,270	1,520	1,570	1,290	856
14	294	383	------	------	391	1,270	1,550	1,570	1,290	799
15	293	383	------	------	388	1,270	1,570	1,570	1,230	793
16	324	381	------	------	386	1,330	1,580	1,570	1,210	795
17	347	389	------	------	398	1,420	1,560	1,570	1,210	799
18	328	393	------	15	398	1,490	1,570	1,530	1,210	801
19	358	396	------	15	462	1,500	1,570	1,530	1,210	806
20	396	380	------	15	503	1,500	1,570	1,530	1,210	808
21	399	369	------	108	507	1,400	1,570	1,570	1,210	778
22	399	369	------	246	507	1,360	1,570	1,570	1,270	759
23	401	370	------	248	512	1,360	1,550	1,570	1,390	759
24	404	370	------	248	516	1,360	1,510	1,570	1,460	759
25	402	367	------	250	516	1,360	1,520	1,570	1,490	759
26	415	367	------	250	668	1,340	1,520	1,570	1,490	759
27	429	365	------	250	819	1,320	1,490	1,570	1,490	759
28	429	362	------	284	924	1,140	1,460	1,570	1,440	752
29	431	361	------	304	1,020	898	1,370	1,570	1,390	706
30	428	359	------	302	1,130	901	1,310	1,570	1,390	639
31	421	------	------	301	------	958	------	1,570	1,390	------

Monthly discharge of North Side Minidoka Canal near Minidoka, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	431	286	346	21,300
November	429	359	395	23,500
December 1-13	359	132	338	8,720
March 18-31	304	15	203	5,640
April	1,130	301	488	29,000
May	1,500	898	1,290	79,300
June	1,580	1,000	1,410	83,900
July	1,580	1,310	1,520	93,500
August	1,580	1,210	1,370	84,200
September	1,420	639	968	57,600

SOUTH SIDE MINIDOKA CANAL NEAR MINIDOKA, IDAHO

LOCATION.—In sec. 12, T. 9 S., R. 25 E., Cassia County, 300 yards below head gates at Minidoka Dam and 6 miles south of Minidoka, Minidoka County.

RECORDS AVAILABLE.—April 21, 1909, to September 30, 1927.

EQUIPMENT.—Friez water-stage recorder on right bank. Discharge measurements made from suspension footbridge at gage.

CHANNEL AND CONTROL.—Canal section in earth; subject to shifting.

EXTREMES OF DISCHARGE.—Maximum stage recorded, 5.97 feet at 2 p. m. July 11 (discharge, 1,080 second-feet); canal dry at times during year.

1909–1927: Maximum discharge recorded, 1,100 second-feet, July 16 and 18, 1921; probably no flow each year during periods of no record.

DIVERSIONS AND REGULATION.—No diversions above gage. Flow controlled by head gates at Minidoka Dam.

ACCURACY.—Stage-discharge relation not permanent; seriously affected by ice, canal dry during winter. Rating curve well defined by previous discharge measurements and checked by 19 measurements ranging from 300 to 1,100 second-feet and made during current year. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height obtained from recorder graph or by shifting-control method. Records good.

COOPERATION.—Gage-height records furnished by United States Bureau of Reclamation. Thirteen discharge measurements furnished by Twin Falls Canal Co.

South Side Minidoka Canal diverts water from the left bank of Snake River in sec. 1, T. 9 S., R. 25 E., for irrigation of land in South Side Minidoka project of the United States Bureau of Reclamation. Project comprises about 13 miles of main canal and about 297 miles of laterals.

Daily discharge, in second-feet, of Minidoka South Side Canal near Minidoka, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Apr.	May	June	July	Aug.	Sept.
1	151	540	------	467	553	1,010	1,050	1,040
2	145	518	------	574	538	1,000	1,040	1,050
3	143	492	------	676	583	1,010	1,040	1,020
4	147	496	------	680	634	1,020	1,040	1,000
5	174	542	------	723	653	1,020	1,040	1,000
6	194	564	------	784	772	1,030	1,030	1,010
7	204	555	------	807	858	1,040	1,020	1,020
8	214	551	------	787	959	1,030	1,020	1,020
9	210	514	------	723	1,010	1,040	1,010	1,000
10	211	488	------	690	1,030	1,070	1,000	969
11	210	482	------	695	1,040	1,070	1,010	940
12	207	461	------	697	1,040	1,070	1,010	892
13	207	433	------	695	1,040	1,070	1,010	777
14	207	402	------	702	1,040	1,070	983	677
15	206	118	------	716	1,050	1,070	932	637
16	206	60	------	787	1,040	1,060	932	639
17	210	60	------	866	1,030	1,070	921	574
18	207	60	------	902	1,040	1,060	876	538
19	206	60	284	913	1,030	1,060	863	540
20	207	------	282	790	1,020	1,060	861	543
21	207	------	284	630	1,030	1,060	871	545
22	207	------	286	709	1,030	1,070	897	545
23	208	------	288	837	1,030	1,070	950	545
24	242	------	290	848	1,030	1,070	1,020	545
25	280	------	292	782	1,030	1,060	1,040	545
26	369	------	293	752	1,040	1,060	1,040	495
27	414	------	296	755	1,040	1,060	1,040	469
28	447	------	306	733	1,040	1,060	1,040	473
29	529	------	376	657	1,030	1,060	1,050	469
30	553	------	446	607	1,020	1,050	1,050	467
31	540	------	------	579	------	1,040	1,040	------

Monthly discharge of South Side Minidoka Canal near Minidoka, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	553	143	254	15,600
November 1–19	564	60	389	14,700
April 19–30	446	282	310	7,380
May	913	467	728	44,800
June	1,050	538	943	56,100
July	1,070	1,000	1,050	64,600
August	1,050	86	991	60,900
September	1,050	467	733	43,600

GOOSE CREEK ABOVE TRAPPER CREEK, NEAR OAKLEY, IDAHO

LOCATION.—In sec. 13, T. 15 S., R. 21 E., 5 miles above Trapper Creek and 10 miles south of Oakley, Cassia County.

RECORDS AVAILABLE.—April 29, 1911, to September 30, 1916; March 27, 1919, to September 30, 1927.

EQUIPMENT.—Friez water-stage recorder on right bank.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 5.6 feet about February 21 (discharge estimated, 400 second-feet); minimum stage recorded, 1.54 feet at 8 a. m. September 7 (discharge, 5.5 second-feet).

1911–1916, 1919–1927: Maximum discharge recorded, 670 second-feet at 9 a. m. May 18, 1921 (gage height, 5.23 feet); minimum stage, 1.19 feet at 9 a. m. August 13, 1915 (discharge, 1.1 second-feet).

DIVERSIONS AND REGULATION.—Several small canals divert above station.

ACCURACY.—Stage-discharge relation changed during flood of February 21; affected by ice December 10 to February 21. Rating curve used October 1 to December 9 is well defined below 100 second-feet by six discharge measurements made during 1926; curve used after March 12 is well defined between 10 and 150 second-feet by shape of a former curve and six measurements ranging from 16.6 to 121 second-feet made in 1927. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspection of recorder graph except as indicated in footnote to table of daily discharge. Records good, except those for estimated periods which are fair.

COOPERATION.—Gage-height record furnished by Oakley Canal Co.

Daily discharge, in second-feet, of Goose Creek above Trapper Creek, near Oakley, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	23	34				57	142	120	36	14	6.8
2	16	22	34				66	146	111	30	13	6.5
3	17	22	34				65	155	102	26	12	6.2
4	18	22	34				63	155	102	22	12	5.8
5	18	22	34				61	152	105	22	11	6.0
6	18	23	35				62	148	101	22	10	6.0
7	18	24	35			50	61	152	94	21	9.8	5.8
8	19	22	35				63	160	91	18	10	6.0
9	19	22	30				68	160	89	17	10	6.2
10	18	24			25		75	150	89	18	9.4	6.8
11	18	24					76	134	83	14	9.8	7.4
12	19	24					74	120	69	13	9.4	8.2
13	19	25				49	70	117	72	12	10	11
14	19	25				57	66	118	74	11	14	15
15	19	24				51	64	134	75	9.8	16	15
16	19	26		22		46	60	161	73	8.2	15	14
17	19	24				45	59	174	72	8.2	14	14
18	19	26				47	59	188	69	8.2	14	13
19	19	30				44	58	201	60	7.0	14	12
20	19	31	15			44	56	219	58	6.8	12	12
21	20	32				44	55	213	53	7.0	11	12
22	20	33			230	48	55	191	49	9.8	11	12
23	21	32				50	55	172	42	17	10	12
24	21	32				53	59	158	37	14	9.4	12
25	21	32				50	70	137	36	14	7.8	14
26	21	33				50	84	125	31	27	7.0	14
27	21	35			70	50	101	118	29	17	7.0	14
28	21	37				50	118	120	28	15	7.0	14
29	21	36			-------	50	124	127	28	14	7.4	14
30	20	35			-------	50	137	127	34	14	7.4	16
31	20	-------			-------	52	-------	122	-------	14	6.8	------

NOTE.—Because of ice and missing gage heights, discharge estimated Dec. 10 to Mar. 12; interpolated July 10, 11. Braced figures show mean discharge for periods included.

Monthly discharge of Goose Creek above Trapper Creek, near Ockley, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	21	16	19.1	1,170
November	37	22	27.4	1,630
December	35	----------	20.5	1,260
January	----------	----------	22.0	1,350
February	----------	----------	73.8	4,100
March	----------	----------	49.4	3,040
April	137	55	71.4	4,250
May	219	117	151	9,280
June	120	28	69.2	4,120
July	36	6.8	15.6	959
August	16	6.8	10.7	653
September	16	5.8	10.6	631
The year	----------	5.8	44.9	32,400

TRAPPER CREEK NEAR OAKLEY, IDAHO

LOCATION.—In sec. 33, T. 14 S., R. 21 E., 1½ miles above Nelson ranch, 1 mile from east boundary of Minidoka National Forest, 5 miles above Oakley Dam, and 9 miles southwest of Oakley, Cassia County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—May 1, 1911, to September 30, 1916; March 28, 1919, to September 30, 1927.

EQUIPMENT.—Friez water-stage recorder on left bank; installed April 8, 1913. Discharge measurements made by wading. Since summer of 1921, flow past station has been augmented slightly by flow from two artesian wells 1 mile above gage.

CHANNEL AND CONTROL.—Bed composed of small boulders and coarse gravel. Control shifting. Banks brushy; not likely to be overflowed.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 3.12 feet at 8 p. m. August 1 (discharge, 68 second-feet); minimum discharge (estimated), 9 second-feet December 11–31. Probably not actual minimum.

1911–1916, 1919–1927: Maximum stage recorded, 3.44 feet May 28 and June 8, 1921 (discharge, 98 second-feet); minimum discharge probably occurs during winter.

DIVERSIONS AND REGULATION.—No diversions of importance above station. No regulation.

ACCURACY.—Stage-discharge relation changed during winter; seriously affected by ice. Rating curve used October 1 to December 10 is well defined between 9 and 17 second-feet by discharge measurements, made in 1926, two of which were made on October 12; curve used after March 10 is well defined between 11 and 35 second-feet, based on six discharge measurements ranging from 9.3 to 30 second-feet and made during current year. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height determined by inspection of recorder graph, except as indicated in footnote to daily-discharge table. Records excellent March 11 to July 31; others good except those for estimated periods, which are fair.

COOPERATION.—Gage-height record furnished by Oakley Canal Co.

Daily discharge, in second-feet, of Trapper Creek near Oakley, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	11	12				14	34	30	16	16	10
2	11	11	12				19	34	29	15	13	10
3	11	11	12				17	33	28	15	11	10
4	11	11	12				16	32	30	14	10	10
5	12	11	12				15	32	30	14	10	10
						12						
6	12	11	12				16	33	30	14	10	10
7	11	11	12				16	34	32	13	10	10
8	11	11	12				17	32	32	13	10	10
9	11	11	11				18	30	32	13	10	10
10	11	11	11				16	29	32	13	10	10
					12							
11	11	11				12	16	28	31	13	10	10
12	11	12				12	16	29	30	12	10	11
13	11	12				12	15	31	30	12	11	12
14	11	11				14	14	35	29	12	11	11
15	11	11				12	15	39	28	12	11	11
16	11	11		10		12	15	42	27	12	10	11
17	11	11				12	15	45	26	12	10	10
18	11	11				12	15	46	24	11	10	10
19	11	12				13	15	47	24	11	10	10
20	11	12				13	14	44	23	11	10	10
21	11	12	9			13	15	41	22	11	10	10
22	11	12				13	16	38	21	11	10	11
23	11	12			40	13	17	36	20	12	9.8	10
24	11	12				13	19	34	19	12	9.8	10
25	11	12				13	22	34	18	12	9.8	11
26	11	12				13	26	33	18	11	10	11
27	11	12			15	13	29	33	18	11	10	11
28	11	12				13	32	34	18	11	10	11
29	11	12			-------	13	33	33	21	11	10	11
30	11	12			-------	13	34	32	18	11	10	11
31	11	-------			-------	14	-------	32	-------	11	10	-------

NOTE.—On account of ice and missing gage heights, discharge estimated Dec. 11 to Mar. 10, based on Oakley Reservoir contents, weather records, and by comparison with flow of other streams; interpolated Mar. 24. Braced figures give mean discharge for periods indicated.

Monthly discharge of Trapper Creek near Oakley, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	12	11	11.1	682
November	12	11	11.5	684
December	12	----------	9.9	609
January	----------	----------	10.0	615
February	----------	----------	18.3	1,020
March	14	----------	12.5	769
April	34	14	18.6	1,110
May	47	28	35.1	2,160
June	32	18	25.7	1,530
July	16	11	12.4	762
August	16	9.8	10.4	646
September	12	10	10.4	619
The year	47	----------	15.5	11,200

P. A. LATERAL NEAR MILNER, IDAHO

LOCATION.—In sec. 22, T. 10 S., R. 21 E., Jerome County, 200 yards below pumping station and 2½ miles northeast of Milner, Twin Falls County.

RECORDS AVAILABLE.—April 29, 1919, to September 30, 1927.

EQUIPMENT.—Vertical staff near left bank. Discharge measurements made from foot planks at rating flume just below gage.

CHANNEL AND CONTROL.—Canal section in earth; often obstructed by growth of moss. Concrete rating flume below gage contracts section forming permanent control.

EXTREMES OF DISCHARGE.—Maximum discharge, 56 second-feet July 18, 19; canal dry on numerous dates and during much of winter.

1919–1927: Maximum discharge, 64 second-feet May 11–13, 1920; canal dry on numerous occasions.

DIVERSIONS AND REGULATION.—One small diversion between pumping station and gage furnished water for pumpman's garden. Flow regulated by pumps at head of canal.

ACCURACY.—Stage-discharge relation not permanent; seriously affected by ice, no record during winter. Rating curve well defined by measurements of previous years and by 13 measurements made during current year. Gage read to hundredths twice daily; account taken of all periods when pumps were not operated. Daily discharge obtained by shifting-control method. Records good.

COOPERATION.—Gage-height record and four discharge measurements furnished by North Side Canal Co. (Ltd.).

P. A. lateral diverts water pumped from right bank of Snake River above Milner Dam, in sec. 22, T. 10 S., R. 21 E. Water is used for irrigation of part of the North Side Twin Falls project.

Daily discharge, in second-feet, of P. A. lateral near Milner, Idaho, for the year ending September 30, 1927

Day	Mar.	Apr.	May	June	July	Aug.	Sept.
1		11	13	56	55	52	55
2		11	12	56	55	56	55
3		11	24	56	55	56	55
4		11	24	56	55	56	55
5		11	35	56	55	56	55
6		11	37	56	55	56	55
7		6	38	56	55	56	55
8		0	41	56	55	56	55
9		0	41	56	57	56	55
10		0	49	56	57	56	55
11		0	56	56	57	55	55
12		0	56	56	57	55	55
13		0	56	55	57	55	55
14		0	56	56	57	55	54
15		0	56	55	57	55	40
16		0	56	55	57	55	28
17		0	56	55	57	55	28
18		0	56	55	58	55	27
19		0	56	55	58	55	27
20		0	56	55	57	55	27
21		0	56	55	57	55	27
22		0	56	55	57	55	26
23		0	56	55	57	55	25
24		0	56	55	57	55	26
25		0	56	55	57	55	25
26		0	56	56	57	55	25
27		0	56	55	57	55	24
28	8	0	56	55	57	55	23
29	11	0	56	55	57	55	24
30	11	9	56	55	57	55	24
31	11		56		57	55	

NOTE.—Canal presumably dry during period of no record and Apr. 8-29. Hourly discharge Mar. 28, Apr. 7, 30 when pumps were operated part time.

Monthly discharge of P. A. lateral near Milner, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
March 28-31	11	8	10.2	80.9
April	11	0	2.70	161
May	56	12	48.1	2,960
June	56	55	55.5	3,300
July	58	55	56.5	3,470
August	56	52	55.2	3,390
September	55	23	39.8	2,370
The period				15,700

MILNER LOW LIFT CANAL NEAR MILNER, IDAHO

LOCATION.—In sec. 32, T. 10 S., R. 21 E., an eighth of a mile below pumping station at head of canal and 1½ miles southeast of Milner post office, Twin Falls County.

RECORDS AVAILABLE.—June 1, 1921, to September 30, 1927.

EQUIPMENT.—Friez water-stage recorder at right bank referred to inside and outside staff gages. Discharge measurements made from footplank at gage.

CHANNEL AND CONTROL.—Canal section in earth; banks clean. Control poorly defined and shifting.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 3.14 feet at 4 p. m. July 2 (discharge, 107 second-feet); canal dry for extended periods outside of irrigation season.

1921–1927: Maximum stage recorded, 3.09 feet at 8 a. m. on July 31, 1925 (discharge, 108 second-feet); canal dry on numerous occasions.

DIVERSIONS AND REGULATION.—None above station. Flow regulated by pumps at head of canal.

ACCURACY.—Stage-discharge relation not permanent. Rating curve fairly well defined at all stages by previous years discharge measurements and by 19 measurements ranging from 43 to 104 second-feet and made during current year. Operation of recorder satisfactory. Daily discharge ascertained by shifting-control method. Records good.

The Milner Low Lift Canal diverts water by pumping from the south side of Snake River in the backwater above Milner Dam and furnishes water for irrigation of lands within the Milner Low Lift irrigation district.

Daily discharge, in second-feet, of Milner Low Lift Canal near Milner, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Apr.	May	June	July	Aug.	Sept.
1		46		60	14	100	95	94
2		46		88	77	86	101	96
3		46		84	91	100	98	96
4		47		93	91	102	84	95
5		33		44	89	101	94	96
6				90	80	102	94	74
7				102	94	102	78	88
8				102	90	102	94	86
9				102	94	102	94	84
10				102	60	103	97	84
11				102	102	102	97	84
12				102	102	102	92	82
13				102	104	103	94	83
14				102	102	102	96	83
15				102	102	102	98	83
16				102	103	103	98	82
17				102	104	104	99	81
18				102	92	105	92	77
19				102	104	25	91	80
20				103	105	101	90	80
21				102	106	101	84	78
22	32			102	106	93	82	79
23	42			103	105	88	102	82
24	43			102	104	95	102	84
25	44		31	104	104	97	102	84
26	45		44	103	105	97	101	84
27	46		57	102	104	81	102	86
28	46		53	104	103	96	102	86
29	46		51	57	102	99	92	86
30	46		52	0	102	101	99	86
31	47			0		103	98	

NOTE.—No record obtained Nov. 6 to Apr. 24; pumps closed down.

Monthly discharge of Milner Low Lift Canal Creek near Milner, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October 22-31	47	32	43.7	867
November 1-5	47	33	43.6	433
April 25-30	57	31	48.0	571
May	104	0	89.3	5,490
June	106	14	94.7	5,640
July	105	25	96.8	5,950
August	102	78	94.9	5,840
September	96	74	84.8	5,050

NORTH SIDE TWIN FALLS CANAL AT MILNER, IDAHO

LOCATION.—In sec. 20, T. 10 S., R. 21 E., Jerome County, half a mile north of Milner post office, Twin Falls County and three-fourths mile below head gates at Milner Dam.

RECORDS AVAILABLE.—May 10, 1909, to September 30, 1927.

EQUIPMENT.—Stevens 8-day water-stage recorder on right bank, installed April 1918. Discharge measurements made from cable at gage.

CHANNEL AND CONTROL.—Channel is a permanent concrete-lined section. Growth of moss heavy during summer and stage-discharge relation is seriously affected. Control apparently indeterminate.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 8.79 feet at 1 a. m. on June 29 (discharge, 3,080 second-feet); canal dry on several days when head gates were closed.

1909–1927: Maximum discharge, 3,200 second-feet July 5–7 and 29–31, 1921 (gage height, 8.68 feet); no flow many times when head gates were closed.

DIVERSIONS AND REGULATION.—None between gage and head gates and none for some distance below. Flow regulated by head gates at Milner Dam.

ACCURACY.—Stage-discharge relation not permanent, owing largely to growth of aquatic plants; not seriously affected by ice. Rating curve well defined by a large number of discharge measurements made in previous years and by 44 measurements made during current year and ranging from 500 to 3,000 second-feet. Operation of water-stage recorder satisfactory. Daily discharge ascertained by shifting-control method. Records good.

COOPERATION.—Gage-height record and 41 discharge measurements furnished by North Side Canal Co. (Ltd.).

The North Side Twin Falls Canal diverts water from the north side of Snake River at Milner Dam and furnishes water for stock and irrigation of about 240,000 acres of land in Jerome, Lincoln, and Gooding Counties. The distribution system comprises about 100 miles of main canal and 625 miles of laterals.

Daily discharge, in second-feet, of North Side Twin Falls Canal at Milner, Idah for the year ending September 20, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep
1	193	1,450	809	611	504	501	910	1,950	3,080	3,020	3,050	2,9
2	189	1,470	762	608	506	501	620	2,090	3,070	3,020	2.990	2,9
3	286	1,480	736	602	498	501	527	2,380	3,080	3 030	3 000	2,9
4	890	1,490	739	589	501	506	541	2,610	3,030	3,030	3.000	2,9
5	1,130	1,470	752	577	504	504	826	2,780	3,010	3,040	3,010	2,9
6	1.110	1.330	752	583	501	498	862	2,820	3,010	3,030	3,000	2,8
7	1.080	1,250	752	583	495	509	0	2,830	3,010	3,030	2,980	2,8
8	1,030	1,270	749	577	504	501	0	2,870	3,010	3,020	3,010	2,8
9	1,000	1,260	736	568	504	586	0	2,910	3,010	3,030	3,000	2,8
10	989	1,240	739	574	501	661	1,140	2,930	3,010	3,040	3,010	2,7
11	989	1.230	726	580	504	674	1,860	2,940	3,010	3,040	3.010	2.7
12	996	1,250	709	574	504	762	1,210	2.910	3.010	3,040	2.920	2 7
13	996	1,260	703	574	504	806	0	2,940	3,000	3,040	2.970	2.
14	996	1,290	684	571	501	799	313	2,920	3,010	3,040	2,980	2.5
15	993	1,300	693	574	501	820	1,460	2,880	3,010	3,040	3,010	2,4
16	1,020	1,130	693	577	501	823	1,530	2,870	3,020	3,030	3.020	2.3
17	1.040	942	690	568	498	830	1,410	2.790	3,010	3,050	3.010	2.2
18	1,060	844	671	568	498	820	1.290	3.030	3,000	3,060	3.000	2.2
19	1,130	850	630	571	504	833	1,240	2.970	3,000	3,000	2.990	2.2
20	1,220	854	617	559	504	833	1,200	3,080	3,010	3,020	2,940	2.
21	1,240	861	620	533	506	830	1,170	3,070	3,020	3,040	2,910	2,2
22	1,230	858	620		492	826	1,170	3.080	3,010	3,040	2,940	2.
23	1,230	932	620		498	830	1,180	3,070	3,020	3,040	2,990	2.
24	1,230	1,010	614	530	501	928	1.240	3,060	3,020	3,030	2,930	2,0
25	1,230	1,000	617		501	1,010	1,370	3,070	3,010	3,020	2,930	2,01
26	1,230	1,000	614		501	1,010	1,690	3.080	3,030	3,050	2,930	1,94
27	1,210	942	611	530	501	1,020	1.990	3,080	3,020	3,010	3,000	1,91
28	1,230	928	614	504	495	1,010	2,090	3.050	3,020	3,000	2,990	1,91
29	1,290	892	611	501	------	1,030	2,020	3,070	3,020	3,050	3,000	1,90
30	1,400	854	605	504	------	1,010	1,960	3,070	3,010	3,030	2,940	1,8
31	1,440	------	608	506	------	1,010	------	3,070	------	3,070	2,990	----

Monthly discharge of North Side Twin Falls Canal at Milner, Idaho, for the yea ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	1,440	189	1,040	64,00
November	1,490	844	1,130	67,2
December	809	605	681	41,90
January	611	501	559	34,40
February	506	492	501	27,8
March	1,030	498	767	47,2
April	2,090	0	1,090	64,9
May	3,080	1,950	2,880	177,00
June	3,080	3,000	3,020	180,00
July	3,070	3,000	3,030	186,00
August	3,050	2,910	2,980	183,00
September	2,980	1,800	2,450	146,00
The year	3,080	0	1,680	1,220,00

SOUTH SIDE TWIN FALLS CANAL AT MILNER, IDAHO

LOCATION.—In sec. 29, T. 10 S., R. 21 E., at wagon bridge one-eighth of a mil below head gates at Milner, Twin Falls County.

RECORDS AVAILABLE.—May 10, 1909, to September 30, 1927.

EQUIPMENT.—Friez water-stage recorder at left bank, at site and datum o vertical staff, used for stages above 5.30 feet. Discharge measurements made from cable 50 feet above gage or by wading.

CHANNEL AND CONTROL.—Channel at gage blasted out of rock; practically permanent. Occasional slight changes in control are due to changes in level of Murtaugh Lake 8 miles below head gates.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 10.58 feet at 7 a. m. July 12 (discharge, 3,730 second-feet); minimum stage, 2.32 feet at 10 a. m. December 11 (discharge, 171 second-feet).

1909–1927: Maximum discharge recorded, 4,600 second-feet August 12, 1918; canal dry September 20, 1920.

DIVERSIONS AND REGULATION.—None above gage and none of any size for several miles below. Flow regulated by head gates.

ACCURACY.—Stage-discharge relation not entirely permanent; seriously affected by ice. Standard curve and two parallel curves well defined by 36 measurements covering all stages. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspection of recorder graph or by shifting-control method. Records good.

COOPERATION.—Gage-height record and 33 discharge measurements furnished by Twin Falls Canal Co.

South Side Twin Falls Canal diverts water from south side of Snake River at Milner Dam and furnishes water for stock and irrigation on about 200,000 acres of land near Twin Falls. The distribution system comprises about 110 miles of main canal and 590 miles of laterals.

Daily discharge, in second-feet, of South Side Twin Falls Canal at Milner, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,070	1,160	704	720	720	603	756	1,820	2,860	3,280	3,650	3,560
2	2,000	1,160	714	733	730	603	765	2,020	2,850	3,230	3,630	3,530
3	1,950	1,180	724	720	749	603	775	2,390	2,850	3,230	3,630	3,490
4	1,920	1,120	733	717	749	645	772	2,700	2,880	3,270	3,630	3,490
5	1,870	1,060	714	711	733	664	762	2,900	2,910	3,310	3,630	3,490
6	1,820	1,060	717	708	730	661	759	3,000	2,910	3,320	3,620	3,390
7	1,780	1,060	724	711	717	658	661	2,790	2,970	3,390	3,600	3,350
8	1,740	1,060	714	708	720	661	621	2,640	3,100	3,530	3,620	3,180
9	1,740	1,050	452	701	692	664	621	2,570	3,170	3,480	3,590	3,000
10	1,740	1,030	200	708	686	594	621	2,520	3,070	3,580	3,580	2,840
11	1,700	977	192	701	695	557	606	2,140	3,250	3,700	3,580	2,830
12	1,670	920	196	701	695	609	603	1,910	3,320	3,700	3,520	2,830
13	1,670	920	180	698	698	720	606	2,790	3,370	3,660	3,540	2,760
14	1,640	920		692	692	727	645	2,800	3,380	3,640	3,560	2,560
15	1,620	920	650	704	695	727	676	2,780	3,370	3,640	3,610	2,320
16	1,620	852		708	695	711	762	2,760	3,370	3,630	3,630	2,050
17	1,610	733	798	701	695	708	765	2,780	3,370	3,630	3,610	1,950
18	1,600	740	782	701	686	740	778	3,030	3,320	3,640	3,610	2,000
19	1,610	733	782	704	652	782	765	2,990	3,310	3,510	3,590	2,450
20	1,620	724	769	708	642	785	759	3,070	3,310	3,470	3,560	2,930
21	1,610	730	689		612	765	759	3,050	3,320	3,610	3,520	3,000
22	1,600	704	630		571	749	859	3,040	3,320	3,670	3,540	3,030
23	1,610	714	630		633	746	914	3,040	3,320	3,640	3,610	2,710
24	1,610	708	740		624	756	910	2,940	3,320	3,550	3,580	2,160
25	1,620	701	736		600	762	980	2,860	3,310	3,520	3,570	2,050
26	1,620	724	736	700	609	772	1,280	2,860	3,320	3,630	3,560	2,040
27	1,590	740			609	772	1,630	2,930	3,320	3,600	3,630	2,020
28	1,590	769			606	775	1,690	2,960	3,320	3,560	3,630	1,900
29	1,450	788	720		-------	778	1,640	2,790	3,320	3,620	3,630	1,820
30	1,240	746			-------	762	1,760	2,720	3,310	3,620	3,580	1,790
31	1,160	-------			-------	759	-------	2,790	-------	3,700	3,630	------

NOTE.—Discharge estimated Dec. 14–16, Dec. 27 to Jan. 1, and Jan. 21 to Feb. 2.

Monthly discharge of South Side Twin Falls Canal at Milner, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	2,070	1,160	1,670	103,000
November	1,180	701	890	53,000
December	798	180	639	39,300
January	733	692	705	43,300
February	749	571	676	37,500
March	785	557	704	43,300
April	1,760	603	883	52,500
May	3,070	1,820	2,720	167,000
June	3,380	2,850	3,200	190,000
July	3,700	3,230	3,530	217,000
August	3,650	3,520	3,600	221,000
September	3,560	1,790	2,680	159,000
The year	3,700	180	1,830	1,330,000

ROCK CREEK NEAR TWIN FALLS, IDAHO

LOCATION.—On south line of sec. 36, T. 9 S., R. 16 E., at "Highwood" bridge, 3 miles above confluence with Snake River and 3½ miles northwest of Twin Falls, Twin Falls County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—March 27, 1922, to September 30, 1927.

GAGE.—Friez water-stage recorder on right bank; installed July 31, 1922. Discharge measurements made from highway bridge.

CHANNEL AND CONTROL.—Bed composed of lava rock covered with boulders, gravel, and silt. Banks high, covered with brush; one channel at all stages. Control formed by lava reef covered in part by boulders and brush growth; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, from high-water marks on bank, 4.5 feet September 21 (discharge, 984 second-feet); minimum stage, 0.80 foot from noon to 6 p. m. April 23 (discharge, 95 second-feet).

1922–1927: Maximum discharge recorded, that of September 21, 1927; minimum discharge, 90 second-feet from 11 p. m. April 1 to 2 a. m. April 2, 1926 (gage height, 0.81 foot).

DIVERSIONS AND REGULATION.—After spring floods the natural flow is entirely diverted for irrigation several miles upstream. Flow past gage derived largely from waste and seepage water from the South Side Twin Falls tract. At times waste water from South Side Twin Falls Canal which crosses Rock Creek about 10 miles above the station causes appreciable changes in stage.

ACCURACY.—Stage-discharge relation changed several times after April 2; not affected by ice. Two rating curves well defined between 100 and 500 second-feet, above which they are extended. Ten discharge measurements ranging from 115 to 446 second-feet were made during current year. Operation of water-stage recorder satisfactory except for short periods. Daily discharge ascertained October 1 to April 2 and June 22 to September 16 by applying to rating table mean daily gage height determined from inspection of recorder graph, and for rest of year by shifting-control method. Records good except those for stages above 500 second-feet, which are fair, and those for estimated periods, which are poor.

COOPERATION.—Gage-height record furnished by Murtaugh Irrigation District.

Daily discharge, in second-feet, of Rock Creek near Twin Falls, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	182	158	200	182	288	119	110	221	323	201	190	236
2	179	170		190	334	121	119	188	312	195	191	662
3	181	154	213	184	334	121	223	199	283	193	193	357
4	268	151	209	242	312	121	334	186	246	191	195	251
5	244	150	203	297	301	117	323	190	253	191	191	253
6	238	150	205	283	312	118	197	223	249	188	199	251
7	177	150	177	279	301	118	108	273	238	184	199	257
8	172	148	184	266	294	119	163	416	234	184	201	301
9	168	144	223	257	283	121	219	404	238	192	199	392
10	165	142	236	268	286	121	172	369	240	191	201	272
11	165	144	226	270	294	118	126	358	234	179	199	251
12	167	145	219	266	301	116	119	392	230	172	199	261
13	168	142	205	242	323	116	117	272	228	174	211	261
14	167	138	162	228	301	117	112	299	213	174	215	249
15	162	142	130	257	297	114	110	358	211	177	217	242
16	163	146	165	270	286	114	105	380	213	177	217	238
17	165	134	177	266	279	118	104	440	213	182	226	
18	168	146	179	268	292	116	106	428	209	184	221	250
19	165	141	157	270	288	118	107	428	209	179	221	
20	165	160	142	275		117	104	415	213	177	221	700
21	165	170	201			117	103	404	213	172	221	
22	167		211		200	116	102	416	215	174	223	769
23	163	182	197			114	96	416	215	175	215	450
24	160	186	135	255		116	100	380	217	179	211	
25	162	182	139			113	102	358	228	186	211	236
26	193	191			124	112	106	323	228	177	213	
27	550	201		238	123	111	116	312	228	181	217	
28	550	197	155	223	119	112	126	369	226	181	223	220
29	513	197		259	------	112	140	365	223	182	228	
30	177	193		277	------	112	160	358	209	184	226	
31	160	------	172	257	------	112	------	334	------	188	226	------

NOTE.—Discharge estimated because of missing gage heights Nov. 21, 22, Dec. 1, 2, 26–30, Jan. 21–26, Feb. 20–25, Apr. 29, May 20, 29, Sept. 17–21, 23, 24, 26–30. During September the flow consisted of considerable water wasted from the Twin Falls Low Line Canal. Braced figures show mean discharge for periods indicated.

Monthly discharge of Rock Creek near Twin Falls, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	550	160	213	13,100
November	201	134	161	9,580
December	236	130	182	11,200
January	297	182	235	15,600
February	334	119	260	14,400
March	121	111	116	7,130
April	334	96	141	8,390
May	440	186	338	20,800
June	323	209	233	13,900
July	201	172	182	11,200
August	228	190	210	12,900
September	------	------	330	19,600
The year	------	96	218	158,000

SALMON FALLS CREEK NEAR SAN JACINTO, NEV.

LOCATION.—In sec. 23, T. 47 N., R. 64 E., in canyon 200 yards below county highway bridge, 250 yards below mouth of Shoshone Creek, and 5 miles north of San Jacinto, Elko County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—September 17, 1909, to September 30, 1916; October 1, 1918, to September 30, 1927.

EQUIPMENT.—An water-stage recorder on right bank; installed September 25, 1924. Discharge measurements made from cable at gage or by wading.

CHANNEL AND CONTROL.—Bed composed of gravel. Left bank subject to overflow at high stages. Control shifts slightly.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, from water-stage recorder, 5.92 feet at 3 to 5 p. m. May 20 (discharge, 818 second-feet); minimum discharge, 24 second-feet August 12–14 and September 17 (gage height, 2.46 feet).

1909–1916, 1919–1927: Maximum stage recorded, 7.5 feet May 22, 1912 (discharge, 1,280 second-feet); minimum stage, 2.28 feet July 25, 1919 (discharge, 10 second-feet).

DIVERSIONS AND REGULATION.—A large number of diversions on ranches of Utah Construction Co. above station appropriate a large portion of low-water flow of Salmon Falls and Shoshone Creeks. No regulation except that due to diversions. The Salmon Dam of Salmon River Canal Co., 15 miles below station, forms a reservoir having a capacity of about 180,000 acre-feet.

ACCURACY.—Stage-discharge relation changed slightly February 20–22; not affected by ice. Rating curve applicable October 1 to February 19 is well defined by discharge measurements made in 1926 and two measurements made during October of the current year; curve applicable February 23 to September 30 is well defined between 20 and 850 second-feet based on 15 measurements ranging from 33.4 to 800 second-feet and made during this period. Operation of water-stage recorder very satisfactory except for periods in December, January, and February. Daily discharge ascertained by applying to rating table mean daily gage height determined by inspection of recorder graph. Shifting-control method used February 20–22. Records excellent after February 22; others good except those for estimated periods, which are fair.

COOPERATION.—Gage-height record and 11 discharge measurements furnished by Salmon River Canal Co. (Ltd.).

Daily discharge, in second-feet, of Salmon Falls Creek near San Jacinto, Nev., for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	49	55	63	58		74	130	502	420	162	45	28
2	49	59	61	63		78	135	502	420	147	45	28
3	50	60	63	67		83	149	488	364	137	45	27
4	51	61	64	70	60	86	159	460	370	124	44	27
5	50	61	64	73		85	153	446	370	116	43	26
6	51	61	64	74		85	149	460	367	111	42	26
7	54	63	64	70	72	83	155	588	364	106	40	26
8	59	63	64	58	64	86	166	574	370	99	34	27
9	58	61	54	63	54	89	190	571	393	91	29	28
10	58	61	41	67	48	88	194	516	420	80	27	29
11	56	60		64	44	85	194	460	433	71	25	29
12	56	60		63	63	83	180	446	420	65	24	30
13	56	61		68	67	86	166	446	406	63	24	33
14	58	63		67	52	89	160	433	433	58	24	32
15	58	61		68	70	91	149	460	433	53	28	28
16	56	60		67	70	91	151	516	420	52	32	25
17	56	61		67	72	91	153	545	403	56	35	24
18	56	60		61	76	91	157	603	383	59	35	25
19	56	60		63	73	91	170	693	357	55	36	25
20	55	63		64	78	86	164	802	329	52	37	26
21	54	63	45	41	346	88	174	770	304	51	37	27
22	52	63		32	239	89	176	724	278	50	36	28
23	52	63			135	94	186	618	251	48	34	29
24	52	62		35	106	97	215	560	231	46	35	30
25	52	61			94	102	256	460	215	48	32	31
26	54	61			96	109	306	403	174	48	32	32
27	54	63			78	114	370	377	151	47	31	32
28	54	64		45	77	116	433	396	140	45	31	33
29	54	63			-------	113	460	403	135	45	29	36
30	54	63			-------	104	474	406	149	45	29	39
31	54	-------	55		-------	116	-------	420	-------	45	29	-------

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

Monthly discharge of Salmon Falls Creek near San Jacinto, Nev., for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	59	49	54.1	3,330
November	64	55	61.4	3,650
December	64	----------	50.2	3,090
January	74	----------	56.9	3,500
February	346	44	86.9	4,830
March	116	74	92.4	5,680
April	474	130	209	12,400
May	802	377	518	31,900
June	433	135	330	19,600
July	162	45	73.4	4,510
August	45	24	33.8	2,080
September	39	24	28.9	1,720
The year	802	24	133	96,300

BIG WOOD RIVER AT HAILEY, IDAHO

LOCATION.—In SW. ¼ sec. 9, T. 2 N., R. 18 E., at steel highway bridge a quarter of a mile southwest of Hailey, Blaine County.

DRAINAGE AREA.—640 square miles (measured on topographic maps).

RECORDS AVAILABLE.—June 11, 1915, to September 30, 1927.

EQUIPMENT.—Vertical staff on right bank, installed October 2, 1922. Discharge measurements made from bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of coarse gravel and sand; clean. Banks low; covered with light brush. Log cribbing along left bank constructed in April, 1922, prevents overflow and confines flood discharge in one channel. Control subject to change at high stages.

EXTREMES OF DISCHARGE.—Maximum discharge recorded, 3,060 second-feet, occurred at 6.50 a. m. May 17, 6 p. m. June 8, 8 a. m. June 12, 7.40 a. m. June 12, and 7 a. m. June 14 (maximum gage height, 5.70 feet recorded at 6.50 a. m. May 17); minimum recorded stage, 0.40 foot October 16-21 (discharge, 3.4 second-feet). A lower discharge may have occurred during winter.

1915–1927: Maximum discharge, 3,560 second-feet June 12, 1921 (gage height, 5.70 feet); minimum discharge, 0.1 second-foot September 10–20 and October 2–9, 1924.

DIVERSIONS AND REGULATION.—A number of small diversions for irrigation, principally from tributaries, are made above station. Hailey power plant, half a mile upstream, utilizes as a tailrace a natural channel on east side of river known as Big Wood Slough. A large amount of water is diverted from main stream in this manner and is returned to river below station. A record of the flow of Big Wood Slough is being obtained (see p. 112), and the total flow of Big Wood River is represented by amount of water passing both stations. Variation in the amount of water used at Hailey power plant causes some diurnal fluctuation at gage, but as observations on the river and on Big Wood Slough are practically simultaneous each day, the effect of such regulation is probably eliminated.

ACCURACY.—Stage-discharge relation changed somewhat gradually during flood period from April 28 to June 21; not seriously affected by ice. During the current year 22 discharge measurements were made, of which four closely checked well-defined rating curve used prior to April 28; 13 measurements were used in developing curve well defined between 130 and 2,600 second-feet, applicable after June 21, and five measurements defined curves applicable during the period of shifting control. Gage read to hundredths twice daily April 25 to September 16 and once daily at other times except December 9 to March 3, when flow consisted only of leakage through diversion dam above. Daily discharge ascertained by applying daily and mean daily gage height to rating table except as noted above. Records good except those for estimated periods, which are poor.

COOPERATION.—Twelve discharge measurements furnished by water master for Big Wood and Little Wood Rivers.

Tables of combined discharge of Big Wood River and Big Wood Slough are published herein.

Daily discharge, in second-feet, of Big Wood River at Hailey, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.2	5.1	16.0				14	1,240	945	1,400	371	234
2	7.2	5.1	10			7	35	1,020	945	1,320	371	234
3	7.2	5.1	6.4				37	945	1,020	1,320	354	234
4	7.2	5.7	8.0			7.6	16	850	1,080	1,240	337	220
5	6.4	5.7	8.0			8.0	16	850	1,240	1,080	337	220
6	6.4	5.7	7.2			7.2	32	820	1,580	950	321	195
7	6.0	5.7	5.1			7.2	50	850	2,140	950	321	195
8	5.7	6.4	5.1			8.0	44	790	2,850	1,020	321	172
9	5.1	6.4				8.0	48	760	2,640	950	305	172
10	5.1	5.7				7.2	46	732	2,440	887	305	184
11	4.6	5.7				6.4	54	760	2,740	827	305	184
12	4.0	5.1				7.2	50	880	2,960	827	305	184
13	4.0	5.1				7.2	65	1,020	3,030	770	305	195
14	4.0	5.1				8.0	105	1,320	2,960	716	220	195
15	4.0	5.7			6	7.2	152	1,850	2,850	716	321	184
16	3.4	5.7		6		7.2	156	2,440	2,640	665	290	184
17	3.4	6.4				7.2	163	2,960	2,540	617	290	184
18	3.4	6.4				7.2	186	2,540	2,440	617	275	172
19	3.4	6.4				7.2	174	2,040	2,540	571	275	172
20	3.4	6.4	5			7.2	160	1,760	2,540	571	261	161
21	3.4	8.0				7.2	160	1,400	2,340	506	261	161
22	4.0	8.8				8.0	174	1,240	2,270	485	247	161
23	4.0	9.6				8.8	204	1,080	2,270	465	247	161
24	4.0	9.6				8.8	275	1,080	2,330	465	234	161
25	4.0	9.6				8.8	478	1,080	2,060	485	234	161
26	4.0	10				9.6	678	1,240	2,330	485	234	161
27	4.0	10				8.8	880	1,320	2,160	445	220	161
28	4.6	10				10	820	1,320	1,730	407	220	161
29	4.6	10			-------	10	945	1,240	1,490	407	234	172
30	5.1	13			-------	12	1,160	1,080	1,400	389	234	172
31	5.1	-------			-------	12	-------	1,020	-------	389	220	------

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

Monthly discharge of Big Wood River at Hailey, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	7.2	3.4	4.77	293
November	13	5.1	7.11	423
December	16	----------	5.83	358
January	----------	----------	6.0	370
February	----------	----------	6.0	330
March	12	----------	8.07	496
April	1,160	14	246	14,600
May	2,960	732	1,280	78,700
June	3,060	945	2,160	129,000
July	1,400	389	740	45,500
August	371	220	283	17,400
September	234	161	184	10,900
The year	3,060	3.4	411	298,000

Combined daily discharge, in second-feet, of Big Wood River and Big Wood Slough at Hailey, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	133	111	164	125	122	113	226	1,360	1,040	1,530	416	264
2	133	111	165	132	106	113	224	1,140	1,040	1,460	414	265
3	133	111	195	132	92	107	226	1,060	1,130	1,460	394	264
4	133	112	188	139	92	108	205	969	1,180	1,370	377	252
5	125	112	163	146	92	114	201	969	1,330	1,210	380	254
6	125	112	155	146	92	120	217	936	1,680	1,090	361	232
7	132	112	124	139	92	120	312	979	2,250	1,090	359	236
8	125	112	111	139	92	127	233	896	2,970	1,160	356	260
9	118	119	105	139	92	134	237	851	2,740	1,090	340	255
10	111	119	88	139	92	95	226	826	2,550	1,030	336	278
11	105	125	111	139	116	106	230	873	2,860	967	339	257
12	98	124	124	139	116	147	226	980	3,080	949	338	257
13	98	111	99	139	119	136	224	1,120	3,190	883	340	278
14	123	111	88	139	119	137	227	1,440	3,080	829	400	283
15	123	106	88	139	106	123	249	2,010	2,950	819	364	290
16	122	106	93	132	89	110	278	2,560	2,750	759	328	287
17	122	106	93	132	89	140	289	3,120	2,660	723	324	278
18	122	106	93	132	89	140	319	2,640	2,550	720	308	266
19	122	112	118	132	89	133	296	2,160	2,660	665	308	272
20	122	125	118	132	89	129	276	1,860	2,670	674	293	261
21	122	141	111	100	89	129	276	1,510	2,480	594	292	244
22	123	149	105	96	89	160	296	1,350	2,410	571	277	255
23	123	165	105	96	89	157	307	1,180	2,420	540	277	274
24	123	165	99	96	89	157	391	1,190	2,530	522	261	255
25	117	165	93	96	106	153	569	1,190	2,210	548	261	255
26	117	165	99	96	106	178	863	1,380	2,550	548	261	255
27	117	165	99	96	100	177	1,040	1,450	2,310	502	247	255
28	118	165	105	96	100	190	953	1,460	1,890	460	247	255
29	118	199	105	96	-------	190	1,080	1,330	1,610	456	262	266
30	118	211	111	96	-------	210	1,280	1,180	1,540	438	263	266
31	111	-------	124	122	-------	214	-------	1,130	-------	440	249	------

Combined monthly discharge of Big Wood River and Big Wood Slough at Hailey, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	133	9[3]	120	7,380
November	211	103	132	7,860
December	195	88	117	7,190
January	146	93	123	7,560
February	122	89	98.3	5,460
March	214	95	141	8,670
April	1,280	201	399	23,700
May	3,120	823	1,390	85,500
June	3,190	1,040	2,280	136,000
July	1,530	43[3]	842	51,800
August	416	247	322	19,800
September	290	23[2]	262	15,600
The year	3,190	8[3]	519	377,000

BIG WOOD RIVER NEAR BELLEVUE, IDAHO

LOCATION.—In sec. 20, T. 1 S., R. 18 E., three-eighths mile below Blair ranch-house, 1¾ miles above flow line of Magic Reservoir, and 10 miles southwest of Bellevue, Blaine County. Camas Creek enters reservoir about 3 miles below station.

DRAINAGE AREA.—823 square miles (measured on topographic and Land Office maps).

RECORDS AVAILABLE.—July 6, 1911, to September 30, 1927.

EQUIPMENT.—Gurley water-stage recorder on right bank. Discharge measurements made from cable 150 feet above gage or by wading.

CHANNEL AND CONTROL.—Bed composed of coarse gravel. Banks clean; may be overflowed at extremely high stages. Control shifts occasionally.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 4.04 feet at 6 p. m. May 17 (discharge, 2,620 second-feet); minimum stage recorded, 1.16 feet October 7 (measured discharge, 34.8 second-feet).

1911–1927: Maximum stage recorded, 6.07 feet at 7 p. m. June 16, 1921 (discharge, 3,660 second-feet); minimum discharge, 25 second-feet April 22–24, 1920; lower flow may have occurred on a day of no record.

DIVERSIONS AND REGULATION.—Numerous diversions for irrigation above station. Flood waters stored in Magic Reservoir. No regulation except as effected by diversions above station.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined between 100 and 2,400 second-feet by 10 discharge measurements ranging from 138 to 2,160 second-feet and made during current year. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspection or recorder graph except as indicated in footnote to table of daily discharge. Records excellent.

COOPERATION.—Gage-height record and seven discharge measurements furnished by water master for Big Wood and Little Wood Rivers.

Daily discharge, in second-feet, of Big Wood River near Bellevue, Idaho, for the year ending September 30, 1927

Day	Oct.	Apr.	May	June	July	Aug.	Sept.
1			1,260	697	1,100	144	126
2		150	1,170	643	1,040	148	132
3			1,050	652	1,020	148	132
4			949	680	1,010	141	132
5		138	928	785	896	138	132
6		148	938	981	835	135	129
7	35	171	992	1,330	815	148	129
8		171	992	1,890	708	141	135
9		167	886	2,170	698	135	141
10		164	835	1,890	670	138	161
11		164	845	1,960	598	138	182
12		167	970	2,100	531	135	178
13		174	1,050	2,240	456	151	197
14		178	1,300	2,390	456	161	193
15		185	1,630	2,240	435	178	185
16		201	1,960	2,030	414	161	174
17		212	2,390	1,890	389	148	167
18		225	2,320	1,820	363	138	164
19		234	1,960	1,890	346	135	161
20		212	1,680	2,030	317	135	161
21		204	1,460	1,820	291	135	158
22		204	1,220	1,750	261	129	154
23		208	1,080	1,790	227	126	151
24		221	938	1,810	182	120	151
25		329	886	1,710	189	120	154
26		540	960	1,790	212	123	154
27		785	1,080	1,960	189	123	148
28		918	1,090	1,550	177	123	144
29		992	949	1,350	167	126	148
30		1,080	805	1,210	161	129	148
31			751		153	129	

NOTE.—Discharge estimated Apr. 1-4 and Sept. 30, based on flow at Hailey; interpolated May 31, June 1, and July 15. Braced figure shows mean discharge for period indicated.

Monthly discharge of Big Wood River near Bellevue, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
April	1,080		300	17,900
May	2,390	751	1,200	73,800
June	2,390	643	1,630	97,000
July	1,100	158	494	30,400
August	178	120	138	8,480
September	197	126	154	9,160
The period				237,000

MAGIC RESERVOIR NEAR RICHFIELD, IDAHO

LOCATION.—In NE. ¼ SE. ¼ sec. 18, T. 2 S., R. 18 E., Blaine County, 18 miles northwest of Richfield, Lincoln County.

DRAINAGE AREA.—1,500 square miles (furnished by Idaho Irrigation Co.).

RECORDS AVAILABLE.—February 3, 1909, to September 30, 1927. Prior to April 4, 1909, gage-height record only is available. Practically no storage prior to July 14, 1909, when first stop logs were placed in tunnel entrance.

EQUIPMENT.—All readings made by measuring with a weighted steel tape from tower on east side of dam. Below elevation 4,855 feet readings obtained by measuring from a well-defined offset in walls of tower; when stages are above that elevation measurements are made in a 5⅝-inch well casing, which serves as a stilling well, bolted to face of tower. Observations are referred to an assumed datum which is about 137 feet lower than sea level. (To change readings to sea-level datum about 137 feet should be subtracted.)

EXTREMES OF CONTENTS.—Maximum stage recorded during year, 4,935.14 feet May 18 (contents, 192,060 acre-feet); minimum stage, 4,842.20 feet November 17 (contents, 4,576 acre-feet).

1909–1927: Maximum stage recorded, that of May 18, 1927; reservoir drained December 24–26 and 29, 1909; August 25, September 11–16, 19, 21, 22, December 14–18, and 21–31, 1919; January 1–6, August 9, 10, and 20–23, 1920; August 29 to September 30, 1924.

COOPERATION.—Gage-height record furnished by water master for Big Wood and Little Wood Rivers.

Stored water from this reservoir is used for irrigation on about 69,000 acres of land, under Carey Act project of the Big Wood Canal Co. (Ltd.). The capacity of the reservoir between elevations 4,821.5 and 4,935 feet, mean sea level datum, is about 191,000 acre-feet, about 4,000 acres being submerged at this stage.

Daily contents, in acre-feet, of Magic Reservoir near Richfield, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,426	6,499	6,725	11,300	15,090	19,600	33,180	166,820	191,500	189,940	130,730	71,260
2	5,478	6,528	6,920	11,440	15,230	19,810	34,810	170,520	191,340	189,160	128,290	69,910
3	5,526	6,557	7,140	11,580	15,390	20,000	36,600	174,610	190,730	188,300	126,320	68,600
4	5,579	6,599	7,382	11,730	15,550	20,190	38,650	178,040	190,010	187,520	123,900	67,300
5	5,626	6,635	7,627	11,880	15,710	20,400	40,860	180,540	189,830	186,630	121,390	66,270
6	5,674	6,719	7,857	12,040	15,880	20,610	43,450	182,430	189,830	185,370	118,970	64,880
7	5,717	6,841	8,082	12,190	16,010	20,800	46,980	184,520	190,330	183,830	116,630	63,660
8	5,759	6,932	8,258	12,350	16,120	21,090	51,750	186,560	191,420	182,920	114,100	62,460
9	5,797	7,006	8,462	12,510	16,220	21,370	56,720	189,580	191,930	181,600	111,760	61,600
10	5,835	7,067	8,611	12,620	16,320	21,610	61,260	191,700	191,900	179,830	109,400	60,450
11	5,781	7,146	8,790	12,730	16,430	21,880	67,380	191,420	191,780	177,970	107,270	59,260
12	5,818	7,222	8,941	12,840	16,530	22,120	73,640	191,340	191,900	176,180	105,040	58,370
13	5,856	7,318	9,092	12,940	16,640	22,360	77,060	191,580	191,980	174,240	102,740	57,330
14	5,894	7,446	9,186	13,050	16,750	22,680	80,110	191,660	192,020	171,950	100,610	56,640
15	5,926	6,363	9,298	13,180	16,870	22,980	82,840	191,820	191,900	169,940	98,920	56,360
16	5,964	5,416	9,418	13,310	17,040	23,260	87,510	191,900	191,780	167,670	97,120	56,450
17	6,004	4,576	9,546	13,440	17,250	23,550	93,590	191,940	191,820	165,580	95,540	56,720
18	6,038	4,691	9,704	13,540	17,400	23,830	99,420	192,060	191,780	163,640	93,730	56,970
19	6,078	4,815	9,848	13,640	17,580	24,090	107,530	191,940	191,700	161,470	91,940	57,200
20	6,118	4,930	9,924	13,780	17,760	24,450	113,270	191,620	191,700	159,220	90,360	57,450
21	6,157	5,076	10,070	13,850	17,950	24,860	118,380	191,380	191,860	156,970	88,800	57,620
22	6,192	5,191	10,220	13,940	18,170	25,210	122,230	191,420	191,780	154,680	87,090	57,830
23	6,226	5,301	10,310	13,990	18,390	25,560	126,540	191,620	191,740	152,580	85,440	58,080
24	6,260	5,416	10,420	14,090	18,600	25,920	131,700	191,460	191,740	149,800	83,910	58,220
25	6,288	5,589	10,530	14,190	18,790	26,310	136,860	191,540	191,700	147,760	82,040	58,370
26	6,317	5,786	10,670	14,310	18,980	26,710	142,680	191,580	191,620	145,310	80,480	58,470
27	6,351	5,998	10,790	14,450	19,190	27,120	148,140	191,700	191,740	142,960	78,800	58,570
28	6,380	6,169	10,880	14,590	19,390	27,530	153,860	191,820	191,740	140,590	77,230	58,700
29	6,414	6,346	10,970	14,720	-------	28,780	157,900	191,900	191,420	138,040	75,630	58,820
30	6,442	6,522	11,090	14,850	-------	30,030	162,430	191,660	190,640	135,480	74,030	58,990
31	6,471	------	11,190	14,960	-------	31,510	-------	191,540	-------	133,060	72,580	-------

BIG WOOD RIVER BELOW MAGIC DAM, NEAR RICHFIELD, IDAHO

LOCATION.—In sec. 18, T. 2 S., R. 18 E., Blaine County, half a mile below Magic Dam and 18 miles northwest of Richfield, Lincoln County. No tributaries between dam and station.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—April 19, 1911, to September 30, 1927.

GAGE.—Gurley water-stage recorder on right bank. Discharge measurements made from cable at gage or by wading.

CHANNEL AND CONTROL.—Bed and control composed of clean coarse gravel and small boulders; somewhat shifting. Banks high and brushy.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, from water-stage recorder, 8.30 feet at 2 p. m. May 18 (discharge, 3,390 second-feet); minimum discharge estimated, 4 second-feet November 5–13 and November 20 to January 7.

1911–1927: Maximum stage recorded, 9.2 feet May 18, 1911 (discharge, 5,070 second-feet); no flow reported February 3, 1915.

DIVERSIONS AND REGULATION.—No diversions are made by Big Wood Canal Co. above this station, but numerous ranch diversions are made in the upper drainage area, the largest quantity of water being used in the district below Hailey. Flood waters are stored in Magic Reservoir just above station, and the first diversion by the company is Richfield Canal, about 2 miles below. Flow past station completely regulated by gates in outlet tunnel at Magic Dam.

ACCURACY.—Stage-discharge relation changed several times within well-defined limits as determined by 22 discharge measurements made during the current year; not affected by ice. Standard rating curve is well defined below 2,500 second-feet and extended above. Operation of water-stage recorder satisfactory except during winter, when readings were discontinued. Daily discharge ascertained by applying to rating table mean daily gage height determined by inspection of recorder graph except for April 7 when discharge was determined by averaging results obtained by applying hourly gage heights to rating table. Records good except those during winter, which are fair.

COOPERATION.—Gage-height record and 18 discharge measurements furnished by water master for Big Wood and Little Wood Rivers.

Daily discharge, in second-feet, of Big Wood River below Magic Dam, near Richfield, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	33	30	4					386	1,340	1,530	1,380	814
2	33	28	4					391	1,310	1,530	1,280	808
3	36	18	4					420	1,310	1,530	1,280	784
4	36	6	4	4	6		10	517	1,250	1,530	1,410	748
5	36	4	4			8		589	1,250	1,470	1,380	736
6	36	4	4					700	1,250	1,470	1,340	730
7	36		4				27	778	1,310	1,470	1,340	724
8	36		4				45	790	1,640	1,470	1,310	700
9	36		4				45	956	2,570	1,530	1,310	682
10	86	4	4				47	2,110	2,510	1,530	1,280	688
11	32		4				45	1,990	2,340	1,530	1,280	688
12	32		4				45	1,640	2,450	1,580	1,280	688
13	33	4	4				45	1,640	2,680	1,530	1,280	618
14	32	362	4				50	1,820	2,740	1,530	1,150	507
15	32	556	4	5	7		61	2,220	2,620	1,530	1,090	197
16	32	501	4			9	61	2,620	2,400	1,470	1,050	88
17	32	202	4				63	3,030	2,220	1,470	1,020	86
18	32	5	4				65	3,210	2,110	1,470	1,020	86
19	32	5	4				66	3,090	2,050	1,470	1,020	86
20	32	4	4				66	2,570	2,050	1,470	988	86
21	32	4	4				68	2,170	2,110	1,470	988	86
22	32	4	4				70	1,880	1,990	1,470	988	90
23	32	4	4				143	1,700	1,940	1,470	988	94
24	32	4	4				239	1,470	1,940	1,470	988	96
25	32	4	4		8		268	1,250	1,880	1,470	956	96
26	32	4		6			264	1,310	1,880	1,470	956	94
27	32	4				10	280	1,470	1,880	1,470	956	94
28	32	4	4				312	1,580	1,820	1,440	956	92
29	32	4			-------		364	1,580	1,700	1,440	956	86
30	29	4			-------		391	1,440	1,580	1,410	944	84
31	36	-------			-------		-------	1,410	-------	1,410	832	-------

NOTE.—Discharge estimated Nov. 7–12 and Dec. 26 to Apr. 6, when flow consisted entirely of leakage from gates in dam. Braced figures show mean discharge for periods indicated.

Monthly discharge of Big Wood River below Magic Dam, near Richfield, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	86	2[illegible]	34.8	2,140
November	556	----------	59.8	3,560
December	----------	----------	4.0	250
January	----------	----------	5.1	310
February	----------	----------	7.0	390
March	----------	----------	9.0	550
April	391	----------	106	6,310
May	3,210	38[illegible]	1,570	96,500
June	2,740	1,25[illegible]	1,940	115,000
July	1,580	1,41[illegible]	1,490	91,600
August	1,410	832	1,130	69,500
September	814	84	382	22,700
The year	3,210	----------	565	409,000

BIG WOOD RIVER ABOVE NORTH GOODING CANAL, NEAR SHOSHONE, IDAHO

LOCATION.—In sec. 10, T. 4 S., R. 18 E., 1 mile above heading of North Gooding Canal, 13 miles below Magic Dam, and 14 miles northeast of Shoshone, Lincoln County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—April 21, 1921, to September 30, 1927. No flow passed gage during 1926.

EQUIPMENT.—Vertical staff on right bank. Discharge measurements made from cable 300 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed composed of lava rock partly covered with gravel. One channel at all stages. Control formed by lava-rock riffle about 100 feet below gage; fairly permanent. Point of zero flow at gage height, approximately −0.5 foot.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 6.00 feet at 6.50 a. m. May 19 (discharge, 2,100 second-feet); channel reported dry throughout year except for days for which discharge is given.

1921–1927: Maximum stage recorded, 12.79 feet (old datum) June 13, 1921 (discharge, 3,330 second-feet); channel practically dry except during irrigation seasons each year, and then only when Lincoln Canal does not divert the entire flow of river.

DIVERSIONS AND REGULATION.—Numerous diversions for irrigation made above and below station. Richfield and Lincoln Canals are main diversions between station and Magic Dam. Lincoln Canal, completed in spring of 1925, diverts all the flow, except during high water, around station on right bank to conserve channel losses in the natural stream bed throughout an 8-mile stretch of the river. Flow regulated by diversions above and by operation of head gates at Magic Dam 13 miles above.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined between 150 and 2,000 second-feet, based on four discharge measurements made during current year and shape of previous curves. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table, except as indicated in footnote to table of daily discharge. Records good.

COOPERATION.—Gage-height record and two discharge measurements furnished by water master for Big Wood and Little Wood Rivers.

Daily discharge, in second-feet, of Big Wood River above North Gooding Canal, near Shoshone, Idaho, for the year ending September 30, 1927

Day	May	June	Day	May	June	Day	May	June
1	0	268	11	1,220	788	21	1,180	507
2	0	244	12	829	829	22	829	419
3	0	232	13	748	957	23	671	362
4	0	150	14	748	1,130	24	537	362
5	0	0	15	1,040	1,000	25	85	307
6	0	0	16	1,500	788	26	0	
7	0	0	17	1,880	635	27	0	300
8	0	0	18	1,980	507	28	100	
9	0	725	19	2,040	477	29	268	150
10	750	1,090	20	1,540	448	30	325	0
						31	268	

NOTE.—Discharge estimated May 10, 25–28, 30, June 4–9, 29, based on gage heights, observer's notes and comparison with flow at stations upstream. No flow during periods for which no discharge is given

Monthly discharge of Big Wood River above North Gooding Canal, near Shoshone, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
May	2,040	0	588	36,800
June	1,130	0	442	26,300
The year				63,100

NOTE.—No flow during months for which no discharge is given.

BIG WOOD RIVER BELOW NORTH GOODING CANAL, NEAR SHOSHONE, IDAHO

LOCATION.—In sec. 15, T. 4 S., R. 18 E., 300 yards below headworks of North Gooding Canal, 13 miles northeast of Shoshone, Lincoln County, and 14 miles below Magic Dam.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—January 1, 1911, to September 30, 1927.

EQUIPMENT.—Gurley 7-day water-stage recorder on right bank, installed July 5, 1920. Discharge measurements made from cable about 100 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed composed of lava rock; practically permanent; rough. At extreme high stages water overflowed above North Gooding diversion dam into secondary channel to left of gage. Control well defined.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, from water-stage recorder, 7.35 feet at 6.05 p. m. on May 18 and 6.35 a. m. on May 19 (discharge, 1,640 second-feet); channel reported dry except during period of recorded flow as shown in table of daily discharge.

1911–1927: Maximum stage recorded, 15.0 feet (old datum) May 18, 1921 (discharge, 3,180 second-feet); no flow during several different periods.

DIVERSIONS AND REGULATION.—Station is below all diversions of Big Wood Canal Co. North Gooding and Richfield Canals divert water between station and Magic Dam. Lincoln Canal, which was designed to carry about 700 second-feet and was completed in spring of 1925, heads 7 miles below Magic Dam and empties directly into North Gooding Canal at its head gates a quarter of a mile above station; it diverts water on right bank of Big Wood River for the purpose of conserving loss in the natural channel throughout this stretch of the river. Flow past station is regulated by gates at Magic Dam and head gates of the North Gooding and Richfield Canals.

ACCURACY.—Stage-discharge relation permanent; no flow during ice-affected period. Rating curve well defined below 1,200 second-feet, determined by six discharge measurements made during current year. Water-stage recorder operated satisfactorily. Daily discharge ascertained by applying to rating table mean daily gage height determined by inspection of recorder graph, except for May 10, 24, 25, and June 9, for which the daily discharge was determined by averaging results obtained by applying to rating table mean gage heights for hourly or other regular intervals. Records good.

COOPERATION.—Gage-height record and five discharge measurements furnished by water master for Big Wood and Little Wood Rivers.

Daily discharge, in second-feet, of Big Wood River below North Gooding Canal, near Shoshone, Idaho, for the year ending September 30, 1927

Day	Apr.	May	June	July	Aug	Sept.	Day	Apr.	May	June	July	Aug.	Sept.
1	0	186	258	190	106	91	16	0	1,270	851	179	87	0
2	0	185	216	199	107	92	17	0	1,490	684	172	88	0
3	0	189	195	193	113	92	18	0	1,580	556	172	91	0
4	0	200	190	183	115	92	19	0	1,580	487	170	96	0
5	0	216	161	183	98	92	20	0	1,320	474	172	99	0
6	0	210	159	182	96	93	21	0	1,040	514	175	99	0
7	0	208	166	185	98	92	22	0	774	436	178	103	0
8	0	206	167	185	86	92	23	2	617	356	162	103	0
9	0	209	876	188	91	92	24	120	461	356	137	101	0
10	0	755	1,040	199	92	100	25	176	197	294	142	99	0
11	0	1,110	851	197	89	104	26	182	294	267	148	99	0
12	0	851	871	197	90	104	27	188	304	294	148	96	0
13	0	756	953	197	88	104	28	237	412	285	142	93	0
14	0	774	1,060	185	89	103	29	223	448	231	126	93	0
15	0	974	996	186	88	63	30	200	345	221	115	90	0
							31		258		111	90	0

NOTE.—Channel reported dry during periods for which no discharge is given. Discharge estimated Apr. 23 and Sept. 15.

Monthly discharge of Big Wood River below North Gooding Canal, near Shoshone, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
April	237	0	44.3	2,630
May	1,580	185	626	38,500
June	1,060	159	482	28,700
July	199	111	171	10,500
August	115	86	95.9	5,900
September	104	0	46.9	2,790
The year				89,000

NOTE.—No flow during months for which no discharge is given.

BIG WOOD RIVER ABOVE THORN CREEK, NEAR GOODING, IDAHO

LOCATION.—In NW. ¼ sec. 7, T. 5 S., R. 16., at Manuel Silva ranch, one-quarter mile above Thorn Creek and 8½ miles northeast of Gooding, Gooding County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—April 22, 1926, to May 9, 1927, when station was temporarily discontinued.

EQUIPMENT.—Gurley water-stage recorder on right bank. Discharge measurements made by wading.

CHANNEL AND CONTROL.—Bed composed of lava overlain with gravel. One channel at all stages in vicinity of gage. Control formed by lava rock and gravel riffle; not permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, from water-stage recorder, 2.54 feet at 10.45 a. m. April 29 (discharge, 98 second-feet); channel reported dry for long periods prior to April 27. A considerable higher discharge occurred after May 9.

1926–1927: Maximum stage recorded, 2.77 feet at 2 p. m. April 23, 1926 (discharge, 156 second-feet); channel dry for long periods each year.

DIVERSIONS AND REGULATION.—Numerous diversions for irrigation above and below station. Flow regulated by operation of head gates at Magic Dam and by diversions above gage.

ACCURACY.—Stage-discharge relation permanent; no record during winter. Rating curve well defined between 50 and 160 second-feet below which it is fairly well defined; based on two discharge measurements, one of which was made during the current year at discharge of 97.5 second-feet. Operation of water-stage recorder fairly satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height determined by inspection of recorder graph except for May 2, when staff reading was used, and April 27, when the discharge was estimated in part. Records good.

COOPERATION.—Gage-height record and one discharge measurement furnished by water master for Big Wood and Little Wood Rivers.

Daily discharge, in second-feet, of Big Wood River above Thorn Creek, near Gooding, Idaho, for the year ending September 30, 1927

Date	Discharge	Date	Discharge	Date	Discharge
Apr. 27	15	May 3	61	May 7	82
Apr. 28	63	May 4	62	May 8	84
Apr. 29	95	May 5	77	May 9	79
May 2	61	May 6	80		

NOTE.—Channel probably dry prior to Apr. 27; considerable flow passed station after May 9, when records were temporarily discontinued. No record Apr. 30 and May 1.

BIG WOOD RIVER AT GOODING, IDAHO

LOCATION.—In sec. 29, T. 5 S., R. 15 E., Gooding County, 30 feet below highway bridge and half a mile north of Gooding station on Oregon Short Line Railroad.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—April 1, 1921, to September 30, 1927. From June 2, 1896, to October 31, 1899, at approximately same site but known as "Malade River at Toponis, Idaho."

EQUIPMENT.—Gurley water-stage recorder on left bank. Discharge measurements made from cable 600 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed composed of lava rock overlain with gravel. One channel at all stages. Control formed by lava rock riffle 300 feet below gage; growth of willows and weeds affects stage-discharge relation occasionally.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 5.01 feet at 4.30 p. m. May 19 (discharge, 1,700 second-feet); channel reported dry from 6 p. m. April 25 to 10 a. m. April 28, September 18–30, and for long periods prior to March 31.

1921–1927: Maximum stage recorded, 5.80 feet May 7, 1922 (discharge, 2,340 second-feet); channel dry for long periods each year.

DIVERSIONS AND REGULATION.—Numerous diversions for irrigation about and below station. Flow regulated by operation of head gates at Magic Dam and by diversions above gage.

ACCURACY.—Stage-discharge relation changed slightly June 27 to July 14; no flow during winter. Rating curve well defined by eight discharge measurements between 40 and 1,800 second-feet was used prior to June 28; four measurements made thereafter defined the shift and parallel curve used during remainder of the year. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage heights determined by inspection of recorder graph, using shifting-control method June 27 to July 14, or by averaging results obtained by applying to rating table mean gage heights for shorter intervals of a day. Records good except those for August and September, which are fair.

COOPERATION.—Gage-height record and nine discharge measurements furnished by water master for Big Wood and Little Wood Rivers.

Daily discharge, in second-feet, of Big Wood River at Gooding, Idaho, for the year ending September 30, 1927

Day	Apr.	May	June	July	Aug.	Sept.	Day	Apr.	May	June	July	Aug.	Sept.
1	24	52	131	63	30	11	16	57	945	767	57	10	9
2	81	43	117	50	22	9	17	28	1,300	501	57	5	3
3	71	39	95	71	18	8	18	22	1,480	401	53	5	
4	46	42	74	65	25	7	19	18	1,660	288	50	5	
5	30	49	76	63	27	6	20	19	1,510	284	49	9	
6	47	61	58	63	13	8	21	15	1,040	291	47	13	
7	57	69	40	57	12	7	22	10	767	295	52	13	
8	67	95	47	50	18	10	23	12	589	214	52	17	
9	46	82	170	52	13	11	24	5	380	183	55	16	0
10	44	139	915	55	6	4	25	3	152	160	42	14	
11	53	945	699	65	18	4	26	0	122	86	44	15	
12	60	825	584	63	12	9	27	0	183	103	52	15	
13	104	616	638	67	13	9	28	20	211	134	49	15	
14	147	558	855	67	16	10	29	78	310	90	47	12	
15	61	616	825	58	16	9	30	63	273	69	39	14	
							31		174		30	12	

NOTE.—Discharge interpolated Apr. 13. Channel reported practically dry Oct. 1 to Mar. 30; mean discharge, 49 second-feet on Mar. 1.

Monthly discharge of Big Wood River at Gooding, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
March 31			49 0	97. 2
April	147	0	42. 9	2. 550
May	1. 660	39	494	30. 400
June	915	40	306	18. 200
July	71	30	54. 3	3. 340
August	30	5	14 5	892
September	11	0	4 5	270
The period				55. 700

BIG WOOD RIVER NEAR GOODING, IDAHO

LOCATION.—In sec. 21, T. 6 S., R. 14 E., at Cleek ranch, 3½ miles above bridge on upper road between Bliss and Hagerman, 5 miles above diversion dam for King Hill project, and 6 miles southwest of Gooding, Gooding County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—March 26, 1916, to September 30, 1927.

EQUIPMENT.—Gurley water-stage recorder on right bank; installed April 10, 1924. Discharge measurements made from cable a short distance above gage or by wading.

CHANNEL AND CONTROL.—Bed composed of lava rock, boulders, and coarse gravel. Banks overflowed at high stages; one channel at gage; several channels above gage during high water. Control practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, from water-stage recorder, 6.6 feet at 2 p. m. May 19 (discharge, 1,710 second-feet); channel reported dry frequently in September and probably dry prior to early spring run-off period.

1916–1927: Maximum stage recorded, 9.00 feet March 17, 1922 (discharge, 3,680 second-feet); channel dry for long periods each year.

DIVERSIONS AND REGULATION.—Below all diversions of North Side Canal Co. (Ltd.), and above Big Malad Springs. Justice and Croco ditches (combined capacity, about 15 second-feet) divert about 3 miles below gage; a few second-feet are occasionally wasted into river about 2 miles below gage. Flow regulated by dams and diversions above station.

ACCURACY.—Stage-discharge relation permanent; probably no flow during ice-affected period. Rating curve well defined below 1,800 second-feet, based on four discharge measurements made during current year. Operation of water-stage recorder satisfactory prior to August, after which many staff readings made twice daily were used because of recorder trouble. Daily discharge ascertained by applying to rating table mean daily gage height except as indicated in footnote to table of daily discharge. Records excellent April to June; others fair.

COOPERATION.—Gage-height record and four discharge measurements furnished by water master for Big Wood and Little Wood Rivers.

Daily discharge, in second-feet, of Big Wood River near Gooding, Idaho, for the year ending September 30, 1927

Day	Mar.	Apr.	May	June	July	Aug.	Sept.
1	------	218	141	149	34	12	2
2	------	334	165	126	11	13	4
3	------	368	132	79	12	9	3
4	------	257	86	36	22	3	5
5	------	184	40	34	17	4	2
6	------	199	61	13	21	9	1
7	------	231	107	10	17	13	0
8	------	226	240	15	15	9	0
9	------	182	265	32	11	9	1
10	------	172	226	841	13	7	2
11	------	178	930	667	22	2	0
12	------	184	959	508	24	3	0
13	------	430	699	549	24	6	0
14	------	368	636	716	26	11	1
15	------	224	652	683	17	25	2
16	------	194	959	636	18	18	0
17	------	160	1,270	404	20	15	1
18	------	143	1,400	292	16	7	1
19	------	108	1,640	187	13	6	0
20	------	100	1,550	162	14	6	17
21	------	84	1,170	157	13	5	13
22	------	88	879	168	13	4	6
23	------	107	636	112	16	3	1
24	------	74	535	57	19	7	0
25	------	60	311	39	11	5	0
26	------	39	98	26	13	6	1
27	------	20	148	19	28	7	1
28	------	94	172	91	27	6	1
29	------	170	322	91	22	5	0
30	------	156	311	55	19	2	0
31	263	------	206	------	13	2	------

NOTE.—Discharge estimated June 8, Sept. 9, 10, 14, 17, and 23, based on fairly definite information relative to the flow. Channel practically dry Sept. 7, 8, 11–13, 16, 19, 24, 25, 29, 30, and for long periods prior to March

Monthly discharge of Big Wood River near Gooding, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
March 31			263	522
April	430	20	178	10,600
May	1,640	40	549	33,800
June	841	10	232	13,800
July	34	11	18.1	1,110
August	25	2	7.7	473
September	17	0	2.2	130
The period				60,400

BIG WOOD SLOUGH AT HAILEY, IDAHO

LOCATION.—In sec. 9, T. 2 N., R. 18 E., at highway bridge one-eighth mile northeast of steel highway bridge across Big Wood River and one-eighth mile southwest of Hailey, Blaine County.

RECORDS AVAILABLE.—June 11, 1915, to September 30, 1927.

EQUIPMENT.—Vertical staff in concrete stilling well on left bank 3 feet below highway bridge; installed August 3, 1923. Discharge measurements made from footbridge or by wading.

CHANNEL AND CONTROL.—Bed composed of sand and gravel. Banks covered with brush and may be overflowed. One channel at all stages. Control formed by a wood stave water pipe, laid in bed of stream about 15 feet below gage; changes slightly. Protruding willow stumps near right bank collect drift occasionally, which affects stage-discharge relation.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 2.00 feet at 7.30 a. m. April 26 (discharge, 312 second-feet); minimum discharge, 27 second-feet August 24–28, in the afternoon of August 29–31, and morning of September 7 (gage height, 1.12 feet).

1915–1927: Maximum stage recorded, 3.00 feet June 6, 1921 (discharge, 419 second-feet); minimum discharge, 0.9 second-foot March 21–24, 1919.

DIVERSIONS AND REGULATION.—No diversions. The amount of water passing gage is affected by load at power plant half a mile upstream; considerable fluctuation. Main river station is affected inversely by any such regulation, so that the accuracy of the summation of the two records is presumably affected only slightly by this factor.

ACCURACY.—Stage-discharge relation changed frequently during year; slightly affected by ice January 22–30. During the year 15 discharge measurements were made which closely defined the rating curves applicable between shifts in the stage-discharge relation. Gage read to hundredths twice daily April 25 to September 16 and once daily at other times. Daily discharge ascertained by applying daily or mean daily gage height to rating table, except for ice-affected period for which it was estimated. Records good except those for November to April 10, which are fair.

COOPERATION.—Four discharge measurements furnished by water master for Big Wood and Little Wood Rivers.

Big Wood Slough is a natural channel of Big Wood River that is utilized also as a tailrace for the Hailey power plant. The record from this station represents a portion of the natural flow of Big Wood River and taken in conjunction with the record at the near-by station on the main river, will show entire flow of river at this point. For record from station on main river see page 99. For record of combined flow of Big Wood River and Big Wood Slough see page 101.

Daily discharge, in second-feet, of Big Wood Slough at Hailey, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	126	106	148	119	116	106	212	122	97	129	45	30
2	126	106	155	126	100	106	189	116	97	140	43	31
3	126	106	189	126	86	100	189	113	106	140	40	30
4	126	106	180	133	86	100	189	119	103	133	40	32
5	119	106	155	140	86	106	185	119	94	126	43	34
6	119	106	148	140	86	113	185	116	100	137	40	37
7	126	106	119	133	86	113	262	129	113	140	38	41
8	119	106	106	133	86	119	189	106	119	140	35	88
9	113	113	100	133	86	126	189	91	97	144	35	83
10	106	113	83	133	86	88	180	94	106	140	31	94
11	100	119	106	133	110	100	176	113	119	140	34	73
12	94	119	119	133	110	140	176	100	122	122	33	73
13	94	106	94	133	113	129	159	100	129	113	35	83
14	119	106	83	133	113	129	122	122	119	113	180	88
15	119	100	83	133	100	116	97	159	103	103	43	106
16	119	100	88	126	83	103	122	116	113	94	38	103
17	119	100	88	126	83	133	126	155	116	106	34	94
18	119	100	88	126	83	133	133	103	113	103	33	94
19	119	106	113	126	83	126	122	119	119	94	33	100
20	119	119	113	126	83	122	116	103	126	103	32	100
21	119	133	106	94	83	122	116	113	144	88	31	83
22	119	140	100	}	83	152	122	106	140	86	30	94
23	119	155	100	}	83	148	103	103	155	75	30	113
24	119	155	94	}	83	148	116	106	152	57	27	94
25	113	155	88	}	100	144	91	106	148	63	27	94
26	113	155	94	90	100	168	185	137	168	63	27	94
27	113	155	94	}	94	168	159	126	148	57	27	94
28	113	155	100	}	94	180	133	144	133	53	27	94
29	113	189	100	}	-------	180	133	94	133	49	28	94
30	113	198	106	}	-------	198	116	100	140	49	29	94
31	106	-------	119	116	-------	202	-------	106	-------	51	29	------

NOTE.—Braced figure shows mean estimated discharge for period indicated.

Monthly discharge of Big Wood Slough at Hailey, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	126	94	116	7,130
November	198	100	125	7,440
December	189	83	112	6,890
January	140	----------	117	7,190
February	116	83	92.3	5,130
March	202	88	133	8,180
April	262	91	153	9,100
May	159	91	115	7,070
June	168	94	122	7,260
July	144	49	102	6,270
August	180	27	38.6	2,370
September	113	30	78.7	4,680
The year	262	27	109	78,700

CAMAS CREEK NEAR BLAINE, IDAHO

LOCATION.—In sec. 15, T. 1 S., R. 16 E., 500 feet below sheep bridge, a quarter of a mile north of Macon siding on Hill City branch of Oregon Short Line Railroad, 1½ miles below railroad bridge, 2¼ miles above backwater of Magic Reservoir, and 4 miles southeast of Blaine, Camas County. No tributaries or diversions between station and Magic Reservoir.

DRAINAGE AREA.—618 square miles (measured on base map of Idaho).

RECORDS AVAILABLE.—May 9, 1912, to September 30, 1927. Results of discharge measurements made in 1911 by Idaho Irrigation Co. are also available. Discharge measurements only are available for 1922.

EQUIPMENT.—Au water-stage recorder on left bank; installed March 16, 1927. Discharge measurements made from sheep bridge or by wading.

CHANNEL AND CONTROL.—Bed of stream is rocky. One channel at all stages. Control permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded, from water-stage recorder, 10.07 feet at 2 a. m. April 9 and 7 p. m. April 18 (discharge, 3,540 second-feet); minimum stage, 1.04 feet October 7 (measured discharge, 3.6 second-feet).

1911–1927: Maximum discharge, 5,240 second-feet April 12, 1916 (gage height, 10.76 feet); minimum discharge, 1.8 second-feet July 29, 1926 (gage height, 0.95 foot). Probably not actual extremes.

DIVERSIONS AND REGULATION.—Many small diversions above station. No regulation.

ACCURACY.—Stage-discharge relation permanent; observations discontinued during winter. Rating curve well defined below 2,500 second-feet and fairly well defined above by 35 discharge measurements made during 1923 to 1927, 10 of which, ranging from 3.6 to 2,320 second-feet, were made during current year. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height determined by inspection of recorder graph except as indicated in footnote to table of daily discharge. Records excellent except those for August and September, which are good.

COOPERATION.—Gage-height record and five discharge measurements furnished by water master for Big Wood and Little Wood Rivers.

Daily discharge, in second-feet, of Camas Creek near Blaine, Idaho, for the year ending September 30, 1927

Day	Oct.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			438	1,450	393	112	7.2	4.6
2			438	1,350	363	103	7.0	4.7
3			600	1,220	338	94	6.7	4.9
4			660	1,000	333	88	6.7	4.9
5			705	885	333	83	6.7	4.7
6			868	815	363	76	6.2	4.7
7	3.6		1,550	885	338	71	5.6	4.
8			2,750	1,240	410	63	5.3	4.
9			2,990	1,800	424	54	5.3	5.
10			2,010	1,350	438	47	5.1	7.
11			1,600	1,100	424	42	4.8	7.
12			1,350	850	393	39	4.8	6.
13			1,300	765	379	37	4.8	7.0
14			1,400	735	360	35	5.3	7.2
15		48	1,750	780	341	31	7.8	7.2
16		62	2,400	868	311	28	10	7.0
17		57	2,990	940	287	26	8.6	6.7
18		56	3,350	940	264	24	7.2	6.5
19		55	2,930	902	240	21	6.7	5.9
20		55	2,180	815	218	20	6.2	5.6
21		56	1,850	735	208	17	5.6	5.4
22		61	2,060	660	198	15	5.3	5.7
23		66	2,340	600	190	14	4.8	5.
24		74	2,750	525	178	13	4.6	5.4
25		103	2,690	466	156	13	4.6	5.3
26		136	2,570	452	154	12	4.4	6.4
27		159	2,230	466	154	11	4.2	6.7
28		180	1,960	495	147	10	4.2	6.7
29		222	1,750	480	143	9.6	4.2	7.0
30		322	1,550	452	130	8.2	4.0	7.0
31		466		410		7.2	4.0	

NOTE.—Discharge estimated Sept. 30 because of missing gage height.

Monthly discharge of Camas Creek near Blaine, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
March 15-31	466	48	128	4,320
April	3,350	438	1,870	111,000
May	1,800	410	853	52,400
June	438	130	289	17,200
July	112	7.2	39.5	2,430
August	10	4.0	5.74	353
September	7.2	4.4	5.91	352
The period				188,000

LINCOLN CANAL NEAR RICHFIELD, IDAHO

LOCATION.—In sec. 9, T. 3 S., R. 18 E., at head of canal, 100 yards east from Shoshone-Hailey highway, 5½ miles below Magic Dam, and 12 miles northeast of Richfield, Lincoln County.

RECORDS AVAILABLE.—April 15, 1925, to September 30, 1927.

EQUIPMENT.—Gurley 7-day water-stage recorder on right bank 400 feet below head gates. Discharge measurements made from cable 400 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed composed of lava covered by gravel. One channel at all stages. Control not definitely defined.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, from water-stage recorder, 4.00 feet at 4 p. m. May 28 (discharge, 706 second-feet); probably no flow October 1 to November 14, November 18 to April 22, and September 17–30.

1925–1927: Maximum stage and discharge recorded, that of May 28, 1927; no flow for long periods each year.

DIVERSIONS AND REGULATION.—Flow regulated by gates at head of canal.

ACCURACY.—Stage-discharge relation changed very slightly during winter; no flow during ice period. Rating curve used November 15–17 is well defined by discharge measurements made in 1926; curve used after April 22 is well defined below 600 second-feet and is based on preceding curve and 11 discharge measurements ranging from 204 to 573 second-feet made during the current year. Operation of water-stage recorder satisfactory; daily staff gage readings used November 15–17. Daily discharge ascertained by applying to rating table daily staff-gage height or mean daily gage height determined by inspection of recorder graph. Records good except those for November, which are fair.

COOPERATION.—Gage-height record and eight discharge measurements furnished by water master for Big Wood and Little Wood Rivers.

Lincoln Canal diverts water from right bank of Big Wood River in sec. 9, T. 3 S., R. 18 E., from which point water is carried 10 miles, approximately paralleling the river to head of North Gooding Canal in sec. 15, T. 4 S., R. 18 E. Lincoln Canal was completed in spring of 1925 and used thereafter for conserving large channel losses in the natural stream bed of this stretch of river during irrigation seasons.

Daily discharge, in second-feet, of Lincoln Canal near Richfield, Idaho, for the year ending September 30, 1927

Day	Nov.	Apr.	May	June	July	Aug.	Sept.
1			344	359	582	480	318
2			349	357	591	487	322
3			351	357	585	492	320
4			368	473	588	485	314
5			400	561	585	466	308
6			444	564	582	458	310
7			468	566	580	456	298
8			466	572	582	446	296
9			475	601	585	458	294
10			430	497	593	456	306
11			326	485	588	454	310
12			318	487	591	458	308
13			314	494	582	463	298
14			316	497	574	437	275
15	331		324	492	572	405	134
16	274		336	482	561	391	3
17	266		342	475	551	380	
18			344	468	551	376	
19			342	466	548	380	
20			332	463	553	383	
21			322	466	564	376	
22			316	461	564	376	
23		58	312	458	535	380	
24		152	304	458	520	380	
25		192	492	454	522	376	
26		197	634	451	527	376	
27		210	672	456	525	376	
28		258	686	451	517	374	
29		296	494	502	502	376	
30		340	359	612	492	374	
31			357		487	332	

NOTE.—No flow except for leakage from dam above, on days for which no discharge is shown.

Monthly discharge of Lincoln Canal near Richfield, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
November 15-17	331	266	290	1,730
April 23-30	340	58	213	3,380
May	686	304	398	24,500
June	612	357	483	28,700
July	593	487	557	34,200
August	492	332	416	25,600
September 1-16	322	3	276	8,760

LINCOLN CANAL NEAR SHOSHONE, IDAHO

LOCATION.—In sec. 15, T. 4 S., R. 18 E., one-fourth mile above mouth of canal, 7 miles northwest of Richfield, 11 miles northeast of Shoshone, Lincoln County, and 12½ miles below Magic Dam.

RECORDS AVAILABLE.—May 21, 1925, to September 30, 1927.

EQUIPMENT.—Vertical staff gage bolted to left end of concrete check of canal in timber stilling well. Discharge measurements made from cable half a mile above gage or by wading.

CHANNEL AND CONTROL.—One channel at all stages. Bed composed of lava rock overlain with gravel. Control is formed by concrete check in canal.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 2.48 feet at 7.20 a. m. May 29 (discharge, 667 second-feet); canal dry except during periods of recorded flow.

1925–1927: Maximum stage recorded, that of May 29, 1927; no flow for long periods each year.

DIVERSIONS AND REGULATION.—Five ditches have water rights to divert 12.5 second-feet for irrigation use between this and the station at head of canal. Flow regulated by head gates.

ACCURACY.—Stage-discharge relation practically permanent; no flow during winter. Rating curve well defined below 600 second-feet, based on preceding curve and 10 discharge measurements, ranging from 184 to 540 second-feet and made during the current year. Gage read to hundredths twice daily. Daily discharge ascertained by applying to rating table mean daily gage height except for April 23, 24, May 10, 25, September 15 and 16, for which the discharge was estimated in part, based on recorded changes in stage. Records good except those for November, which are fair.

COOPERATION.—Gage-height record and seven discharge measurements furnished by water master for Big Wood and Little Wood Rivers.

Lincoln Canal diverts water from right bank of Big Wood River in sec. 9, T. 3 S., R. 18 E., from which point water is carried 10 miles, approximately paralleling the river to head of North Gooding Canal in sec. 15, T. 4 S., R. 18 E. Construction of Lincoln Canal was completed in spring of 1925 and used thereafter for the purpose of conserving large channel losses in the natural stream bed of this stretch of river during irrigation seasons.

Daily discharge, in second-feet, of Lincoln Canal near Shoshone, Idaho, for the year ending September 30, 1927

Day	Nov.	Apr.	May	June	July	Aug.	Sept.
1	0	0	326	326	548	456	294
2	0	0	330	323	557	456	300
3	0	0	333	320	548	465	300
4	0	0	337	382	548	456	297
5	0	0	359	521	548	436	284
6	0	0	398	521	539	436	288
7	0	0	452	530	539	423	278
8	0	0	452	530	539	414	275
9	0	0	456	584	548	427	269
10	0	0	445	452	552	423	284
11	0	0	307	444	557	418	291
12	0	0	294	444	557	423	288
13	0	0	288	452	552	431	281
14	0	0	291	452	539	418	252
15	310	0	297	452	539	378	136
16	260	0	307	444	526	363	1
17	254	0	313	427	526	348	0
18	0	0	316	418	521	348	0
19	0	0	316	427	521	352	0
20	0	0	307	418	521	352	0
21	0	0	294	423	523	348	0
22	0	0	288	410	544	348	0
23	0	4	288	410	513	348	0
24	0	133	281	410	495	348	0
25	0	184	445	406	504	348	0
26	0	190	616	402	504	344	0
27	0	192	644	406	504	348	0
28	0	246	658	402	495	344	0
29	0	272	491	452	478	348	0
30	0	323	326	575	469	344	0
31	0		320		461	310	

Monthly discharge of Lincoln Canal near Shoshone, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
November	310	0	27.5	1,640
April	323	0	51.5	3,060
May	658	281	373	22,900
June	584	320	439	26,100
July	557	461	527	32,400
August	465	310	387	23,800
September	300	0	137	8,150
The year	658	0	163	118,000

NOTE.—No flow during months for which no discharge is given.

LITTLE WOOD RIVER NEAR CAREY, IDAHO

LOCATION.—In E. ½ sec. 30, T. 1 N., R. 21 E., one-third mile above diversion of West Canal, 1⅓ miles above diversion of East Canal, and 7 miles northwest of Carey, Blaine County.

DRAINAGE AREA.—312 square miles (measured on United States Forest Service maps).

RECORDS AVAILABLE.—April 28, 1904, to May 31, 1905; September 20, 1926, to September 30, 1927. February 22, 1920, to September 30, 1926, at Campbell ranch, 6 miles upstream. Records comparable except during spring run-off, during which there may be small inflow.

EQUIPMENT.—Friez water-stage recorder on right bank. Discharge measurements are made from cable 165 feet above gage or by wading.

CHANNEL AND CONTROL.—Bed composed of lava rock overlain with gravel and large boulders. Banks are high and steep; one channel at all stages. Control is fairly well defined and overhung with brush from both banks; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period of record, from water-stage recorder, 4.73 feet 11 to 12 p. m. April 27 (discharge, 1,180 second-feet); minimum stage, 0.88 foot from 6 p. m. September 20 to 7 p. m. September 21, 1926 (discharge, 19 second-feet).

1904–5, 1926–27: Maximum stage recorded, 5.1 feet May 22, 1904 (discharge not determined); minimum stage, that of September 21 and 22, 1926.

DIVERSIONS AND REGULATION.—A few small ditches divert water above station for irrigation. No regulation.

ACCURACY.—Stage-discharge relation permanent except as affected by ice. Rating curve is well defined between 20 and 1,000 second-feet by 22 discharge measurements made during 1926, 1927, and 1928 and ranging from 25 to 970 second-feet, of which 11 measurements were made during the current year. Operation of water-stage recorder satisfactory except during winter when occasional staff readings were made. Daily discharge ascertained by applying to rating table mean daily gage height determined from inspection of recorder graph except as noted in footnote to table of daily discharge. Records good except those for estimated periods, which are poor.

COOPERATION.—Gage-height record furnished by water master for Little Wood River and Little Wood River Canal Co.

Daily discharge, in second-feet, of Little Wood River near Carey, Idaho, for the period September 20, 1926, to September 30, 1927

Day	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	------	28	34	70				205	928	442	350	95	59
2	------	29	34	68			80	207	850	418	346	88	58
3	------	29	35	81				235		411	346	88	55
4	------	29	36	92				230	557	422	340	83	54
5	------	29	37	78				213	532	492	295	79	58
6	------	27	37	67				255	517	575	273	78	55
7	------	27	38	73				346	593	666	270	76	55
8	------	27	36	64	60	40	90	387	611	871	267	75	57
9	------	26	37	45				380	499	778	267	70	62
10	------	27	39	44				292	436	704	250	68	90
11	------	29	39	55				279	414	759	232	70	78
12	------	30	40				90	261	422	833	218	68	79
13	------	30	38				85	273	460	852	205	79	114
14	------	30	39				95	311	557	814	197	85	99
15	------	30	40				79	408	722	778	187	86	92
16	------	30	46				68	464	909	704	177	78	88
17	------	30	36				90	474	1,080	648	167	71	86
18	------	31	45			50		492	985	611	162	67	85
19	------	34	46				90	394	833	630	156	65	79
20	19	35	51					327	704	630	149	65	78
21	19	34	50	40			95	324	611	575	142	59	76
22	20	34	50				94	370	539	575	138	59	75
23	21	34	55				108	408	507	575	130	58	71
24	22	33	65		40		116	575	446	557	124	57	71
25	22	33	71			75		759	425	550	145	55	76
26	22	32	62				135	928	485	557	134	55	73
27	23	32	59					1,080	539	528	122	54	71
28	24	31	50					1,060	575	442	116	52	73
29	24	30	58			------	151	1,000	514	408	114	61	78
30	27	29	70			------	184	1,000	471	370	107	64	81
31	------	32	------			------	227	------	453	------	101	61	------

NOTE.—Discharge estimated because of ice and missing or partial daily gage heights Dec. 12 to Mar. 11, Mar. 18-20, 25-28, May 2, 3, June 6, and 25, based mainly on comparison with flow of Big Wood River and Big Wood Slough at Hailey. Braced figures show mean daily discharge for periods indicated.

Monthly discharge of Little Wood River near Carey, Idaho, for the period September 20, 1926, to September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1926				
September 20-30	27	19	22.1	482
1926-27				
October	35	26	30.4	1,870
November	71	34	45.8	2,730
December	92	----------	49.6	3,050
January	----------	----------	49.7	3,060
February	----------	----------	51.8	2,880
March	227	----------	105	6,460
April	1,080	205	465	27,700
May	1,080	414	614	37,800
June	871	370	606	36,100
July	350	101	201	12,400
August	95	52	70.0	4,300
September	114	54	74.2	4,420
The year	1,080	19	197	143,000

LITTLE WOOD RIVER NEAR RICHFIELD, IDAHO

LOCATION.—In sec. 30, T. 4 S., R. 20 E., half a mile above heading of Dietrich Canal and 1 mile east of railroad station at Richfield, Lincoln County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—January 1, 1911, to September 30, 1927.

EQUIPMENT.—Gurley water-stage recorder on right bank; installed April 14, 1920. Discharge measurements made from suspension footbridge just below gage or by wading.

CHANNEL AND CONTROL.—Bed composed of coarse gravel and small rocks; rough. Control may change slightly. Stage-discharge relation affected during summer by light growth of aquatic plants.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, from water-stage recorder, 2.59 feet at 1 a. m. May 2 (discharge, 356 second-feet); minimum stage recorded, 1.30 feet October 9 (measured discharge, 55.4 second-feet). Lower flow probably occurred during winter when records were discontinued.

1911–1927: Maximum stage recorded, 4.5 feet May 17 and 18, 1911 (discharge, 722 second-feet); minimum stage, 0.52 foot June 24 and 25, 1920 (discharge, 7.6 second-feet).

DIVERSIONS AND REGULATION.—Small ranch diversions are made above station. Dietrich Canal diverts a short distance below. No regulation except as caused by irrigation diversions upstream.

ACCURACY.—Stage-discharge relation slightly affected by moss growth and seriously affected by ice during winter. Rating curve well defined between 60 and 300 second-feet and two curves parallel thereto were used; based on former standard curve and 18 discharge measurements ranging from 55.4 to 261 second-feet and made during the current year. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage heights determined by inspection of recorder graph. Records good except those for October 1–11, which are fair.

COOPERATION.—Gage-height record and 17 discharge measurements furnished by water master for Big Wood and Little Wood Rivers.

Daily discharge, in second-feet, of Little Wood River near Richfield, Idaho, for the year ending September 30, 1927

Day	Oct.	Apr.	May	June	July	Aug.	Sept.
1	73	-------	350	212	91	91	115
2		-------	353	220	84	88	115
3		-------	350	212	85	89	115
4		230	328	204	86	91	117
5	65	240	325	197	92	89	115
6		240	316	210	95	91	115
7		240	316	210	94	89	117
8		259	325	214	88	89	119
9	57	281	353	233	78	88	119
10	59	281	334	238	74	88	119
11	63	267	307	214	75	88	121
12	-------	262	290	210	73	86	122
13	-------	256	278	222	75	92	124
14	-------	251	278	222	79	92	124
15	-------	246	295	214	82	94	124
16	-------	248	319	202	79	98	130
17	-------	254	328	192	84	100	134
18	-------	256	344	166	86	103	132
19	-------	265	350	144	86	103	132
20	-------	256	328	142	86	100	130
21	-------	238	301	146	89	103	128
22	-------	235	267	132	89	103	128
23	-------	240	240	115	84	105	128
24	-------	246	225	102	86	106	124
25	-------	262	182	82	89	108	124
26	-------	278	164	84	91	108	124
27	-------	304	157	95	94	108	124
28	-------	325	182	106	92	106	128
29	-------	340	212	100	92	108	130
30	-------	347	227	92	92	110	132
31	-------	-------	217	-------	91	113	-------

NOTE.—Discharge interpolated Apr. 13. Braced figure shows estimated mean discharge for period indicated.

Monthly discharge of Little Wood River near Richfield, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October 1–11			64.3	1,400
April 4–30	347	230	265	14,200
May	353	157	285	17,500
June	238	82	171	10,200
July	95	73	85.8	5,280
August	113	86	97.6	6,000
September	134	115	124	7,380

LITTLE WOOD RIVER AT SHOSHONE, IDAHO

LOCATION.—In sec. 35, T. 5 S., R. 17 E., just above diversion dam for town water supply and 400 feet above highway bridge on Shoshone-Richfield road in Shoshone, Lincoln County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—April 1, 1922, to September 30, 1927.

EQUIPMENT.—Gurley water-stage recorder on left bank. Discharge measurements made from cable a quarter of a mile above gage or by wading.

CHANNEL AND CONTROL.—Bed composed of lava rock partly overlain with sand and gravel. Banks steep; one channel at all stages. Control for low and medium stages formed by crest of concrete diversion dam, middle section of which consists of flashboards. No well-defined control for high stages.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 1.94 feet at 1 to 6 a. m. May 20 (discharge, 465 second-feet); minimum stage, 0.39 foot October 9 (measured discharge, 17.5 second-feet).

1922–1927: Maximum stage recorded, 2.26 feet June 18, 1922 (discharge, 664 second-feet); minimum stage, 0.34 foot at 10 a. m. September 3, 1924 (discharge, 0.4 second-foot).

DIVERSIONS AND REGULATION.—Numerous irrigation diversions above and below. A small ditch for the Shoshone water supply diverts from left bank directly below gage. No regulation except that due to diversions.

ACCURACY.—Stage-discharge relation permanent; observations discontinued during winter. Rating curve well defined between 15 and 400 second-feet by nine discharge measurements ranging from 17.5 to 334 second-feet and made during current year. Infrequent readings to hundredths from staff gage October 9 to 26. Operation of water-stage recorder satisfactory April to September. Daily discharge ascertained by applying to rating table daily or mean daily gage height except as noted in footnote to table of daily discharge. During period water-stage recorder was operated mean daily gage height determined by inspection of recorder graph. Records good.

COOPERATION.—Gage-height record and discharge measurements furnished by water master for Big Wood and Little Wood Rivers.

Daily discharge, in second-feet, of Little Wood River at Shoshone, Idaho, for the year ending September 30, 1927

Day	Oct.	Apr.	May	June	July	Aug.	Sept.
1		175	251	344	362	326	229
2		193	255	334	366	316	221
3		197	229	308	366	209	229
4		201	217	294	366	277	213
5		205	213	316	375	321	209
6		205	277	330	366	339	205
7		201	281	321	344	326	197
8		201	308	316	339	312	205
9	18	213	339	330	326	312	193
10	21	229	344	362	321	286	193
11	23	234	344	338	344	281	178
12	26	225	303	380	339	286	178
13	33	217	294	393	334	290	189
14	36	213	294	402	334	294	168
15		209	370	411	334	281	129
16	32	205	393	406	339	259	94
17		205	398	398	334	259	80
18		217	411	388	334	255	76
19	28	221	447	370	330	259	72
20		221	442	352	316	251	72
21	32	205	406	352	326	242	68
22		185	384	357	316	246	68
23		175	362	352	312	255	68
24		178	326	348	316	251	66
25	36	182	298	344	326	234	68
26	39	193	286	339	330	229	68
27		209	298	357	326	225	68
28		234	321	380	321	234	70
29		246	334	384	316	246	74
30		246	357	375	326	251	76
31			344		326	234	

NOTE.—Discharge estimated Oct. 10, 11, 15–18, 20–24.

Monthly discharge of Little Wood River at Shoshone, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October 9–26	39	18	30.4	1,090
April	246	175	208	12,400
May	447	213	327	20,100
June	411	294	356	21,200
July	375	312	336	20,700
August	339	209	271	16,700
September	229	66	134	7,970

FISH CREEK ABOVE DAM NEAR CAREY, IDAHO

LOCATION.—In sec. 2, T. 1 N., R. 22 E., 1¾ miles above mouth of West Fork of Fish Creek, 2 miles above dam of Carey Valley Reservoir Co., and 14 miles northeast of Carey, Blaine County.

DRAINAGE AREA.—About 56 square miles (measured on base map of Idaho).

RECORDS AVAILABLE.—May 3, 1920, to September 30, 1927.

EQUIPMENT.—Stevens 8-day water-stage recorder on right bank; installed March 22, 1926. Discharge measurements made by wading.

CHANNEL AND CONTROL.—Bed composed of coarse sand and gravel. Left bank may be overflowed at high stages. Control formed by 18-foot Cippoletti weir set in concrete, 8 feet below gage.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, from water-stage recorder, 1.66 feet from 4 to 6 a. m. April 28 (discharge, 138 second-feet); channel reported dry from 5 p. m. October 17 to 11 p. m. October 27.

1920–1927: Maximum stage recorded from water-stage recorder, 1.78 feet 9 a. m. to 1 p. m. May 6, 1922 (discharge, 158 second-feet); channel reported dry from 1 to 7 a. m. September 9, from 8 p. m. September 9 to 6 a. m. September 12, and from 5 p. m. October 17 to 11 p. m. October 27, 1926.

DIVERSIONS AND REGULATION.—Several small diversions above gage. No regulation except that caused by diversions.

ACCURACY.—Stage-discharge relation changed slightly June 17 to July 13; not seriously affected by ice. Two rating curves used during year, one from October 1 to June 16 and the other from July 14 to September 30; based on four discharge measurements, ranging from 5.7 to 62.2 second-feet and made during the current year, and shape of former curve. Water-stage recorder operated satisfactorily October 1 to November 2 and April 7 to September 30. During intervening period staff gage read to hundredths at infrequent intervals. Daily discharge determined by applying to rating table daily staff-gage reading or mean daily gage height determined by inspection of recorder graph; shifting-control method used June 17 to July 13. Records good except those for estimated periods, which are poor.

COOPERATION.—Gage-height record furnished by water master for Fish Creek.

Daily discharge, in second-feet, of Fish Creek above dam near Carey, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.4	0.9			13	19		124	62	34	6.7	7.2
2	5.4	1.2		14				112	58	32	6.3	6.7
3	5.4							102	56	30	5.4	6.7
4	5.4			14			55	95	60	29	3.9	6.7
5	5.9	1.5				22		92	60	27	2.6	6.7
6	5.4		15					90	58	26	1.9	6.7
7	5.0	1.9		13			63	100	57	24	1.9	7.6
8	4.3				15	25	65	95	61	23	1.9	7.6
9	3.9						65	84	62	22	2.2	9.0
10	3.9						59	78	58	22	1.9	13
11	3.9	5		12		28	58	75	57	20	1.9	11
12	3.9						58	74	57	21	4.7	9.5
13	3.9						58	77	55	21	5.4	12
14	2.9						56	89	53	20	9.0	10
15	1.9			11	18	33		105	50	20	8.6	10
16	1.9							117	46	20	8.1	9.0
17	1.2							127	39	18	8.1	9.5
18	0			10			70	123	38	18	7.6	10
19	0		12		19	35		114	38	17	7.6	9.5
20	0							98	37	15	7.6	8.1
21	0			12				85	35	15	8.1	9.0
22	0				20	38	59	76	34	14	8.6	8.6
23	0	10					58	74	32	12	8.6	9.0
24	0						60	69	29	11	7.6	8.1
25	0			13			76	67	28	13	6.3	8.1
26	0				20	43		96	66	34	12	6.7	7.2
27	0						115	74	35	10	5.0	6.7
28	.5		12	13			133	79	37	9.0	5.0	6.3
29	.5				-------	48	134	69	40	8.6	5.9	6.7
30	.7		12		-------	50	130	65	35	8.1	6.7	10
31	.9	-------			-------		-------	60	-------	7.6	7.2	----

NOTE.—Discharge estimated because of missing gage heights Nov. 3–6, 8–30, Dec. 1–27, 29–31, Jan. 1–3, 5–10, 12–17, 19–24, 26–31, Feb. 2–14, 16–21, 23–28, Mar. 2–7, 9–14, 16–21, 23–28, 30, 31, Apr. 1–6, 15–21, and 30. Braced figures show mean discharge for periods indicated.

Monthly discharge of Fish Creek above dam near Carey, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	5.9	0	2.33	143
November	----------	.9	6.67	397
December	----------	----------	13.0	799
January	----------	----------	12.4	762
February	----------	----------	17.1	950
March	----------	----------	33.3	2,050
April	134	----------	72.1	4,290
May	127	60	88.9	5,470
June	62	28	46.7	2,780
July	34	7.6	18.7	1,150
August	9.0	1.9	5.77	355
September	13	6.3	8.54	508
The year	134	0	27.1	19,700

NOTE.—Crooks Slough, which carries some of the water diverted or overflowed from Fish Creek above gage on left bank, contributed the following amounts of water as measured into Carey Valley Reservoir: April, 180 acre-feet; May, 30 acre-feet; June, 260 acre-feet; no flow from July to September.

FISH CREEK NEAR CAREY, IDAHO

LOCATION.—In sec. 22, T. 1 N., R. 22 E., 1½ miles below dam of Carey Valley Reservoir Co. and 11 miles northeast of Carey, Blaine County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—April 10, 1919, to September 30, 1920; May 12, 1923, to September 30, 1927. Several discharge measurements obtained in 1921 and 1922.

EQUIPMENT.—Stevens 8-day water-stage recorder immediately above highway bridge on left bank; installed April 29, 1926. Discharge measurements made by wading.

CHANNEL AND CONTROL.—Bed composed of lava rock covered by gravel, sand, and silt. One channel at all stages. Control formed by Cippoletti weir set in concrete, located immediately below gage. Shortly prior to May 6, 1927, length of weir crest was increased from 17.64 to 18.00 feet. Zero of gage set at mean elevation of weir crest.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, from water-stage recorder, 1.91 feet May 19 (discharge, 170 second-feet); minimum discharge (estimated), 1.0 second-foot October 14–16, when water was diverted through sluice gates in weir. Lower discharge may have occurred at times during period of no record.

1919–20, 1923–1927: Maximum stage recorded, that of May 19, 1927; channel reported practically dry at times when gates are closed in dam above.

DIVERSIONS AND REGULATION.—No diversions between station and dam. Flow completely regulated by operation of gates in dam.

ACCURACY.—Stage-discharge relation changed slightly by increasing length of weir control shortly before May 6; records discontinued December 1 to May 5. Two well-defined rating curves used, the first applicable October 1 to November 30 and the other applicable after May 5; both curves are based on shape of standard Cippoletti weir formula and discharge measurements, of which three—ranging from 7.2 to 129 second-feet—were made during the current year. Operation of water-stage recorder satisfactory except for short periods in November, May, July, and August. Daily discharge ascertained by applying to rating table daily staff gage height or mean daily gage height determined by inspection of recorder graph. Records good.

COOPERATION.—Gage-height record furnished by water master for Fish Creek.

Daily discharge, in second-feet, of Fish Creek near Carey, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Apr.	May	June	July	Aug.	Sept.
1	15	5.2			55	60	130	10
2	12	5.2			42	55	137	10
3	8.7	5.2			32	45	137	10
4	8.2	5.5			25	41	130	10
5	7.7	5.5			18	42	128	9.3
6	6.8	5.5		3.4	4.9	44	128	8.8
7	6.8	5.5		8	26	44	128	8.8
8	7.7			12	43	36	128	8.8
9	11			19	53	32	129	9.3
10	11	4		50	64	32	105	10
11	11			80	70	33	99	11
12	10			80	72	44	87	9.3
13	1.2			80	72	50	75	7.4
14		2.7		81	74	53	56	4.5
15	1	2.3		91	76	51	48	4.1
16		2.7		100	77	50	33	4.1
17	4.8	2.7		115	78	51	42	4.1
18	4.8	2.3		155	72	54	42	4.5
19	4.8	2.3		170	63	59	42	6.1
20	4.8	2.3		169	55	84	42	8.8
21	3.3	2.0		155	48	98	42	10
22	3.0	2.0	2	138	57	112	42	12
23	3.0			109	69	46	41	13
24	3.0			107	72	46	37	13
25	3.0			97	81	75	38	12
26	3.0	2.4		82	85	103	40	11
27	3.0			74	85	112	40	9.3
28	3.3			74	84	123	42	9.3
29	5.5			74	77	123	42	8.8
30	5.5	2.7		68	64	130	37	8.8
31	5.5			63		130	20	

NOTE.—Water diverted through sluice gates in weir Oct. 14–16, and gage-height record missing Nov. 8–13, 23–29, Apr. 22, May 7, 30, July 25; discharge estimated. During period Dec. 1 to May 5, water master for Fish Creek estimated flow to ranges from 2.5 to 3.5 second-feet; on Apr. 22, flow was estimated at 2 second-feet by U. S. Geol. Survey engineer. Braced figures show mean discharge for periods indicated.

Monthly discharge of Fish Creek near Carey, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	15		5.82	358
November			3.41	203
May 6–31	170	3.4	86.7	4,470
June	85	4.9	59.8	3,560
July	130	32	66.4	4,080
August	137	20	73.1	4,490
September	13	4.1	8.87	528

WEST FORK OF FISH CREEK NEAR CAREY, IDAHO

LOCATION.—In sec. 3, T. 1 N., R. 22 E., 1¾ miles above confluence with Fish Creek, 2 miles above dam of the Carey Valley Reservoir Co., and 14 miles northeast of Carey, Blaine County.

DRAINAGE AREA.—About 12.5 square miles (measured on base map of Idaho).

RECORDS AVAILABLE.—May 11, 1920, to September 30, 1927. Discharge measurements only available in 1923.

EQUIPMENT.—Vertical staff gage on left bank; installed May 14, 1926; set to read actual depths over weir crest. Discharge measurements made by wading.

CHANNEL AND CONTROL.—Bed composed of coarse sand and gravel. One channel at all stages. Control formed by a 4-foot Cippoletti weir for stages below 0.29 foot, and by 12-foot weir for higher stages.

EXTREMES OF DISCHARGE.—Maximum discharge during year, estimated 30 second-feet, April 26 to May 3; minimum discharge, 0.2 second-foot October 1 to November 7, July 11–17, 27–29, August 1–12, 16–24, and September 1–30 (gage height, 0.05 foot October 5). Probably not actual extremes.

1920–1922, 1924–1927: Maximum stage recorded, 0.93 foot at 9 p. m. April 22, 1922 (discharge, 42.8 second-feet); minimum discharge, 0.1 second-foot at 8.30 p. m. August 8, 1920, for several days in 1924 after June 26, on December 4–7, 1925, January 16–31, and July 27–31, 1926.

DIVERSIONS AND REGULATION.—One small diversion above gage. No regulation.

ACCURACY.—Stage-discharge relation permanent; not affected by ice. Rating curve for stages below 2.2 second-feet determined from standard weir formula, and for stages above it is based on two discharge measurements made during the current year at 13.9 and 4.4 second-feet, respectively. Gage read to hundredths one to three times a week. Daily discharge determined by applying daily gage height to rating table except for days of missing records, for which discharge was interpolated or estimated as noted in footnote to table of daily discharge. Records fair.

COOPERATION.—Gage-height record furnished by water master for Fish Creek.

Daily discharge, in second-feet, of West Fork of Fish Creek near Carey, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.2	0.2		0.6	1.4	1.8			6.6	1.3	0.2	0.2
2	.2	.2		.6	1.4	1.8		30	7.0	1.3	.2	.2
3	.2	.2		.7	1.4	1.8	7.5		7.4	1.2	.2	.2
4	.2	.2		.7	1.4	1.8		26	7.8	1.1	.2	.2
5	.2	.2		.7	1.4	1.8	8.2	26	8.2	1.1	.2	.2
			1.0									
6	.2	.2		.7	1.4	1.8		26	6.9	1.0	.2	.2
7	.2	.2		.7	1.4	1.8		25	5.7	.8	.2	.2
8	.2			.7	1.4	1.8		25	4.4	.7	.2	.2
9	.2			.7	1.4				4.4	.5	.2	.2
10	.2			.7	1.4				4.1	.4	.2	.2
								10				
11	.2	.4		.7	1.4	2.1			3.8	.2	.2	.2
12	.2			.7	1.4				3.5	.2	.2	.2
13	.2			.7	1.4				3.2	.2	.3	.2
14	.2			.8	1.4		12	11	2.9	.2	.3	.2
15	.2			.8	1.4	2.6		11	2.6	.2	.3	.2
16	.2			.9		2.6			2.6	.2	.2	.2
17	.2			.9		2.7			2.5	.2	.2	.2
18	.2			.9		2.8		25	2.4	.3	.2	.2
19	.2				1.5	2.9			2.3	.3	.2	.2
20	.2		.5			3.0			2.2	.4	.2	.2
21	.2					3.1		12	2.2	.4	.2	.2
22	.2			.8	1.6	3.1	14	12	1.9	.4	.2	.2
23	.2	.8						13	1.7	.4	.2	.2
24	.2						20		1.4	.3	.2	.2
25	.2								1.3	.3	.3	.2
					1.7	4.6		12				
26	.2								1.3	.3	.3	.2
27	.2								1.2	.2	.3	.2
28	.2		.4	1.2			30		1.2	.2	.3	.2
29	.2		.4		-------	6.1		7.6	1.2	.2	.3	.2
30	.2		.5		-------			7.3	1.3	.3	.3	.2
31	.2	-------	.5		-------	6.5	-------	6.9	-------	.3	.3	------

NOTE.—Discharge determined from observed gage heights Oct. 2, 5, 6, 11, 14, 19, Nov. 7, Dec. 28, Jan. 4, 11, 18, Feb. 1, 8, 15, 22, Mar. 1, 8, 15, 22, 29, Apr. 5, 22, May 4, 8, 14, 15, 21, 23, 29, June 1, 5, 8, 9, 15, 21, 24, 27, July 1, 5, 11, 15, 22, 28, 31, Aug. 2, 6, 11, 14, 18, 22, 26, 29, Sept. 4, 9, 14, 17, 21, and 30; at other times discharge was interpolated or estimated based on comparison with flow of Fish Creek and Little Wood River. Braced figures show mean discharge for periods indicated.

Monthly discharge of West Fork of Fish Creek near Carey, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	0.2	0.2	0.20	12
November		.2	.55	33
December			.65	40
January			.84	52
February		1.4	1.49	82.8
March		1.8	3.11	191
April			15.1	898
May		6.9	17.2	1,060
June	8.2	1.2	3.51	209
July	1.3	.2	.49	30
August	.3	.2	.23	14
September	.2	.2	.20	12
The year		.2	3.64	2,630

SILVER CREEK NEAR PICABO, IDAHO

LOCATION.—In sec. 1, T. 2 S., R. 20 E., at Brett ranch, 1½ miles below mouth of drain ditch of Blaine County Drainage District No. 1 and 3 miles south of Picabo, Blaine County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—May 25, 1920, to September 30, 1927.

EQUIPMENT.—Gurley water-stage recorder on left bank 450 feet below Brett ranch house; installed July 29, 1922. Discharge measurements made from footbridge 150 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed composed of rock overlain with fine gravel; subject to slight changes owing to aquatic growth.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period, from water-stage recorder, 2.66 feet at 11 p. m. to midnight April 5 (discharge, 222 second-feet); minimum stage recorded, 0.54 foot at 7 p. m. June 15 (discharge 30 second-feet).

1920–1927: Maximum discharge recorded, 312 second-feet at 4 p. m. April 3, 1923; minimum stage, 0.48 foot at 7 p. m. June 2, 1920 (discharge, 26 second-feet).

DIVERSIONS AND REGULATION.—Numerous irrigation diversions above gage. During part of year some water is diverted around gage on right bank through a small slough which heads about 300 feet above gage; no measurements of amount diverted made during year. No regulation except that due to irrigation diversion.

ACCURACY.—Stage-discharge relation not permanent; affected by aquatic growth below gage; observations discontinued during winter. Rating curves well defined below 200 second-feet. During the current year 16 discharge measurements, ranging from 44.2 to 208 second-feet, were made. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspection of recorder graph; except from July 27 to September 7, during which shifting-control method was used. Records good except those for estimated periods, which are fair.

COOPERATION.—Gage-height record and 12 discharge measurements furnished by water master for Big Wood and Little Wood Rivers.

Daily discharge, in second-feet of Silver Creek near Picabo, Idaho, for the yea ending September 30, 1927

Day	Oct.	Apr.	May	June	July	Aug.	Sept.
1	93		120	88	96	140	16
2			118	89	99	140	16
3	96		122	86	99	143	16
4			124	85	103	141	16
5		219	123	93	106	138	16
6	89	217	123	94	108	135	16
7	88	217	130	83	114	132	16
8	85	215	140	74	113	129	16
9	88	205	143	63	114	127	16
10	93	190	138	58	114	130	16
11	91	184	134	55	116	131	17
12		186	132	53	119	132	17
13		187	129	47	120	131	17
14		180	126	42	122	132	17
15	98	169	125	37	118	142	18
16		162	115	35	120	146	17
17		154	95	38	125	146	17
18		145	82	41	126	145	16
19	104	138	79	47	125	140	16
20		135	71	51	127	141	16
21		134	62	47	129	136	16
22		133	60	50	130	136	16
23		133	64	51	132	140	16
24		131	62	53	133	142	16
25		127	59	58	137	146	16
26		126	57	67	139	140	16
27		125	54	72	139	136	16
28		122	56	79	137	139	17
29		122	61	86	138	142	17
30		120	71	93	139	151	17
31			83		139	159	

NOTE.—Gage-height record missing Oct. 2-5, 12-18, and May 13; discharge estimated. Braced figure show mean discharge for periods indicated.

Monthly discharge of Silver Creek near Picabo, Idaho, for the year ending Septembe 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October 1–19		85	94.8	3,57
April 5–30	219	120	161	8,30
May	143	54	98.6	6,06
June	94	35	63.8	3,80
July	139	96	122	7,50
August	159	127	139	8,55
September	180	160	168	10,00

MOUNTAIN HOME FEEDER CANAL NEAR MOUNTAIN HOME, IDAHO

LOCATION.—In sec. 36, T. 2 S., R. 6 E., 75 feet below point of diversion i Canyon Creek and 5 miles north of Mountain Home, Elmore County.

RECORDS AVAILABLE.—April 15, 1924, to September 30, 1927.

GAGE.—Friez water-stage recorder on right bank; installed March 31, 1925 Discharge measurements made by wading.

CHANNEL AND CONTROL.—Bed composed of silt, sand, and fine gravel; shift somewhat. Control not well defined.

EXTREMES OF DISCHARGE.—Maximum stage recorded, from water-stage recorder 2.18 feet at 8.30 a. m. February 21 (discharge, 22[illegible] second-feet); cana reported dry at times during year.

1924–1927: Maximum discharge recorded, that of February 21, 1927 canal dry for long periods each year.

DIVERSIONS AND REGULATION.—No diversions from canal above gage; between gage and head gates of the Mountain Home Cooperative Canal half a mile below, three small laterals divert water for irrigation use on the Ake farms. Flow regulated by head gate in Canyon Creek and by storage in Long Tom Reservoir.

ACCURACY.—Stage-discharge relation not permanent; no flow during ice periods. Rating curve used February 2 to April 27 is based on measurement made April 15 and drawn parallel to subsequent curve; curve used after May 8 is well defined below 85 second-feet, based on shape of preceding curve and four discharge measurments made during May to August of the current year. Operation of water-stage recorder satisfactory except during periods it was not attended. Daily discharge ascertained by applying to rating table mean daily gage height determined by inspection of recorder graph; shifting-control method used April 28 to May 8. Records good after April 7; others fair.

COOPERATION.—Gage-height record furnished by Mountain Home Irrigation District.

Water is diverted from Canyon Creek in sec. 36, T. 2 S., R. 6 E., and used for irrigation on about 5,000 acres included in the project of the Mountain Home Irrigation District, for which water is delivered by the Mountain Home cooperative canal, which heads in the feeder canal half a mile below gage. At times when there is a surplus of water for irrigation, canal feeds water directly into Mountain Home Reservoir beyond head gate of the Mountain Home cooperative canal.

Daily discharge, in second-feet, of Mountain Home feeder canal near Mountain Home, Idaho, for the year ending September 30, 1927

Day	Feb.	Mar.	Apr.	May	June	July	Aug.
1	-------			92	36	57	56
2	157			87	30	58	56
3	90			82	28	58	56
4	106	75		77	29	58	56
5	80		55	71	29	58	56
6	62			67	31	58	54
7	49	93		62	40	60	54
8	37	92	64	56	44	59	54
9	34	77	62	52	51	65	58
10	29	52	63	50	50	75	59
11	26	43	62	49	49	81	59
12	25	43	60	46	50	82	62
13	22	34	59	44	49	92	60
14	20	26	59	42	50	92	57
15	20	26	65	41	49	90	36
16	20	26	82	50	49	90	32
17	20	26	87	56	49	90	31
18	99	26	95	64	48	88	--------
19	46	26	109	67	48	88	--------
20	147	26	106	71	49	87	--------
21	80		99	72	50	87	--------
22	64	28	92	74	50		--------
23			92	74	50	78	--------
24			96	71	50		--------
25		30	103	68	49	70	--------
	60						
26		30	111	65	49	68	--------
27		30	112	65	51	63	--------
28		30	103	63	52	63	--------
29	--------	36	96	50	52	62	--------
30	--------	48	93	45	56	58	--------
31	--------	49	--------	39	--------	57	--------

NOTE.—Discharge interpolated Apr. 21 and May 7. Braced figures show mean estimated discharge for periods indicated.

Monthly discharge of Mountain Home feeder canal near Mountain Home, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
February 2-28	157	20	59.0	3,160
March			46.2	2,840
April	112		78.5	4,670
May	92	39	61.7	3,790
June	56	28	45.6	2,710
July	92	57	72.5	4,460
August 1-17	62	31	52.7	1,780
The period				23,400

MOUNTAIN HOME COOPERATIVE CANAL NEAR MOUNTAIN HOME, IDAHO

LOCATION.—In sec. 36, T. 2 S., R. 6 E., at the Lamberton weir, 250 feet below point of diversion in Mountain Home feeder canal and 4½ miles north of Mountain Home, Elmore County.

RECORDS AVAILABLE.—April 17, 1924, to September 30, 1927.

EQUIPMENT.—Vertical staff gage attached to shelter house on right bank. Discharge measurements made by wading.

CHANNEL AND CONTROL.—Bed composed of silt, sand, and fine gravel. Control formed by 12-foot wooden sharp-crested weir 5 feet below gage.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 1.40 feet July 14, 15 (discharge, 85 second-feet); canal dry during late fall and winter.

1924–1927: Maximum stage recorded, 1.69 feet July 16, 1925 (discharge 109 second-feet); no flow except during irrigation seasons.

DIVERSIONS AND REGULATION.—No diversions between gage and head of canal. Flow regulated by gates at head of canal and by operation of gates in Long Tom Reservoir.

ACCURACY.—Stage-discharge relation permanent after May 13. Rating curve well defined below 80 second-feet, based on standard curve and three discharge measurements made during May to July of the current year. A measurement made on April 15, showing discharge of 41.7 second-feet, did not check rating curve because of leakage under weir. Gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records good except those for estimated periods, which are fair.

COOPERATION.—Gage-height record furnished by Mountain Home Irrigation District.

Water is diverted from Canyon Creek in sec. 36, T. 2 S., R. 6 E., through the Mountain Home feeder canal for about half a mile and redIverted through the Mountain Home cooperative canal for irrigation on about 5,000 acres of the Mountain Home irrigation district.

Daily discharge, in second-feet, of Mountain Home cooperative canal near Mountain Home, Idaho, for the year ending September 30, 1927

Day	Apr.	May	June	July	Aug.	Sept.	Day	Apr.	May	June	July	Aug.	Sept.
1			30	53	53		16			48	81	30	
2			27	53	53		17			47	81	31	
3			26	53	53	40	18			46	81	32	
4			25	53	53		19			45	78	33	
5			24	53	53		20			45	81	32	
6			30	53	53	37	21			45	81		
7			37	53	53	32	22			45	81		
8			42	53	53	28	23			45	81	40	
9			44	61	53	28	24			45	81		
10			47	67	55	28	25			45	74		
11			47	73	55	28	26			49	67	48	
12			47	74	53	25	27			49	64		
13			46	80	52		28			49	61		
14		38	48	85	44		29			49	60	45	
15	42		49	85	33		30			49	56		
							31				56		

NOTE.—Discharge estimated June 1, Aug. 21–25, 27–31, and Sept. 1–5. Braced figures show mean discharge for periods indicated.

Monthly discharge of Mountain Home cooperative canal near Mountain Home, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
June	49	24	42.3	2,520
July	85	53	68.2	4,190
August	55	30	45.2	2,780
September 1–12		25	33.8	804
The period				10,300

OWYHEE RIVER AT MOUNTAIN CITY, NEV.

LOCATION.—In SE. ¼ sec. 36, T. 46 N., R. 53 E., Mountain City, Elko County. About half a mile downstream from mouth of California Creek and nearly half a mile upstream from Slaughter House Creek.

DRAINAGE AREA.—350 square miles (measured on Forest Service map).

RECORDS AVAILABLE.—May 17 to December 31, 1913; November 16, 1926, to September 30, 1927.

EQUIPMENT.—Vertical staff gage on right bank about 200 yards above Davidson's barn. Discharge measurements made by wading or from highway bridges a quarter of a mile downstream.

CHANNEL AND CONTROL.—Stream bed composed of sand and small gravel. Both banks low, covered with willows, and are overflowed at high stages. Low-water control is a light riffle just below gage.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 5.86 feet at 6.30 a. m. April 28 (discharge, 1,050 second-feet); minimum stage recorded, 1.44 feet at 9 a. m. September 8 (discharge, 6 second-feet).

1913, 1926–27: Maximum and minimum stages occurred in 1927.

DIVERSIONS AND REGULATION.—Considerable water is diverted above station largely for irrigation of fields and meadows close to river or its tributaries.

ACCURACY.—Stage-discharge relation permanent throughout the year; seriously affected by ice. Rating curve fairly well defined up to 600 second-feet. Staff gage read to hundredths once daily. Daily discharge ascertained by applying daily gage heights to rating table except December 8 to February 25, when discharge was estimated from climatic records and observer's notes. Records fair.

Daily discharge, in second-feet, of Owyhee River at Mountain City, Nev., for the year ending September 30, 1927

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		22			121	249	896	273	90	15	8
2		18			90	315	836	265	80	15	8
3		20			85	405	758	245	64	13	8
4		21			90	337	683	253	55	13	8
5		18			80	337	627	253	55	12	8
6		18			90	418	589	261	41	12	7
7		16			90	500	622	282	38	12	7
8					113	578	611	273	32	12	6
9					95	526	521	265	26	10	7
10				12	90	359	437	261	38	12	8
11					85	333	391	303	38	12	8
12					90	290	377	290	35	13	8
13					90	269	405	282	22	14	8
14					130	237	466	249	18	15	8
15	11				113	311	516	229	18	15	8
16	12		12		90	320	573	209	18	15	9
17	26				99	265	595	198	16	13	9
18	12				90	298	568	179	15	12	8
19	16				64	398	542	176	15	12	8
20	21	14			55	269	563	157	13	12	8
21	21			50	74	294	471	149	12	12	9
22	18				99	355	364	138	12	12	9
23	16				113	471	382	142	13	11	9
24	15				149	600	342	113	15	10	9
25	15				149	788	298	113	16	10	9
26	15			138	172	920	298	113	15	10	9
27	16			121	168	1,050	355	108	13	9	9
28	15			95	198	1,060	342	104	13	9	10
29	18			------	201	980	346	108	15	9	12
30	24			------	249	956	307	99	15	9	12
31	------			------	311	------	282	------	15	9	------

Monthly discharge of Owyhee River at Mountain City, Nev., for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
November 15–30	26	11	16.9	538
December	22	------	15.1	928
January	------	------	[a] 12	738
February	------	------	34.2	1,900
March	311	55	120	7,380
April	1,060	237	480	28,600
May	896	282	496	30,500
June	303	99	203	12,100
July	90	12	28.4	1,750
August	15	9	11.9	732
September	12	6	8.5	506
The period	------	------	------	85,700

[a] Estimated.

OWYHEE RIVER NEAR OWYHEE, OREG.

LOCATION.—In sec. 2, T. 21 S., R. 46 E., at county bridge 1½ miles southwest of Owyhee, Malheur County, 3 miles above mouth of river, and 10 miles southwest of Nyssa.

DRAINAGE AREA.—About 11,100 square miles. Watershed poorly defined on available maps.

RECORDS AVAILABLE.—March 26, 1890, to December 31, 1893; January 1, 1895, to October 3, 1896; August 28, 1903, to September 30, 1916; May 17 to October 9, 1920; March 8, 1921, to September 30, 1927.

EQUIPMENT.—Chain gage on upstream side of highway bridge. Discharge measurements made from bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of gravel; may shift during high stages.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 8.3 feet April 4 (discharge, 7,750 second-feet); minimum stage recorded, 2.0 feet August 4 (discharge, 9 second-feet).

1890–1893, 1895–96, 1903–1916, 1920–1927: Maximum stage recorded, 12.9 feet March 2, 1910 (discharge, 23,200 second-feet); minimum discharge, no flow July 7, 19, August 14–16, 1924, and July 5–6, 1926.

DIVERSIONS AND REGULATION.—Owyhee Canal, the principal diversion immediately above station, heads about 6 miles above gage. This canal diverts practically entire natural low-water flow of the river. (Sec p. 134.) Variation in the flow may be caused by manipulation of gates at head of Owyhee Canal.

ACCURACY.—Stage-discharge relation affected by ice and changed February 23. Rating curve used prior to change fairly well defined by several measurements in previous years, the last of which was on September 30, 1926. Rating curve used after change is fairly well defined by seven measurements made during current year and ranging from 23 to 5,530 second-feet. Staff gage read to half-tenths once daily. Daily discharge ascertained by applying daily gage height to rating table except as noted in footnote to table of daily discharge. Records fair.

COOPERATION.—Records furnished by State engineer of Oregon.

Daily discharge, in second-feet, of Owyhee River near Owyhee, Oreg., for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		57	161		370	3,040	5,020	5,230	1,300	58	19	42
2		67	161		500	2,600	6,320	4,820	1,300	58	16	42
3		67	161		700	1,710	5,020	4,420	1,110	58	16	42
4		67	425		862	1,710	7,750	4,050	1,110	58	9	50
5	30	67	365		1,250	1,710	6,550	3,690	950	58	19	50
6		77	615		1,250	1,820	4,820	3,360	910	28	19	50
7		67	648		1,160	1,940	4,620	3,520	870	28	13	58
8		67	550		1,160	1,940	5,060	3,040	1,300	24	19	58
9		57	615		1,070	2,060	7,010	2,740	1,255	16	28	58
10	40	88	550		825	2,600	7,250	2,740	1,030	19	28	68
11	57	100	518		788	2,190	5,020	2,460	1,000	24	28	68
12	57	100	425		680	1,940	4,230	2,320	1,400	24	19	58
13	57	100	305		615	1,500	3,870	1,940	1,160	19	19	58
14	57	100	305		550	1,710	3,360	1,940	950	24	19	58
15	57	100			518	1,710	2,320	1,820	870	24	19	58
16	57	88		335	518	3,520	3,200	1,820	1,030	28	19	42
17	57	88			518	3,360	3,090	1,710	870	19	28	58
18	57	88			550	2,740	3,520	1,710	790	19	28	58
19	57	88			615	2,320	2,740	1,940	650	19	35	58
20	57	128			1,020	1,940	2,600	1,940	590	19	35	58
21	57	100			2,980	1,710	2,740	2,060	500	13	35	58
22	57	100			4,520	1,500	2,190	2,190	412	19	35	58
23	57	100	280		7,010	1,600	1,940	2,600	384	28	42	58
24	77	100			5,020	2,060	3,090	2,320	328	24	50	102
25	67	100			3,690	2,740	4,820	2,460	275	24	35	78
26	67	100			3,040	4,230	5,060	2,060	250	24	35	78
27	67	100			2,890	4,820	5,880	1,710	168	24	28	78
28	67	100			2,890	4,420	5,880	1,500	133	24	42	102
29	57	100			-------	4,050	5,880	1,300	90	28	58	90
30	57	100			-------	5,020	5,660	1,300	90	24	78	102
31	57	-------			-------	5,660	-------	1,300	-------	16	42	------

NOTE.—No gage-height record Oct. 1–9; discharge estimated. Stage-discharge relation affected by ice Dec. 15 to Feb. 3; discharge estimated from observer's notes, discharge measurement on Jan. 7, weather records, and hydrograph for Malheur River below Nevada Dam near Vale, Oreg. Braced figures show mean discharge for periods indicated.

Monthly discharge of Owyhee River near Owyhee, Oreg., for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	77		50.5	3,110
November	128	57	88.7	5,280
December	648	161	341	21,000
January			[a] 335	20,600
February	7,010	370	1,700	94,400
March	5,660	1,570	2,640	162,000
April	7,750	1,940	4,630	276,000
May	5,230	1,300	2,520	155,000
June	1,600	90	789	46,900
July	58	13	28.1	1,730
August	78	9	29.5	1,810
September	102	42	63.2	3,760
The year	7,750	9	1,090	792,000

[a] Estimated.

OWYHEE CANAL NEAR OWYHEE, OREG.

LOCATION.—In SE. ¼ sec. 31, T. 20 S., R. 46 E., 2 miles below head of canal, 5 miles southwest of Owyhee, Malheur County, and 14 miles southwest of Nyssa.

RECORDS AVAILABLE.—October 5, 1911, to September 30, 1916; and irrigation seasons 1904, 1905, and 1920 to 1927.

EQUIPMENT.—Stevens 8-day water-stage recorder on right bank, 100 feet below check and waste gate in canal. Discharge measurements made from cable 50 feet below gage.

CHANNEL AND CONTROL.—Bed clean and smooth. Control practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage from water-stage recorder, 4.09 feet at 10 a. m. May 19 (discharge, 316 second-feet); canal dry at times.

1904–5, 1911–1916, 1920–1927: Maximum stage recorded, 4.3 feet May 17, 1921, and May 10–11, 1922 (discharge, 333 second-feet); canal dry at times each year.

DIVERSIONS AND REGULATION.—Station above all diversions from canal; surplus water is returned to Owyhee River through one wasteway between this station and the station on the river near Owyhee. Abrupt changes of stage, due to manipulation of head gates, not to be expected, as water is kept at nearly constant stage.

ACCURACY.—Stage-discharge relation permanent during period of record. Rating curve fairly well defined by eight discharge measurements made during year and ranging from 71 to 253 second-feet. Operation of water-stage recorder satisfactory except as stated in footnote to table of daily discharge. Daily discharge ascertained by applying to rating table mean daily gage height obtained from recorder graph by inspection. Records good except those for estimated periods, which are fair.

COOPERATION.—Record furnished by State engineer of Oregon.

Owyhee Canal diverts water from Owyhee River in sec. 18, T. 21 S., R. 46 E.; in 1927 it supplied water for irrigation to 10,706 acres of land in the vicinity of Owyhee, Nyssa, and Ontario.

Daily discharge, in second-feet, of Owyhee Canal near Owyhee, Oreg., for the year ending September 30, 1927

Day	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	84	66		248	139	114
2	0	91	232		243	130	
3	0	84	238	248	238	130	
4	0	91	238		238	126	
5	0	94	243		232	130	120
6	0	98	243		243	130	
7	0	118	202		254	134	
8	0		254		248	144	126
9	0		254		243	139	122
10	0	124	254		232	144	126
11	0		254		220	144	130
12	0	130	254		204	134	134
13	0	126	254		188		139
14	0	122	254		178		144
15	0	139	254		163		139
						134	
16	0	158	254		158		144
17	0	158	296		153		139
18	0	153	310		148		148
19	0	183	303		144	134	153
20	0	188	303		139	130	148
21	0	198	296		130	139	153
22	0	204	292		130	139	158
23	0	204	152		130	139	153
24	0	209	0		130	139	158
25	0	143	0		130	139	158
26	0	214	0		140	130	158
27	0	220	152		163	130	158
28	32	226	254		134	126	163
29	64	193	254		139	126	163
30	70	0	254		139	114	163
31	75		260		134	114	

NOTE.—Gage-height record missing Apr. 8–11, Aug. 13–18, Sept. 2–7, and Sept. 23 and 30; discharge interpolated. No flow Mar. 1–27, Apr. 30, and May 24–25. Braced figures show mean discharge for periods indicated.

Monthly discharge of Owyhee Canal near Owyhee, Oreg., for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
March	75	0	7.8	480
April	226	0	144	8,570
May	310	0	222	13,600
June			[a] 250	14,900
July	254	130	181	11,100
August	144	[a] 114	133	8,180
September	163	114	140	8,330
The period				65,200

[a] Estimated.

BOISE RIVER NEAR TWIN SPRINGS, IDAHO

LOCATION.—In sec. 27, T. 4 N., R. 6 E., a quarter of a mile above Birch Creek, 1½ miles above flow line of Arrowrock Reservoir, 4 miles below Twin Springs, Boise County, and 13 miles above Arrowrock.

DRAINAGE AREA.—830 square miles (measured on topographic maps).

RECORDS AVAILABLE.—March 22, 1911, to September 30, 1927.

EQUIPMENT.—Friez water-stage recorder on right bank; installed April 4, 1915. Discharge measurements made from cable 50 feet above gage or by wading.

CHANNEL AND CONTROL.—Bed composed of gravel and boulders. Banks not overflowed. Control practically permanent, except under unusually severe ice or flood conditions.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 8.30 feet at 4.30 a. m. May 17 (discharge, 10,300 second-feet); minimum stage recorded, 1.64 feet at 11 a. m. January 22 (discharge, 164 second-feet).

1911–1927: Maximum stage recorded, that of May 17, 1927; minimum discharge, about 142 second-feet at 10.30 p. m. November 13, 1916 (gage height, 1.73 feet).

DIVERSIONS AND REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent; slightly affected by ice. Rating curve well defined between 250 and 7,500 second-feet by 25 discharge measurements, of which 9 were made during current year and cover a range between 263 and 7,100 second-feet. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspection of recorder graph. Records good.

Daily discharge, in second-feet, of Boise River near Twin Springs, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	285	266	1,190	442	503	708	1,490	5,730	2,680	3,560	764	424
2	280	266	1,070	510	583	700	1,420	4,610	2,840	3,560	740	454
3	300	266	1,230	484	640	692	1,420	3,900	3,150	3,480	708	430
4	305	270	1,330	419	685	764	1,330	3,390	3,560	3,310	678	424
5	285	270	1,100	442	618	865	1,240	3,150	4,160	2,840	648	430
6	280	290	919	442	510	883	1,260	3,070	5,160	2,610	632	408
7	270	336	788	442	478	883	1,340	3,310	6,710	2,680	611	408
8	270	285	678	386	424	910	1,570	2,990	8,560	2,760	604	408
9	266	266	548		402	856	1,510	2,760	7,310	2,760	583	419
10	261	285	583		397	772	1,360	2,680	6,910	2,540	562	490
11	275	295	625	400	424	748	1,250	2,910	7,110	2,330	555	472
12	270	336	562		562	716	1,160	3,390	7,310	2,200	555	460
13	270	320	478		454	740	1,130	3,730	7,510	2,000	655	516
14	270	305	358		419	1,010	1,210	5,160	7,110	1,880	670	503
15	266	290	353	414	436	974	1,450	6,910	6,910	1,760	716	478
16	266	424	550	424	442	883	1,540	8,560	6,310	1,640	618	460
17	266	342		386	448	874	1,540	9,400	6,110	1,510	576	442
18	261	348	503	386	466	814	1,490	7,510	5,920	1,480	548	424
19	266	370	472	424	454	740	1,360	5,920	6,310	1,450	536	419
20	266	500	419	419	472	708	1,270	4,790	6,310	1,370	516	408
21	266	748		300	800	732	1,220	4,070	5,730	1,270	496	397
22	266	678		193	1,090	724	1,260	3,480	5,730	1,180	490	392
23	261	892	375		928	780	1,350	3,070	5,730	1,110	478	392
24	266	856		375	788	865	1,940	2,840	5,730	1,050	466	397
25	266	1,210			724	937	3,310	3,070	5,350	1,070	460	460
26	270	901	454		724	974	4,790	3,640	6,510	1,040	454	430
27	270	756	392	450	740	984	5,540	3,820	5,540	955	448	414
28	266	678	402		708	1,010	5,730	3,640	4,430	901	448	569
29	266	748	402	430	-------	1,100	5,730	3,310	3,730	856	442	700
30	252	1,460	450	442	-------	1,320	5,920	2,990	3,640	814	424	655
31	256	-------	424	490	-------	1,580	-------	2,840	-------	797	424	------

NOTE.—Discharge estimated Nov. 20, Jan. 9–14, Feb. 21, because of no gage-height record; estimated Dec. 16, 17, 21–25, 30, Jan. 23–28, because of ice effect. Braced figures show mean discharge for periods indicated.

Monthly discharge of Boise River near Twin Springs, Idaho, for the year ending September 30, 1927

[Drainage area, 830 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	305	252	270	0.325	0.37	16,600
November	1,460	266	509	.613	.68	30,300
December	1,330		603	.727	.84	37,100
January	510	193	411	.495	.57	25,300
February	1,090	397	583	.702	.73	32,400
March	1,580	692	879	1.06	1.22	54,000
April	5,920	1,130	2,140	2.58	2.88	127,000
May	9,400	2,680	4,210	5.07	5.84	259,000
June	8,560	2,680	5,670	6.83	7.62	337,000
July	3,560	797	1,900	2.29	2.64	117,000
August	764	424	565	.681	.79	34,700
September	700	392	456	.549	.61	27,100
The year	9,400	193	1,520	1.83	24.79	1,100,000

ARROWROCK RESERVOIR AT ARROWROCK, IDAHO

LOCATION.—In E. ½ sec. 13, T. 3 N., R. 4 E., at Arrowrock, Boise County, 22 miles by road east of Boise.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—October 1, 1917, to September 30, 1927.

GAGE.—Graduations painted on center of upstream vertical face of concrete dam, in September, 1917; read usually to tenths once daily by E. L. Ballard, superintendent of Arrowrock Dam. Gage set to read sea-level datum.

EXTREMES OF CONTENTS.—Maximum stage recorded during year, 3,213.05 feet June 27 (contents, 282,600 acre-feet); natural flow passing through reservoir October 1–15.

1918–1927: Maximum stage recorded, 3,214.2 feet May 19–20, 1925 (contents, 286,100 acre-feet); natural flow passing through reservoir, September 13–17, September 20 to October 1, 1919, September 13 to October 10, 1920, September 19 to October 22, 1922, August 19 to October 15, 1924, and September 16 to October 15, 1926.

COOPERATION.—Gage-height record and table of storage capacity furnished by United States Bureau of Reclamation. Stored water from this reservoir is used for irrigation of land in Boise Valley. Elevation of spillway crest referred to gage datum is 3,205 feet, the capacity of the reservoir at that stage being 259,000 acre-feet. A movable crest is provided for the spillway, the top of which is at elevation 3,211 feet. Capacity of the reservoir at that stage is 276,500 acre-feet, and about 2,900 acres of land is submerged.

Daily contents, in acre-feet, of Arrowrock Reservoir at Arrowrock, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		2,522	33,720	66,240	106,400	121,500	186,400	217,000	231,700	280,400	232,800	117,200
2		3,060	35,770	68,060	107,200	122,400	191,300	217,800	230,200	280,200	229,400	113,200
3		3,585	37,780	69,750	108,400	123,800	190,400	214,800	230,700	280,100	225,800	109,300
4		3,960	40,080	71,700	110,000	125,300	188,800	209,000	232,800	279,800	222,400	105,200
5		4,385	42,780	73,280	111,600	127,200	186,000	201,700	236,200	279,400	219,000	101,400
6		4,750	44,300	74,960	113,400	129,100	183,900	198,800	241,600	279,600	215,800	97,370
7		5,620	45,700	76,780	114,300	131,600	181,700	197,400	247,800	280,200	212,000	93,420
8	0	6,570	45,700	78,600	114,300	133,800	180,400	198,600	258,400	280,400	208,200	89,580
9		7,340	45,100	80,000	114,300	135,800	179,900	198,600	268,300	280,400	204,500	86,150
10		7,866	44,400	80,450	113,000	137,800	179,300	197,600	268,700	280,200	200,300	82,850
11		8,840	43,500	81,200	111,800	139,000	177,700	197,400	270,900	280,200	196,700	79,860
12		10,140	43,500	83,000	110,800	140,600	176,000	199,800	273,500	280,000	192,700	77,060
13		11,420	43,230	85,100	110,300	141,600	173,100	203,100	275,000	279,600	188,500	74,120
14		12,680	42,600	86,750	110,000	143,000	170,700	209,000	275,300	278,900	184,800	71,310
15		13,760	43,050	88,300	109,300	146,000	168,800	220,300	275,000	278,000	181,200	68,840
16	645	14,830	44,000	89,900	108,400	148,000	168,000	234,600	279,200	277,000	177,900	66,240
17	1,660	16,200	45,700	91,820	107,900	149,800	168,800	253,400	279,600	275,600	174,400	63,900
18	2,900	17,320	47,700	93,260	107,100	151,400	169,900	268,600	279,000	274,200	171,200	61,170
19	3,865	17,680	49,820	94,700	106,600	152,700	170,300	273,200	278,900	272,000	168,000	58,800
20	4,750	18,140	51,360	95,500	106,600	153,900	171,000	272,000	279,200	270,000	164,400	56,400
21	5,620	19,720	52,900	95,840	107,700	154,800	170,500	268,300	280,100	267,700	161,100	53,890
22	6,570	21,100	54,000	96,180	111,100	155,400	170,300	262,500	279,800	264,800	157,500	51,470
23	7,340	21,730	55,080	96,860	113,800	156,700	169,900	259,000	279,500	261,900	153,900	48,830
24	6,200	22,490	56,400	97,540	115,400	158,600	170,500	255,100	280,400	258,400	150,000	46,300
25	5,400	23,550	57,600	98,390	116,600	161,100	174,200	250,000	280,200	255,400	146,200	43,700
26	4,606	25,750	58,800	99,410	117,900	164,000	181,200	246,400	281,000	252,000	142,000	41,970
27	3,318	26,900	60,000	100,600	118,800	166,500	190,400	245,000	282,600	248,900	137,800	39,810
28	2,310	27,560	61,300	102,300	120,100	169,300	198,100	245,000	280,400	245,600	133,600	37,870
29	2,102	28,020	62,340	103,700	-------	172,700	206,500	243,400	279,600	242,400	129,100	36,570
30	2,240	29,400	63,510	104,800	-------	176,400	212,800	240,300	279,600	239,500	125,100	35,770
31	2,450	-------	64,680	105,700	-------	181,500	-------	236,700	-------	236,200	121,300	-------

BOISE RIVER AT DOWLING RANCH, NEAR ARROWROCK, IDAHO

LOCATION.—In sec. 15, T. 3 N., R. 4 E., at Dowling ranch, Elmore County, three-fourths mile above Moore Creek, 2 miles below Highland power dam, and 4 miles below Arrowrock.

DRAINAGE AREA.—2,230 square miles (measured on topographic maps).

RECORDS AVAILABLE.—March 12, 1911, to September 30, 1927.

EQUIPMENT.—Friez water-stage recorder on left bank; installed March 19, 1915. Discharge measurements made from cable 50 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed composed of gravel and boulders. One channel at all stages. Control shifts slightly.

EXTREMES OF DISCHARGE.—Maximum stage recorded, from water-stage recorder, 9.08 feet at 5.30 p. m. May 18 (discharge, 15,700 second-feet); minimum estimated discharge, 50 second-feet January 1 and 2.

1911–1927: Maximum stage recorded, 9.27 feet noon to 4 p. m. June 12, 1921 (discharge, 16,500 second-feet); minimum estimated discharge, 5 second-feet November 2–10, December 21 to January 6, and March 26–29, 1925.

DIVERSIONS AND REGULATION.—No important diversions above station. New York Canal of Boise project, United States Bureau of Reclamation, diverts about 10 miles downstream and has a maximum capacity of 2,500 second-feet. Several smaller canals, total capacity of about 2,900 second-feet, divert below New York Canal. Since February 21, 1915, flow has been regulated by storage in Arrowrock Reservoir, 4 miles upstream, which has capacity of about 280,000 acre-feet. Water is stored during winter and spring and released during irrigation season.

ACCURACY.—Stage-discharge relation changed slightly October 1–21, March 19 to April 11; practically unaffected by ice. Two rating curves, well defined below 13,000 second-feet by 18 discharge measurements made during year and shape of previous curves, were used; one from October 1 to March 18 and the other from March 19 to September 30. Operation of water-stage recorder satisfactory except for short periods water was below intake pipe. Daily discharge ascertained by applying to rating table mean daily gage height determined by inspection of recorder graph; shifting-control method used October 1–21 and March 19 to April 11. Records good except those for estimated periods which are fair.

COOPERATION.—Eight discharge measurements furnished by United States Bureau of Reclamation and water master for Boise River.

Daily discharge, in second-feet, of Boise River at Dowling ranch, near Arrowrock, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	562	455	688	50	544	1,200	1,520	11,500	7,340	6,770	3,230	2,820
2	538	398	905		555	1,210	2,740	11,800	5,960	6,630	3,140	2,820
3	533	412	834		568	1,230	4,090	11,500	5,580	6,490	3,060	2,820
4	550	408	1,040		588	1,240	4,200	11,500	5,700	6,220	3,060	2,820
5	533	417	932	100	658	1,250	4,200	9,840	5,700	5,330	2,980	2,740
6	516	380	1,030		843	1,260	4,300	8,240	6,910	4,520	3,060	2,660
7	511	349	1,120		1,140	1,270	4,300	7,340	8,550	4,740	3,060	2,660
8	516	376	1,310		1,410	1,280	4,300	6,910	9,190	4,740	3,140	2,520
9	522	376	1,410	242	1,410	1,290	4,200	6,910	13,600	4,740	3,060	2,440
10	528	323	1,360	234	1,360	1,300	4,200	6,360	14,300	4,410	3,060	2,370
11	516	257	1,290	151	1,340	1,300	4,200	5,830	13,200	4,200	3,060	2,440
12	538	234	1,290	122	1,340	1,310	4,200	5,700	13,900	3,990	3,230	2,440
13	522	230	1,290		1,300	1,320	4,200	5,830	14,300	3,880	3,140	2,370
14	506	170	500		1,340	1,340	4,200	5,830	14,300	3,780	3,140	2,300
15	516	140	148	100	1,410	1,360	4,090	6,910	12,200	3,680	3,060	2,230
16	354	193	143		1,410	1,360	3,590	7,950	12,500	3,590	2,980	2,160
17	216	190	120	128	1,410	1,360	3,320	9,840	12,500	3,500	2,900	2,160
18	213	318		168	1,410	1,360	3,320	13,200	12,200	3,590	2,820	2,060
19	216	594	80	372	1,330	1,360	3,400	13,200	12,200	3,590	2,820	2,020
20	206	665		528	1,360	1,360	3,400	12,900	11,800	3,590	2,740	2,020
21	206	759	120	390	1,410	1,360	3,400	11,800	11,500	3,680	2,740	2,020
22	206	860	122	318	1,410	1,360	3,400	10,200	11,200	3,680	2,740	2,090
23	544	1,030	130	318	1,410	1,100	3,400	9,190	10,500	3,680	2,820	2,160
24	792	1,040	168	300	1,410	923	3,400	9,190	10,800	3,680	2,820	2,090
25	784	923	157	264	1,410	960	3,880	8,870	10,200	3,590	2,900	2,020
26	878	942	100	245	1,410	969	5,450	8,870	10,800	3,500	2,980	1,960
27	950	1,060	171	249	1,410	960	7,340	8,870	11,500	3,490	2,980	1,890
28	751	1,080	180	280	1,290	969	7,930	8,870	9,190	3,320	2,900	1,820
29	574	978	190	349	-------	988	8,870	8,870	7,340	3,230	2,900	1,760
30	528	574	171	422	-------	998	10,200	8,870	6,630	3,230	2,820	1,640
31	533	-------	145	506	-------	1,020	-------	8,550	-------	3,230	2,820	------

NOTE.—Discharge estimated Nov. 13–15, Dec. 18–20, 26, 31, Jan. 1–8, 13–16, when stage was below intake to water-stage recorder; based largely on determination of flow through Arrowrock Dam openings. Braced figures show mean discharge for periods indicated.

Monthly discharge of Boise River at Dowling ranch, near Arrowrock, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	950	206	512	31,500
November	1,080	140	538	32,000
December	1,410	----------	558	34,300
January	528	----------	216	13,300
February	1,410	544	1,210	67,200
March	1,360	923	1,210	74,400
April	10,200	1,520	4,440	264,000
May	13,200	5,700	9,070	558,000
June	14,300	5,580	10,400	619,000
July	6,770	3,230	4,200	258,000
August	3,230	2,740	2,970	183,000
September	2,820	1,640	2,280	136,000
The year	14,300	----------	3,130	2,270,000

BOISE RIVER AT NOTUS, IDAHO

LOCATION.—In sec. 34, T. 5 N., R. 4 W., at steel highway bridge, a quarter of a mile south of Notus, Canyon County, and 7 miles northeast of Caldwell.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—April 1, 1920, to September 30, 1927.

EQUIPMENT.—Vertical staff bolted to center tubular steel pier on upstream side of highway bridge; reinstalled March 16, 1925. Discharge measurements made from highway bridge at gage or by wading.

CHANNEL AND CONTROL.—Bed composed of clean gravel and cobbles. One channel at gage except at extreme high stages. Control formed by well-defined gravel bar; subject to slight changes.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 6.85 feet June 14, 15 (discharge, 11,500 second-feet); minimum stage, 0.48 foot July 18–20, August 10, 11, and 27 (discharge, 27 second-feet).

1920–1927: Maximum stage recorded, 7.0 feet May 19 and 20, 1921 (discharge, 14,500 second-feet); minimum discharge, 10 second-feet August 18, 1920.

DIVERSIONS AND REGULATION.—Below practically all diversions for irrigation in Boise Valley. Records during irrigation season show amount of water wasted into Snake River. Flow regulated by head gates at Arrowrock Reservoir and by numerous diversions between station and reservoir.

ACCURACY.—Stage-discharge relation changed slightly December 2–5 and June 7–15; not affected by ice. Rating curves applicable between shifts are well defined between 15 and 9,000 second-feet by 11 discharge measurements made during the year and shape of previous curves. Gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table, using shifting-control method December 2–5 and June 7–15. Records good.

Daily discharge, in second-feet, of Boise River at Notus, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	41	248	1,230	652	865	1,010	2,830	8,830	6,070	3,010	46	44
2	38	283	960	690	1,010	865	3,710	9,490	3,950	2,940	40	44
3	38	321	820	690	1,230	865	6,950	9,160	2,730	3,230	41	46
4	36	283	732	732	1,360	820	6,950	8,830	2,530	3,230	38	52
5	36	283	775	732	1,230	775	5,510	8,830	2,530	2,940	31	46
6	36	283	775	732	1,230	1,010	5,510	6,070	2,430	1,810	33	50
7	36	301	820	732	1,010	865	5,240	4,970	3,950	1,230	31	52
8	36	341	775	615	865	865	4,970	4,200	5,790	1,170	33	56
9	38	364	775	550	865	912	4,710	4,200	8,830	1,010	33	95
10	38	464	775	550	865	912	4,710	3,950	10,500	830	27	132
11	41	520	775	732	820	865	3,950	3,040	9,490	592	27	164
12	56	582	775	732	820	865	4,200	2,630	10,200	232	29	161
13	79	582	775	775	775	820	4,200	2,630	11,200	104	29	223
14	85	582	775	775	690	1,170	4,450	2,630	11,500	38	68	321
15	91	464	820	775	732	1,650	4,450	3,040	11,500	31	283	301
16	91	615	820	775	732	1,420	4,200	4,450	8,830	29	248	321
17	95	615	865	775	732	1,170	3,040	4,710	9,490	29	192	321
18	113	411	865	775	820	1,170	2,940	9,160	9,490	27	138	301
19	104	732	865	775	865	1,060	3,040	10,200	8,830	27	113	283
20	113	732	820	775	1,290	865	3,040	10,500	9,160	27	104	283
21	175	732	820	775	1,650	1,060	3,040	9,490	8,510	31	95	283
22	181	775	775	820	1,980	1,010	2,940	8,830	8,190	33	72	248
23	192	775	775	820	1,980	1,060	2,630	6,950	7,560	72	41	229
24	192	775	732	820	1,500	2,150	2,340	6,360	6,950	72	29	223
25	198	820	690	820	1,360	2,340	3,040	6,070	7,250	79	29	223
26	198	775	690	820	1,230	2,430	4,970	5,790	6,360	148	31	223
27	198	732	690	820	1,170	2,340	5,240	6,070	8,190	91	27	220
28	198	732	690	820	1,230	2,340	6,950	6,360	7,560	72	29	248
29	204	732	690	820	-------	2,430	6,650	6,360	5,240	91	38	321
30	210	865	690	775	-------	2,530	7,870	6,360	3,710	58	46	732
31	223	-------	690	820	-------	2,630	-------	6,360	---------	46	46	------

Monthly discharge of Boise River at Notus, Idaho, for the year ending September 30 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	223	36	110	6,760
November	865	248	557	33,100
December	1,230	690	791	48,600
January	820	550	751	46,200
February	1,980	690	1,100	61,100
March	2,630	775	1,360	83,600
April	7,870	2,340	4,480	267,000
May	10,500	2,630	6,340	390,000
June	11,500	2,430	7,280	433,000
July	3,260	27	755	46,400
August	283	27	66.7	4,100
September	732	44	208	12,400
The year	11,500	27	1,980	1,430,000

DIVERSIONS FROM BOISE RIVER, IDAHO

Below mouth of Moore Creek and between gaging stations at Dowling ranch and Notus 27 principal canals and a number of small farm laterals divert water from Boise River for use in irrigation.

Daily gage-height records were obtained, frequent discharge measurements made, and records summarized under direction of W. E. Welsh, water master for Boise River.

Records are available from 1919 to 1927. Record of daily diversions subsequent to 1915 is on file in office of Idaho commissioner of reclamation.

Total amount of water, in acre-feet, diverted from Boise River by canals during irrigation season of 1927

Main canal of United States Bureau of Reclamation	698,000	Phyllis	114,000
Penitentiary	1,940	Eureka No. 1	6,380
Ridenbaugh	131,000	Pioneer	7,380
Bubb	3,320	Canyon County	19,500
Cruzen	8,740	Caldwell High Line	11,800
Boise City No. 1	8,960	Farmers Cooperative	91,000
Settlers	47,400	Canyon	4,620
Thurmans mill	7,910	Seibenberg	2,580
Farmers Union (includes Boise Valley diversion)	64,200	Riverside No. 2	62,900
Little Union	4,260	Pioneer Dixie	8,070
Dry Creek	18,200	Eureka No. 2	11,900
Ballantine	3,630	Upper Center Point	1,790
7 Eagle Island canals	13,200	Lower Center Point	2,220
Middleton Water Co	29,600	Miscellaneous	8,920
Middleton Mill ditch	18,900		1,410,000

Combined monthly discharge of canals diverting from Boise River, Idaho, during irrigation season of 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
April	4,510	150	2,150	128,000
May	5,120	4,630	4,890	301,000
June	5,140	4,630	5,010	298,000
July	5,060	4,110	4,570	281,000
August	4,070	3,400	3,700	228,000
September	3,570	2,230	2,980	177,000
The period				1,410,000

SOUTH FORK OF BOISE RIVER NEAR LENOX, IDAHO

LOCATION.—In sec. 24, T. 2 N., R. 6 E., in canyon at R. S. Sandlin ranch, 1 mile above mouth of Smith Creek, 4 miles above flow line of Arrowrock Reservoir, and 4 miles southwest of discontinued Lenox post office, Elmore County.

DRAINAGE AREA.—1,090 square miles (measured on topographic maps).

RECORDS AVAILABLE.—March 24, 1911, to September 30, 1927.

EQUIPMENT.—An continuous water-stage recorder on right bank; installed August 14, 1925. Discharge measurements made from cable 100 feet above gage or by wading.

CHANNEL AND CONTROL.—Bed composed of mud and gravel. One channel at all stages. Control of coarse gravel and rock; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 10.1 feet at 2 p. m. May 17 (discharge, 8,440 second-feet); minimum stage, 2.23 feet at 11 p. m. October 7 (discharge, 223 second-feet).

1911–1927: Maximum discharge recorded, 9,200 second-feet at 11 a. m. May 15, 1917 (gage height, 9.53 feet); minimum discharge, 142 second-feet December 31, 1925 (gage height, 1.92 feet).

DIVERSIONS AND REGULATION.—None.

ACCURACY.—Stage-discharge relation changed June 10–20; slightly affected by ice. Rating curve used prior to June 10 is well defined between 200 and 6,500 second-feet by five discharge measurements made during current year and shape of former curve; curve used subsequent to June 20 is well defined between 400 and 6,000 second-feet by three measurements made during current year and shape of former curve. Operation of water-stage recorder satisfactory except for breaks in record due to inattention of observer. Daily discharge ascertained by applying to rating table mean daily gage height determined by inspection of recorder graph except June 10–20 during which shifting-control method was used. Records good.

Daily discharge, in second-feet, of South Fork of Boise River near Lenox, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	235	241	618	390	336	522	1,560	5,390	3,000	3,040	653	352
2	238	241	547	390	365	508	1,480	4,730	2,890	2,900	638	356
3	235	235	582		394	513	1,370	4,080	3,000	2,780	623	356
4	232	235	683		447	532	1,300	3,710	3,350	2,660	614	359
5	232	235	618	350	403	577	1,220	3,470	3,710		609	363
6	229	238	527		373	603	1,260	3,470	4,340		595	359
7	229	264	475		344	634	1,400	3,590	5,250		576	356
8	229	264	429	260	317	650	1,640	3,470	6,230		557	356
9	232	241	340	257	295	656	1,680	3,110	6,090		547	359
10	229	238	313	274	306	608	1,560	2,890	5,600	2,000	543	379
11	232	251	390	313	336	587	1,440	3,000	5,820		538	428
12	247	277	447	329	377	587	1,330	3,470	6,200		516	420
13	244	281	356	332	352	608	1,300	3,830	6,290		516	411
14	244	270	313	332	340	699	1,300	4,730	6,040		552	445
15	241	257	302	329	386	705	1,480	5,950	5,950		619	436
16	241	281	450	336	360	650	1,680	7,090	5,680		557	424
17	241	309		321	360	656	1,720	7,990	5,410		524	411
18	238	267	452	281	390	656	1,850	7,090	5,130		493	395
19	238	313	390	299	373	613	1,760	5,810	5,170		475	383
20	232	377	325	325	348	582	1,600	4,990	5,210		462	379
21	229	522	306		484	587	1,520	4,340	4,910	1,000	445	383
22	229	429		250	562	634	1,560	3,950	4,740		428	379
23	232	456	300		577	677	1,640	3,590	4,740		420	375
24	232	466			527	756	2,020	3,470	4,740		403	371
25	235	629		350	532	862	3,000	3,350	4,420		387	375
26	235	582			537	893	4,080	3,830	4,740		371	379
27	241	508	375		537	956	4,860	4,080	4,740	749	371	383
28	244	452		400	552	988	4,860	4,080	3,950	728	371	387
29	241	461	381		-------	1,120	4,990	3,830	3,510	702	359	449
30	238	592	390	377	-------	1,300	5,390	3,470	3,240	682	356	467
31	235	-------	403	332	-------	1,560	-------	3,230	-------	667	356	-------

NOTE.—Discharge estimated Dec. 16, 17, 22–28, Jan. 3–7, 21–29, July 5–26 because of ice and missing gage height record. Braced figures show mean discharge for periods indicated.

Monthly discharge of South Fork of Boise River near Lenox, Idaho, for the year ending September 30, 1927

[Drainage area, 1,090 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	247	229	236	0.217	0.25	14,500
November	629	235	347	.318	.35	20,600
December	683	-------	413	.379	.44	25,400
January	-------	-------	330	.303	.35	20,300
February	577	295	411	.377	.39	22,800
March	1,560	508	725	.665	.77	44,600
April	5,390	1,220	2,130	1.95	2.18	127,000
May	7,990	2,890	4,290	3.94	4.54	264,000
June	6,290	2,890	4,800	4.40	4.91	286,000
July	3,040	667	1,550	1.42	1.64	95,300
August	653	356	499	.458	.53	30,700
September	467	352	389	.357	.40	23,100
The year	7,990	-------	1,340	1.23	16.75	974,000

LITTLE CAMAS RESERVOIR NEAR BENNETT, IDAHO

LOCATION.—In NE. ¼ sec. 9, T. 1 S., R. 9 E., 4 miles northeast of Bennett, Elmore County, and 22 miles northeast of Mountain Home.

DRAINAGE AREA.—31.8 square miles (measured on map of Mountain Home Cooperative Irrigation Co.).

RECORDS AVAILABLE.—March 20, 1924, to September 30, 1927.

EQUIPMENT.—Vertical staff near left end of dam; installed in October, 1926. Zero of gage corresponds to bottom of outlet tunnel which is at elevation 4,926.50 feet referred to datum of Mountain Home Irrigation District. Prior to October, 1926, readings were obtained by measuring with steel tape from reference point located on top of northeast corner of concrete outlet structure or by leveling to water surface from bench mark.

EXTREMES OF STAGE.—Maximum stage recorded during year, 4,962.4 feet May 31 and June 11; minimum stage, 4,953.6 feet September 9.

1924–1927: Maximum stage recorded, that of May 31 and June 11, 1927; reservoir practically empty on May 29, 1924, and July 9, 1926.

COOPERATION.—Gage-height record furnished by Mountain Home Irrigation District.

Water is stored in Little Camas Reservoir for irrigation use on about 5,000 acres of land in the vicinity of Mountain Home. The crest is 46 feet above bottom of outlet tunnel, which is 8 feet above spillway crest. Elevation of crest of spillway corresponds to 4,956.00 feet at which stage the reservoir capacity is about 22,300 acre-feet, about 1,250 acres of land being submerged.

Daily elevation, in feet, of Little Camas Reservoir near Bennett, Idaho, for the year ending September 30, 1927

Day	May	June	July	Aug.	Sept.	Day	May	June	July	Aug.	Sept.
1						16			4,959.1		
2			4,960.8	4,957.0		17		4,962.3			
3					4,954.6	18				4,956.5	
4					4,954.4	19			4,958.7		
5			4,960.4			20				4,956.3	
6				4,956.6	4,954.1	21		4,962.1			
7						22					
8						23			4,958.3	4,956.0	
9			4,960.0		4,953.6	24					
10						25		4,961.7			
11		4,962.4				26			4,957.9		
12			4,959.7			27			4,957.75	4,955.5	
13						28		4,961.3			
14						29					
15						30			4,957.4	4,955.1	
						31	4,962.4				

NOTE.—Gates in dam were opened on May 31 for release of water through Little Camas Canal, prior to which time gates were closed since the preceding irrigation season. On Sept. 9 the gates were closed for remainder of irrigation season.

LITTLE CAMAS CANAL AT HEADING, NEAR BENNETT, IDAHO

LOCATION.—In sec. 9, T. 1 S., R. 9 E., 400 feet below Little Camas Reservoir, 4 miles northeast of Bennett, Elmore County, and 22 miles northeast of Mountain Home.

RECORDS AVAILABLE.—June 1 to November 28, 1917; April 16, 1924, to September 30, 1927.

EQUIPMENT.—Friez water-stage recorder on right bank; installed March 9, 1926. Discharge measurements made by wading.

CHANNEL AND CONTROL.—Bed composed of cemented sand and fine gravel. Control formed by head of McGinnis flume 1,200 feet below gage; growth of moss in earth canal section above flume may affect the stage-discharge relation at times.

EXTREMES OF DISCHARGE.—Maximum discharge recorded during year, 58 second-feet July 22 to August 3 (gage height, 2.13 feet); canal reported dry October 1 to May 30, August 6–17, and September 10–30.

1917, 1924–1927: Maximum discharge recorded, 77 second-feet April 27–30, May 1, 3, and 9, 1924; no flow for several periods during record.

DIVERSIONS AND REGULATION.—No diversions above gage. Flow regulated by head gates at Little Camas Reservoir.

ACCURACY.—Stage-discharge relation changed slightly after break in canal August 6–17; no flow during winter. Two rating curves fairly well defined between 35 and 70 second-feet; by one discharge measurement each and shape of curve used in 1926. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height determined by inspection of recorder graph except for August 4, 19, 20, and September 9, for which discharge is mean of discharge for shorter intervals. Records good.

COOPERATION.—Gage-height record furnished by Mountain Home Irrigation District.

Water released from Little Camas Reservoir in sec. 9, T. 1 S., R. 9 E., is carried 13 miles through Little Camas Canal into Long Tom Basin and collected in Long Tom Reservoir for release for irrigation use on about 5,000 acres of land near Mountain Home.

Daily discharge, in second-feet, of Little Camas Canal at heading, near Bennett, Idaho, for the year ending September 30, 1927

Day	May	June	July	Aug.	Sept.	Day	May	June	July	Aug.	Sept.
1	-------	19	53	58	52	16	-------	43	54	0	0
2	-------	22	53	58	52	17	-------	44	54	0	0
3	-------	26	53	58	52	18	-------	44	54	23	0
4	-------	29	53	44	52	19	-------	45	54	25	0
5	-------	29	54	3	52	20	-------	48	54	27	0
6	-------	29	54	0	52	21	-------	49	57	40	0
7	-------	30	54	0	52	22	-------	50	58	41	0
8	-------	31	54	0	52	23	-------	52	58	44	0
9	-------	33	54	0	20	24	-------	53	58	44	0
10	-------	34	54	0	0	25	-------	52	58	50	0
11	-------	38	54	0	0	26	-------	51	58	52	0
12	-------	40	54	0	0	27	-------	51	58	52	0
13	-------	40	54	0	0	28	-------	52	58	52	0
14	-------	42	54	0	0	29	-------	53	58	52	0
15	-------	43	54	0	0	30	-------	53	58	52	0
						31	18	-------	58	53	-------

NOTE.—Canal reported dry prior to May 31

Monthly discharge of Little Camas Canal at heading, near Bennett, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
May 31			18.0	35.7
June	53	19	40.8	2,430
July	58	53	55.3	3,400
August	58	0	26.7	1,640
September	52	0	14.5	863
The year				8,370

MOORE CREEK NEAR ARROWROCK, IDAHO

LOCATION.—In sec. 21, T. 3 N., R. 4 E., at highway bridge on Boise-Arrowrock road, a quarter of a mile above mouth and 3 miles southwest of Arrowrock, Boise County.

DRAINAGE AREA.—426 square miles (measured on topographic maps).

RECORDS AVAILABLE.—October 1, 1914, to September 30, 1927 (discharge measurements only prior to December 1, 1915).

EQUIPMENT.—Vertical staff on right bank, 35 feet above highway bridge. Discharge measurements made from bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of boulders, cobbles, and sand. Stream usually carries much sand and silt as a result of placer operations in Boise Basin. One channel at all stages. Control shifts frequently owing to deposition of sand at low stages and scouring out at high stages.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 4.30 feet April 27 and 7.50 a. m. April 28 (discharge, 2,670 second-feet); minimum stage, 0.40 foot October 1 (discharge, 33 second-feet).

1915–1927: Maximum stage recorded, 6.3 feet April 11, 1916 (discharge, 3,140 second-feet); minimum discharge, 7.9 second-feet August 13–15, 17, and 18, 1924.

DIVERSIONS AND REGULATION.—No large diversions above station; no regulation.

ACCURACY.—Stage-discharge relation not permanent; not affected by ice. Rating curve well defined below 2,600 second-feet by 20 discharge measurements, ranging from 40 to 2,500 second-feet and made during the current year, and shape of previous curve. Gage read to hundredths once daily; rough water at high stages makes it difficult to read gage with refinement. Daily discharge determined by applying daily gage height to rating table November 29 to March 28 and by shifting-control method for remainder of year. Daily discharge records fair; monthly records good.

COOPERATION.—Eleven discharge measurements furnished by United States Bureau of Reclamation and water master for Boise River.

Daily discharge, in second-feet, of Moore Creek near Arrowrock, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	33	42	738	91	128	542	1,200	2,530	895	488	74	58
2	35	42	542	115	188	542	1,300	2,000	935	488	75	61
3	38	43	601	130	292	542	1,580	1,640	935	488	64	61
4	35	43	570	133	462	570	1,360	1,520	978	462	64	64
5	36	44	359	133	462	738	1,060	1,410	1,020	397	77	61
6	40	46	359	135	417	738	1,300	1,410	1,060	359	74	59
7	40	67	324	140	377	815	1,460	1,410	1,160	308	72	56
8	39	59	277	91	324	815	1,640	1,260	1,200	308	64	61
9	39	54	226	91	308	738	1,520	1,160	1,160	277	64	61
10	38	52	228	104	277	738	1,300	1,160	1,200	248	64	67
11	39	56	215	106	248	666	1,200	1,110	1,160	240	66	70
12	39	74	209	106	262	601	1,200	1,200	1,160	231	64	70
13	39	78	177	152	245	601	1,160	1,260	1,200	220	66	74
14	39	77	91	142	212	1,060	1,200	1,360	1,260	204	75	80
15	39	70	93	135	245	978	1,410	1,580	1,200	193	115	80
16	39	98	124	152	237	895	1,300	1,760	1,110	188	91	74
17	39	87	140	135	240	738	1,200	1,880	1,060	177	85	70
18	38	96	152	133	292	815	1,200	1,520	978	160	69	67
19	35	102	142	150	359	738	1,110	1,410	978	147	74	67
20	35	126	115	144	377	700	1,110	1,200	978	142	67	67
21	39	417	130	82	1,020	666	1,110	1,110	895	137	59	61
22	39	277	111	49	978	738	1,060	1,020	855	119	56	56
23	39	359	93	80	738	738	1,110	978	738	111	56	56
24	39	308	75	150	700	815	1,200	895	738	111	55	56
25	40	542	94	126	632	895	1,640	978	700	98	59	61
26	40	513	104	117	666	895	2,260	978	775	98	59	74
27	40	341	100	126	666	855	2,670	1,020	738	74	61	67
28	41	308	98	137	570	895	2,530	935	632	74	59	98
29	41	397	96	124	.....	978	2,460	895	570	77	59	142
30	41	1,020	104	113	.....	1,060	2,400	855	488	85	56	177
31	40	.....	87	108	.....	1,260	.....	895	.....	74	56	.....

NOTE.—Discharge estimated Jan. 19, 24, based upon observer's notes relative to high-water marks.

Monthly discharge of Moore Creek near Arrowrock, Idaho, for the year ending September 30, 1927

[Drainage area, 426 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	41	33	38.5	0.090	0.10	2,370
November	1,020	42	195	.458	.51	11,600
December	738	75	219	.514	.59	13,500
January	152	49	120	.282	.33	7,380
February	1,020	128	426	1.00	1.04	23,700
March	1,260	542	786	1.85	2.13	48,300
April	2,670	1,060	1,470	3.45	3.85	87,500
May	2,530	855	1,300	3.05	3.52	79,900
June	1,260	488	959	2.25	2.51	57,100
July	488	74	219	.514	.59	13,500
August	115	55	67.7	.159	.18	4,160
September	177	56	72.5	.17	.19	4,310
The year	2,670	33	488	1.15	15.54	353,000

MALHEUR RIVER NEAR DREWSEY, OREG.

LOCATION.—In NE. ¼ SE. ¼ sec. 3, T. 22 S., R. 36 E., half a mile above high-water flow line of Warmsprings Reservoir, 8 miles above dam, and 10 miles below Drewsey, Harney County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—April 26 to September 30, 1923, and June 8, 1926, to September 30, 1927. June 1 to December 29, 1920, and April 11 to September 4, 1921, comparable records at a site 7 miles upstream. March 9 to September 30, 1914, a station was maintained 20 miles upstream, but records are not comparable because of inflow from Griffin, Otis, and Stinking Water Creeks.

EQUIPMENT.—Stevens continuous water-stage recorder on right bank. Discharge measurements made by wading or from cable 25 feet above gage.

CHANNEL AND CONTROL.—Bed at riffle is composed of gravel and boulders and is not subject to shift. One channel at all stages.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 6.46 feet at 3 p. m. February 21 (discharge, 1,700 second-feet); minimum stage, 1.17 feet at 9 p. m. August 12 (discharge, 9 second-feet).

1920–21, 1923, 1926–27: Maximum discharge recorded, 2,240 second-feet at 1 a. m. April 14, 1921; minimum discharge, 1 second-foot at midnight August 8, 1926.

DIVERSIONS AND REGULATION.—Several small diversions above station; no diversions around station or between station and Warmsprings Reservoir. No regulation.

ACCURACY.—Stage-discharge relation permanent during year except as affected by ice. Rating curve well defined by 15 measurements ranging between 6 and 700 second-feet, 9 of which—covering a range from 20 to 700 second-feet—were made during the current year and check the curve closely. Operation of water-stage recorder satisfactory, except as stated in footnote to table of daily discharge. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting recorder graph. Records good except for periods affected by ice, for which they are fair.

COOPERATION.—Records furnished by State engineer of Oregon.

Daily discharge, in second-feet, of Malheur River near Drewsey, Oreg., for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	33	299	73	160	372	598	923	206	92	11	10
2	16	34	249		700	418	578	860	209	82	10	11
3	20	35	199		1,100	411	1,010	756	199	71	16	12
4	18	34	285	76	687	578	578	722	199	65	21	13
5	18	34	172		378	598	598	689	213	65	18	14
6	25	38	129	129	271	484	539	656	249	60	14	10
7	33	41	121		244	484	405	617	382	55	12	15
8	32	40	95		206	484	558	558	508	52	12	15
9	31	40	89		167	434	558	520	1,250	49	12	20
10	33	40	73	181	158	317	539	484	902	43	12	25
11	33	41	89	192	150	288	558	484	676	40	12	26
12	33	40	92	204	145	317	520	466	598	40	10	29
13	34	42	76	206	154	598	539	456	502	39	10	3?
14	35	43		204	139	987	696	456	459	39	11	30
15	35	43		201	141	716	617	484	431	33	13	40
16	34	44		190	194	452	636	539	392	30	14	3?
17	36	45		175	201	369	598	558	347	29	13	3?
18	37	49		161	328	363	578	578	311	27	14	3?
19	36	46	70	143	502	305	617	539	276	27	14	3?
20	36	50		147	462	288	558	520	257	25	12	3?
21	36	55		59	1,460	317	502	441	239	24	14	3?
22	36	78		55	1,120	484	502	392	228	22	14	31
23	38	78		52	484	539	578	372	211	20	16	3?
24	37	76		42	405	539	696	317	194	20	12	29
25	35	81		54	332	502	839	282	188	20	12	3?
26	35	102	65	95	317	484	966	273	158	19	10	3?
27	36	106			424	459	1,080	282	139	18	10	31
28	36	99			360	484	1,120	287	139	14	11	3?
29	36	121	67		------	520	1,100	271	125	12	11	31
30	35	244			------	539	1,010	249	106	11	10	3?
31	35	------		141	------	598	------	221	------	11	10	------

NOTE.—Stage-discharge relation affected by ice or gage height record missing Dec. 14–25, Dec. 27 to Jan. 3, Jan. 5–9, 16–17, 22, 25–30, Feb. 1–3, and May 4–5; discharge estimated from gage-height record, discharge measurement Jan. 4, observer's notes, weather records, and record of flow for North Fork of Malheur River near Beulah.

Monthly discharge of Malheur River near Drewsey, Oreg., for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	38	16	31.8	1,960
November	244	33	61.7	3,670
December	299	65	103	6,330
January	206	42	123	7,560
February	1,460	139	407	22,600
March	987	288	475	29,200
April	1,120	405	676	40,200
May	923	221	492	30,300
June	1,250	106	343	20,400
July	92	11	37.2	2,290
August	21	10	12.6	775
September	40	10	27.4	1,630
The year	1,460	10	231	167,000

WARMSPRINGS RESERVOIR NEAR RIVERSIDE, OREG.

LOCATION.—In SE. ¼ sec. 8, T. 23 S., R. 37 E., on Malheur River 4 miles above junction with South Fork and 4 miles above Riverside, Malheur County.

RECORDS AVAILABLE.—January 24, 1920, to September 30, 1927.

EQUIPMENT.—Tape gage with float set to read depth of water above bottom of outlet tunnel. Elevation of bottom of tunnel, 3,327.00 feet above mean sea level.

EXTREMES OF STAGE.—Maximum stage recorded during year, 74.94 feet May 3 and 4 (contents, 174,200 acre-feet); minimum stage recorded, 39.68 feet October 3–9 (contents, 50,200 acre-feet).

1920–1927: Maximum stage and contents, those of May 3 and 4, 1927; minimum stage recorded, 16.53 feet September 16, 1920 (contents, 8,600 acre-feet).

Warmsprings Reservoir stores water for Warmsprings Irrigation District which embraces 31,618 acres of irrigable land on either side of Malheur River, extending from the mouth of canyon above Vale to Ontario. Capacity of reservoir at spillway level, 74.0 feet is 170,000 acre-feet.

COOPERATION.—Records furnished by State engineer of Oregon.

Monthly stage and contents of Warmsprings Reservoir near Riverside, Oreg., for the year ending September 30, 1927

Date	Gage height	Contents	Loss or gain during month	Date	Gage height	Contents	Loss or gain during month
	Feet	*Acre-feet*	*Acre-feet*		*Feet*	*Acre-feet*	*Acre-feet*
Oct. 31	39.95	51,900	+300	May 31	74.24	171,100	+400
Nov. 30	41.56	55,900	+4,000	June 30	72.97	165,400	−5,700
Dec. 31	44.05	63,200	+7,300	July 31	66.68	139,700	−25,700
Jan. 31	46.41	70,200	+7,000	Aug. 31	60.30	114,200	−25,500
Feb. 28	53.99	93,000	+22,800	Sept. 30	54.93	95,800	−18,400
Mar. 31	62.75	124,000	+31,000				
Apr. 30	74.15	170,700	+46,700	The year			+44,200

MALHEUR RIVER BELOW WARMSPRINGS RESERVOIR, NEAR RIVERSIDE, OREG.

LOCATION.—In SW. ¼ sec. 17, T. 23 S., R. 37 E., 1 mile below Warmsprings Dam, 3 miles above mouth of South Fork, and 4 miles northwest of Riverside, Malheur County.

DRAINAGE AREA.—About 1,100 square miles.

RECORDS AVAILABLE.—December 9, 1914, to July 4, 1917, and March 18, 1919, to September 30, 1927. From January 3, 1906, to March 31, 1907, and December 15, 1908, to May 25, 1910, records were obtained at a station at Riverside 4 miles below.

EQUIPMENT.—Hook gage in stilling well on left bank; installed April 19, 1927. Prior to April 19 a vertical staff gage at same location was used. Discharge measurements made from highway bridge one-fourth mile below dam or by wading.

CHANNEL AND CONTROL.—New concrete control completed April 19, 200 feet below gage. Above a medium stage concrete control is submerged and riffle 200 feet farther downstream acts as control.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 5.36 feet at 6 p. m. June 10 (discharge, 855 second-feet); seepage amounted to 1 second-foot when gates to reservoir were closed.

1906–1910, 1914–1917, 1919–1927: Maximum discharge recorded, 5,490 second-feet March 2, 1910; minimum discharge recorded prior to construction of dam, practically no flow during August, 1910; determined by subtracting discharge of South Fork from discharge of main river below South Fork. Minimum discharge since construction of dam somewhat less than 1 second-foot when gates are closed; stream was dry August 1 to September 16, 1919, while dam was being constructed.

DIVERSIONS AND REGULATION.—A large area of bottom land is irrigated with flood water above station. Beginning November, 1919, flow past station entirely controlled by operation of gates in Warmsprings Dam.

ACCURACY.—Stage-discharge relation changed by new concrete control, completed April 19. Rating curve used before change well defined below 1,000 second-feet by six discharge measurements made in 1925 and 1926. Rating curve used subsequent to change is well defined between 39 and 765 second-feet by five discharge measurements made during current year. Staff gage read to hundredths once daily and time noted when change was made in gate openings at dam. Daily discharge ascertained by applying daily gage height or weighted daily gage height to rating table. Records good.

COOPERATION.—Records furnished by State engineer of Oregon.

Daily discharge, in second-feet, of Malheur River below Warmsprings Reservoir, near Riverside, Oreg., for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	136	3	1	1	1	1	1	485	248	330	380	355
2	3	3	1	1	1	1	1	705	240	330	380	355
3	3	3	1	1	1	1	1	825	224	330	380	355
4	3	3	1	1	1	1	1	795	228	330	380	355
5	3	3	1	1	1	1	1	765	350	330	380	355
6	3	1	1	1	1	1	1	753	380	335	380	355
7	3	1	1	1	1	1	1	741	380	390	380	355
8	3	1	1	1	1	1	1	628	380	407	380	355
9	3	1	1	1	1	1	1	584	564	436	380	355
10	3	1	1	1	1	1	1	595	825	436	380	355
11	1	1	1	1	1	1	1	595	825	436	380	355
12	1	1	1	1	1	1	1	540	747	436	360	335
13	1	1	1	1	1	1	1	507	661	436	305	280
14	1	1	1	1	1	1	1	485	595	436	305	280
15	62	1	1	1	1	1	1	474	540	430	305	280
16	59	1	1	1	1	1	1	474	490	430	305	280
17	30	1	1	1	1	1	1	485	446	430	305	280
18	30	1	1	1	1	1	1	534	410	430	305	280
19	30	1	1	1	1	1	1	595	385	430	305	280
20	30	1	1	1	1	1	1	584	360	430	305	280
21	30	1	1	1	1	1	1	529	380	420	305	268
22	30	1	1	1	1	1	1	485	380	380	320	240
23	30	1	1	1	1	1	1	441	380	380	355	240
24	30	1	1	1	1	1	1	441	380	380	355	240
25	22	1	1	1	1	1	1	370	380	380	355	240
26	3	1	1	1	1	1	1	340	380	380	355	240
27	3	1	1	1	1	1	1	330	380	380	355	240
28	3	1	1	1	1	1	1	340	380	380	355	240
29	3	1	1	1	------	1	1	280	380	380	355	232
30	3	1	1	1	------	1	54	256	370	380	355	262
31	3	------	1	1	------	1	------	256	------	380	355	------

Monthly discharge of Malheur River below Warmsprings Reservoir, near Riverside, Oreg., for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	136	1	18.3	1,130
November	3	1	1.3	77
December	1	1	1	61
January	1	1	1	61
February	1	1	1	56
March	1	1	1	61
April	54	1	2.8	167
May	825	256	523	32,200
June	825	224	436	25,900
July	436	330	393	24,200
August	380	305	348	21,400
September	355	232	297	17,700
The year	825	1	170	123,000

MALHEUR RIVER AT NAMORF, OREG.

LOCATION.—In NE. ¼ sec. 6, T. 21 S., R. 41 E., half a mile below proposed diversion dam to main canal of Vale project of United States Bureau of Reclamation and 1 mile above Namorf, Malheur County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—June 12, 1926, to September 30, 1927. May 24, 1913, to December 31, 1923, at station 2 miles upstream; records comparable.

EQUIPMENT.—Stevens 8-day water-stage recorder on left bank. Discharge measurements made by wading or from cable 75 feet below gage.

CHANNEL AND CONTROL.—Bed at wide riffle composed of hardpan, gravel, and small boulders; not subject to shift, but stage-discharge relation may be affected by aqueous growth. One channel at all stages.

EXTREMES OF DISCHARGE.—Maximum discharge during year occurred February 21 when recorder was not operating; minimum discharge, 3.2 second-feet at 3 p. m. October 5 (gage height, from water-stage recorder, 0.60 foot).

1913–1923, 1926–1927: Maximum discharge recorded, 8,450 second-feet during night of February 7, 1916; minimum discharge, that of October 5, 1926.

Estimated discharge of flood of March 1, 1910, from high-water mark at Froman ranch, 12,600 second-feet. The floods of March 7 and 9, 1894, are said to have been about 0.3 foot higher.

DIVERSION AND REGULATION.—Many small diversions are made from river and its tributaries above gage, the largest being made near Drewsey and from North Fork near Juntura. Flow controlled to a large extent since November, 1929, by Warmsprings Dam.

ACCURACY.—Stage-discharge relation affected by aquatic growth on control during October, November, and July to September, and by ice during part of winter. Rating curve fairly well defined below 1,500 second-feet by eight discharge measurements made during year. Operation of water-stage recorder satisfactory except as noted in footnote to table of daily discharge. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting recorder graph; shifting-control method used October 1 to November 30 and July 1 to September 29 on basis of discharge measurements of October 1, July 7, 28, and September 11. Records good except flat estimates of discharge, which are fair.

COOPERATION.—Records furnished by State engineer of Oregon.

Daily discharge, in second-feet, of Malheur River at Namorf, Oreg., for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	192		230	82	100	360	460	760	478	460	390	330
2	200		247	84	200	372	478	657	460	425	390	330
3	144		217		740	460	600	1,210	442	415	390	330
4	119		205		700	512	600	1,180	397	404	390	330
5	46	70	172			548	548	1,160	390	394	397	333
6	55		148		362	495	442	1,140	495	384	397	333
7	59		146			442	460	1,090	600	384	390	330
8	59	68	132			425	460	1,060	680	408	384	339
9	59	68	132		170	442	460	956	908	422	384	354
10	59	68	110	115	165	363	460	930	1,240	478	381	363
11	59	70	130		160	315	478	930	1,310	495	378	372
12	59	72	128		146	305	442	885	1,240	512	372	381
13	59	72	112		141	367	520	840	1,110	495	363	381
14	59	70			137	719	600	820	975	478	342	342
15	59	68			139	780	565	840	908	478	312	339
16		81			151	565	548	840	820	460	308	339
17		83		137		460	512	908	780	442	308	336
18		88		137		460	478	956	720	460	305	325
19		88		128	650	394	495	975	640	425	302	320
20		94				336	442	975	600	425	302	320
21		108				330	384	956	565	425	305	322
22		125	80		1,260	330	378	840	548	425	305	328
23		114			780	530	394	780	548	408	305	308
24	85	116			530	542	442	720	530	400	312	310
25		128			397	530	512	660	530	394	325	318
26		146		90	387	495	600	620	512	378	333	322
27		141			408	478	740	600	512	394	333	325
28		137			408	460	760	582	512	394	333	333
29		120			-------	348	975	565	495	394	330	328
30		150			-------	372	780	530	495	394	330	339
31		-------			-------	425	-------	512	-------	397	327	------

NOTE.—Water-stage recorder not operating satisfactorily Oct. 16 to Nov. 7, Feb. 5–8, 17–21; discharge estimated by comparison with flow at station on Malheur River near Hope. Stage-discharge relation affected by ice Dec. 14 to Jan. 16 and Jan. 20 to Feb. 2; discharge estimated by comparison with flow at stations on Malheur River near Hope and Vale, discharge measurement on Jan. 2, and weather report. Braced figures show mean discharge for periods indicated.

Monthly discharge of Malheur River at Namorf, Oreg., for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	200	46	85.4	5,250
November	150	68	92.2	5,490
December	247	----------	114	7,010
January	----------	----------	105	6,460
February	----------	----------	422	23,400
March	780	305	450	27,700
April	975	378	534	31,800
May	1,210	512	854	52,500
June	1,310	390	683	40,600
July	512	378	427	26,300
August	397	302	346	21,300
September	381	308	335	19,900
The year	----------	46	370	268,000

MALHEUR RIVER NEAR HOPE, OREG.

LOCATION.—In SW. ¼ sec. 5, T. 19 S., R. 43 E., half a mile above intake of Vines Canal and railroad bridge, 15 miles west of Vale, and 6½ miles west of Hope, Malheur County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—May 30 to October 26, 1919; May 5 to September 30, 1920; fragmentary record during 1921 and 1922; October 1, 1922, to September 30, 1927. Station maintained half a mile below Vines Canal March 22 to September 30, 1914.

EQUIPMENT.—Stevens continuous water-stage recorder on left bank. Discharge measurements made from cable at gage or by wading.

CHANNEL AND CONTROL.—Bed composed of sand, gravel, and boulders; subject to shift at high stages. One channel at all stages.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 4.56 feet at 2 p. m. February 21 (discharge, 2,600 second-feet); minimum stage recorded, 0.92 foot October 10–13 (discharge, 60 second-feet).

1919–1927: Maximum discharge recorded, 8,100 second-feet February 5, 1925; minimum stage, 0.02 foot from 5 to 9 p. m. September 2, 1919 (discharge, 3.5 second-feet).

DIVERSIONS AND REGULATION.—Several small canals divert water above station. Flow controlled to a large extent by Warmsprings Dam, 60 miles upstream.

ACCURACY.—Stage-discharge relation affected by ice December 14 to February 3 and changed when ice went out February 3. Rating curve used October 1 to December 13 well defined by 36 discharge measurements, of which 1 was made on October 4. Curve used after February 3 fairly well defined by seven measurements between 130 and 1,100 second-feet, and extended to 2,600 second-feet parallel to former well-defined curve. Water-stage recorder operated satisfactorily except for short breaks in record. Daily discharge ascertained by applying to rating table mean daily gage height obtained from recorder graph by inspection except as noted in footnote to table of daily discharge. Record good except for estimated periods, for which they are fair.

COOPERATION.—Records furnished by State engineer of Oregon.

Daily discharge, in second-feet, of Malheur River near Hope, Oreg., for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	190	73	218		120	375	445	785			380	
2	184	73	241		400	366	440	890	510		380	
3	152	73	218		1,000	361	435	1,160		390		343
4	106	73	184		958	385	475	1,240	497			
5	82	70	178		693	420	492	1,240	465		380	356
6	73	70	155		455	440	455	1,200	455	356		
7	68	73	142		375	445	430	1,120	541			
8	64	70	138		294	425	430	1,060	597		375	
9	62	68	121		277	405	435	935	764	410	370	370
10	60	66	112		240	405	435	875	1,120		366	
11	60	65	105		207	375	440	845	1,420		347	
12	60	66	121		201	352	435	838	1,510	465	337	385
13	60	68	140		165	361	425	800	1,420	460	324	
14	63	70			157	541	580	764	1,240	465	315	
15	64	70			135	868	591	738	1,120	465	311	345
16	68	73		115	142	724	552	738	928	455	311	
17	69	73			160	563	508	844	778	455	306	
18	70	76			328	475	465	950	738	445	306	
19	115	80			425	445	465	1,000	645	445	302	328
20	86	83			615	385	455	1,050	603	445	289	326
21	101	86			2,270	352	435	1,060	552	445		324
22	98	90			1,980	352	425	1,000	519	435		320
23	98	123	85		950	425	425	920	497	435		
24	98	121			597	465	440	840	475	425		
25	98	119			430	470	455	757	455	405	310	
26	101	123			385	445	492		450	395		310
27	101	134			375	430	591		445	395		
28	92	131			375	405	693	610		385		
29	78	129			-------	405	778		445	380	319	
30	73	166			-------	405	800			380	325	
31	73	-------	89		-------	450	-------		-------	380	330	------

NOTE.—Owing to water-stage recorder not operating satisfactorily, discharge interpolated November 2-3, May 17; estimated by comparison with hydrograph for stations at Riverside and Namorf May 26–31, June 1-3, 26, 28-30, July 1-5, 7-11, 30, 31, Aug. 1-7, 21-28, 30, 31, Sept. 1-4, 6-11, 13-18, 20-21, and 23-30. Stage-discharge relation affected by ice December 14 to February 3; discharge estimated from gage-height record, weather reports, observer's notes, discharge measurement December 30, and hydrograph for gaging station below Vale.

Monthly discharge of Malheur River near Hope, Oreg., for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	190	60	89.3	5,490
November	166	65	88.5	5,270
December	241		116	7,130
January			[a] 115	7,070
February	2,270	120	525	29,200
March	868	352	443	27,200
April	800	425	497	29,600
May	1,240		881	54,200
June	1,510		703	41,800
July	465		417	25,600
August			335	20,600
September			339	20,200
The year	2,270	60	378	273,000

[a] Estimated.

MALHEUR RIVER BELOW NEVADA DAM, NEAR VALE, OREG.

LOCATION.—In SW. ¼ sec. 21, T. 18 S., R. 45 E., 300 feet below Nevada Dam and head gate of Nevada Canal and 1½ miles below Vale, Malheur County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—May 17, 1926, to September 30, 1927. Records for station at Vale, 1½ miles upstream, March 20, 1890, to September 30, 1891, January 1, 1895, to July 31, 1897, May 20, 1903, to March 31, 1907, May 29, 1908, to October 15, 1914, and March 20 to September 30, 1919, give comparable results except for flow of Nevada Canal during irrigation season.

EQUIPMENT.—Stevens 8-day water-stage recorder on right bank. Discharge measurements made from bridge or by wading.

CHANNEL AND CONTROL.—Control at riffle 200 feet below gage composed of gravel and rock reef; permanent except when affected by aquatic growth.

EXTREMES OF DISCHARGE.—Maximum discharge during year, from water-stage recorder, 3,270 second-feet at 11 a. m. February 21 (gage height, 4.04 feet); minimum discharge, 9 second-feet at 1 p. m. October 27 (gage height, 0.33 foot).

1890–1891, 1895–1897, 1903–1907, 1908–1914, 1919, 1926–27: Maximum stage recorded, 19.5 feet at 2 a. m. March 2, 1910 (discharge, 22,800 second-feet); minimum discharge, 4 second-feet July 19–21, 1895, and August 23, 1906.

DIVERSIONS AND REGULATION.—Several important diversions for irrigation above station; Brosnan ditch, 10 miles downstream, only diversion below. Flow controlled to a large extent by Warmsprings Dam 80 miles upstream.

ACCURACY.—Stage-discharge relation affected by aquatic growth October 1 to November 11 and July 1 to September 30, and by ice on December 24 and January 21. Rating curve well defined below 1,200 second-feet by seven discharge measurements, of which five were made in 1927; extended to 3,300 second-feet by comparison with record at the gaging station near Hope and estimated inflow. Operation of water-stage recorder satisfactory except as indicated in footnote to daily-discharge table. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting recorder graph, using shifting-control method October 1 to November 11 and July 1 to September 30 on basis of five discharge measurements. Records good except those for estimated periods, which are fair.

COOPERATION.—Records furnished by State engineer of Oregon.

Daily discharge, in second-feet, of Malheur River below Nevada Dam, near Vale, Oreg., for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	91	13		103	140	568	550	788	144	195	70	31
2	88	14		98	394	520	556	772	130	121	72	30
3	93			100	1,380	508	574	888	121	96	66	34
4	96			108	1,460	580	618	952	121	88	66	39
5	63			118	920	643	618	936	118	73	66	46
6	34	40	190	132	630	656	662	904	121	74	66	41
7	25			141	450	599	636	880	170	72	68	45
8	19			151	383	580	630	825	362	112	61	45
9	15	70		170	340	568	599	723	394	160	59	49
10	10	72		164	290	538	593	605	574	117	59	59
11	10	74		138	246	467	580	580	976	66	58	66
12	10	74	138	132	238	433	568	593	1,190	63	58	80
13	11	74		151	226	450	568	538	1,240	57	57	91
14	14	74		164	202	802	636	508	1,090	57	57	82
15	15			192	206	1,140	695	473	944	59	56	86
16	13			192	225	880	644	462	840	58	56	91
17	19		100	177	240	723	574	491	744	61	52	91
18	15	85		170	538	643	580	580	599	63	46	91
19	49			181	599	576	580	650	502	64	41	88
20	31			144	709	508	580	709	416	66	35	86
21	20			118	2,530	479	568	669	305	74	31	103
22	28		82	91	1,740	496	556	599	255	73	25	88
23	20	121	76	82	1,360	580	544	508	230	76	21	76
24	17	116	71	93	984	624	538	616	210	74	23	66
25	16	124	66	88	758	605	538	340	218	72	25	64
26	14	124	74	91	656	599	544	295	246	68	28	63
27	10	132	82	110	624	574	574	290	264	64	31	54
28	11	138	78	138	611	556	656	290	277	57	32	64
29	11	138	91	157	-------	544	737	310	255	57	33	80
30	12	170	98	166	-------	538	772	255	226	57	32	105
31	12	-------	103	154	-------	544	-------	192	-------	59	31	-------

NOTE.—No gage-height record Nov. 3–8, 12–13, 15–22, Dec. 1–11, 13–21, 23–24, 26, Feb. 1, 16–17, Mar. 19, and Apr. 11; discharge interpolated or estimated by comparison with record of flow at gaging station near Hope.

Monthly discharge of Malheur River below Nevada Dam, near Vale, Oreg., for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	96	10	28.8	1,770
November	170	13	81.6	4,860
December	----------	66	127	7,810
January	192	82	136	8,360
February	2,530	----------	681	37,800
March	1,140	433	597	36,700
April	772	538	602	35,800
May	952	192	588	36,200
June	1,240	118	442	26,400
July	195	58	79.4	4,880
August	72	21	47.8	2,940
September	105	30	67.8	4,030
The year	2,530	10	287	208,000

NORTH FORK OF MALHEUR RIVER NEAR BEULAH, OREG.

LOCATION.—In SE. ¼ sec. 22, T. 19 S., R. 37 E., 1 mile below Beulah, Malheur County, and 14 miles north of Juntura.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—June 26, 1926, to September 30, 1927. Records for station near Beulah, about 6 miles downstream, March 21, 1909, to June 30, 1912, and November 13, 1913, to July 25, 1914, give comparable results. Record for station at Juntura, May 21, 1919, to September 30, 1920, give results considerably less during irrigation season.

EQUIPMENT.—Stevens 8-day water-stage recorder on right bank. Discharge measurements made by wading or from cable near gage.

CHANNEL AND CONTROL.—Bed composed of coarse gravel and large boulders. Control is riffle 400 feet below gage; not subject to shift. Banks high and not subject to overflow.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 6.40 feet at 7 a. m. February 21 (discharge, 1,310 second-feet); minimum discharge, about 25 second-feet January 23.

1909–1912, 1913–14, 1926–27: Maximum discharge, 5,910 second-feet March 20, 1910; minimum discharge, 5 second-feet December 28, 1910, January 26 and 27, 1911.

DIVERSIONS AND REGULATION.—Only a small quantity diverted for irrigation above station; practically entire summer flow is diverted below station and above Juntura. No regulation.

ACCURACY.—Stage-discharge relation permanent except as affected by ice. Rating curve well defined between 30 and 500 second-feet by 13 discharge measurements, of which 10 measurements ranging between 40 and 500 second-feet were made during current year and check curve closely with exception of one, which was affected by ice. Operation of water-stage recorder satisfactory except as noted in footnote to table of daily discharge Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting recorder graph. Records good except those for periods affected by ice, for which they are fair.

COOPERATION.—Records furnished by State engineer of Oregon.

Daily discharge, in second-feet, of North Fork of Malheur River near Beulah, Oreg., for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	43	48	156	77	68	187	331	667	223	114	46	36
2	45	48	124		106	212	463	603	215	106	51	38
3	45	47	128	72	167	244	434	495	208	102	51	38
4	45	46	165		181	290	355	460	213	90	45	39
5	45	45	92	69	116	274	288	444	247	91	43	42
6	45	44	89		100	245	312	439	284	83	41	42
7	45	52	73	56	98	231	351	373	315	85	41	44
8	44	49	78		76	217	366	339	488	84	41	45
9	49	48	58	48	68	204	337	329	628	80	42	45
10	44	47	79		78	188	355	325	544	76	44	45
11	45	48	84		69	204	329	321	483	74	42	45
12	45	51	66		71	290	333	319	402	71	37	51
13	45	51	58	55	68	450	370	331	362	66	38	51
14	44	49			56	400	448	362	329	63	40	49
15	45	51			74	290	441	432	297	60	42	50
16	47	63			82	202	413	524	274	62	41	50
17	46	52		49	82	170	393	603	256	59	37	51
18	45	58		57	113	184	397	582	233	58	37	51
19	45	63		73	115		349	529	215	54	36	51
20	45	80		65	248	220	312	452	204	52	37	52
21	46	89			929		310	381	190	51	38	51
22	48	74	45		384		317	337	176	50	39	51
23	47	75			235	299	366	290	159	49	39	51
24	45	80			170	323	451	274	161	49	41	50
25	45	99		38	184	293	620	263	152	50	41	51
26	47	87			192	290	805	270	138	48	41	51
27	45	83			208	299	910	270	138	48	41	51
28	44	79			161	293	910	270	137	47	41	53
29	42	160			-------	325	835	256	130	45	41	58
30	42	170			-------	331	739	238	124	46	39	e66
31	45	-------		59	-------	207	-------	230	-------	46	39	------

NOTE.—Stage-discharge relation affected by ice Dec. 14 to Jan. 4, Jan. 6–8, 10–16, and 21–30; discharge estimated on basis of discharge measurement Jan. 1, observer's notes, weather records, and by comparison with flow at station on Malheur River above Warmsprings Reservoir.

Monthly discharge of North Fork of Malheur River near Beulah, Oreg., for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	49	42	45.1	2,770
November	170	44	67.9	4,040
December	165	----------	66.5	4,090
January	77	----------	53.1	3,260
February	929	56	161	8,940
March	----------	170	259	15,900
April	910	288	455	27,100
May	667	230	387	23,800
June	628	124	264	15,700
July	114	45	66.4	4,080
August	51	36	41.0	2,520
September	66	36	48.3	2,870
The year	929	----------	159	115,000

WILLOW CREEK NEAR MALHEUR, OREG.

LOCATION.—In sec. 6, T. 14 S., R. 41 E., at Stanfield ranch, half a mile above flow line of reservoir No. 3 of Willow River Land & Irrigation Co., 2½ miles south of Malheur, Malheur County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—November 20, 1904, to August 14, 1906; March 19, 1910, to August 2, 1911; March 27, 1912, to September 30, 1915; March 1, 1921, to September 30, 1927.

EQUIPMENT.—Stevens 8-day water-stage recorder on left bank. Discharge measurements made from bridge 200 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed composed of sand and loose gravel. Control is concrete weir just below gage; reconstructed in November, 1922.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 2.98 feet at 10 p. m. February 20 (discharge, 211 second-feet). No flow October 1 to December 31 and July 23 to September 30.

1904–1906, 1910–1915, 1921–1927: Maximum discharge (computed from cross section and estimated velocities), 1,400 second-feet March 20, 1910; no flow at times.

DIVERSIONS AND REGULATION.—Several small diversions above station irrigating a large area of meadowland; reservoir No. 3 just below. Eldorado ditch, 25 miles above gaging station, diverted no water into Willow Creek in 1927. No regulation.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined below 50 second-feet by 14 discharge measurements, of which 3 were made in 1927; fairly well defined above 50 second-feet by measurements in 1921 and 1922. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height obtained from recorder graph by inspection except as noted in footnote to table of daily discharge. Records good.

COOPERATION.—Records furnished by State engineer of Oregon.

Daily discharge, in second-feet, of Willow Creek near Malheur, Oreg., for the year ending September 30, 1927

Day	Jan.	Feb.	Mar.	Apr.	May	June	July
1	0.2	1.0	16	7.1	34	7.8	
2		11	15	11	37	11	
3		21	17	10	37	11	
4		21	19	5.3	33	9.5	
5		21	20	3.5	30	7.8	
6		14	16	3.7	28	7.1	
7		7.8	16	4.0	25	7.8	
8		5.7	16	4.2	21	11	
9		5.6	14	4.3	20	22	
10		4.7	13	4.9	18	29	
11	.5	4.3	13	6.7	18	34	0.2
12	.6	4.3	13	7.1	13	29	
13	.7	4.2	16	6.7	9.8	24	
14	.9	4.2	26	5.7	6.3	18	
15	1.1	4.2	15	7.8	7.1	14	
16	1.1	35	11	8.3	6.3	9.8	
17	1.1	34	11	8.9	10	6.7	
18	1.1	69	11	11	14	6.5	
19	1.0	42	9.2	10	17	6.5	
20	1.0	77	9.2	11	15	4.9	
21	.9	154	11	10	13	2.3	
22	.8	69	15	12	10	3.0	
23	.8	30	14	15	11	1.9	0
24	.8	20	14	14	9.2	1.3	0
25	.8	19	12	7.8	6.9		0
26	.8	19	12	11	7.5		0
27	.8	20	12	30	7.5	.8	0
28	.9	16	11	42	12		0
29	1.0	-------	11	49	9.2		0
30	1.0	-------	11	42	7.8		0
31	1.0	-------	8.9	-------	8.1	-------	0

NOTE.—Daily discharge Jan. 11 to Feb. 4 based on staff gage readings or estimates of flow made by observer about three times a week. Braced figures show estimated mean discharge for periods indicated. No flow during months for which no discharge is given.

Monthly discharge of Willow Creek near Malheur, Oreg., during the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
January	1.1	----------	0.66	41
February	154	1.0	26.4	1,470
March	20	8.9	13.8	848
April	49	3.5	12.5	744
May	37	6.3	16.2	996
June	34	----------	9.69	577
July	----------	0	[a].14	9
The year	154	0	6.46	4,680

[a] Estimated.

WILLOW CREEK RESERVOIR NEAR MALHEUR, OREG.

LOCATION.—In NE. ¼ sec. 15, T. 14 S., R. 41 E., 5 miles southeast of Malheur, Malheur County.

RECORDS AVAILABLE.—October 1, 1922, to September 30, 1927.

GAGE.—Vertical staff gage in well in dam.

EXTREMES OF STAGE.—Maximum stage recorded during year, 48.40 feet May 7 (contents, 4,373 acre-feet); minimum stage, 1.44 feet September 30, 1927 (practically dry).

1922–1927: Maximum stage recorded, 71.53 feet April 14–16, 1923 (contents, 15,670 acre-feet); minimum stage recorded, that of September 30, 1927.

This reservoir is constructed with a capacity of 50,000 acre-feet which is in excess of the flow of Willow Creek for any year except one of abnormally high run-off. Water is released during irrigation season to irrigate land near Brogan, 20 miles downstream.

COOPERATION.—Records furnished by State engineer of Oregon.

Monthly stage and contents of Willow Creek Reservoir near Malheur, Oreg., for the year ending September 30, 1927

Date	Gage height	Contents	Loss or gain during month	Date	Gage height	Contents	Loss or gain during month
	Feet	*Acre-feet*	*Acre-feet*		*Feet*	*Acre-feet*	*Acre-feet*
Oct. 31	0.40	0	−7	May 31		[a] 3,894	−192
Nov. 30	5.00	42	+42	June 30		[a] 3,037	−857
Dec. 31	9.55	116	+74	July 31		[a] 1,628	−1,409
Jan. 31	12.60	177	+61	Aug. 31		[a] 767	−861
Feb. 28	41.10	2,471	+2,294	Sept. 30	0.00	0	−767
Mar. 31		[a] 3,356	+885				
Apr. 30	47.48	4,086	+730	The year			−7

[a] Interpolated.

WILLOW CREEK BELOW RESERVOIR NEAR MALHEUR, OREG.

LOCATION.—In NE. ¼ sec.15, T. 14 S., R. 41 E., 300 feet below outlet tunnel from reservoir and 5 miles southeast of Malheur, Malheur County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—October 1, 1920, to September 30, 1927.

EQUIPMENT.—Vertical staff gage on right bank at weir 300 feet below outlet tunnel from reservoir. Discharge measurements made by wading 300 feet below gage.

CHANNEL AND CONTROL.—Bed of small gravel. Control is 10-foot rectangular timber weir having a sharp metal crest.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 0.94 foot at 2 p. m. June 10 and at next visit at 2 p. m. June 17 (discharge, 34 second-feet estimated as constant between times of these two gage readings); no flow when reservoir gate was closed.

1920–1927: Maximum stage recorded, 1.73 feet July 13–26, 1922 (discharge, 83 second-feet); no flow at times.

ACCURACY.—Stage-discharge relation permanent. Rating curve fairly well defined by four discharge measurements, of which one was made on May 10 of current year. Staff gage read to hundredths once daily and also after making change in gate opening in dam except April to September when it was read only once weekly and before and after making charge in gate opening. Daily discharge ascertained by applying daily gage height to rating table, or, on days when change in gate opening was made, by averaging discharge obtained by applying gage reading before and after change, except as stated in footnote to daily-discharge table. Records good.

COOPERATION.—Records furnished by State engineer of Oregon.

Daily discharge, in second-feet, of Willow Creek below reservoir near Malheur, Oreg., for the year ending September 30, 1927

Day	Oct.	Nov.	April	May	June	July	Aug.	Sept.
1	1.2	1.1	0	1.4	21	17	8.4	24
2	0	1.1	0	1.4	21		13	23
3	0	1.1	0	1.4	21		17	
4	0	1.1	0	5.0	21		25	
5	0	1.1	0	19		17		19
6	0	1.3	0	20	21			
7	0	1.1	0	21			30	
8	0	1.1	0	22				17
9	0	1.3	0	23		17		16
10	0	1.3	0	24	26	17		14
11	0	1.3	0	21		17	29	13
12	0	1.3	0	21		17		12
13	0	1.3	0	21		17		11
14	0	1.3	0	21	24	22		10
15	0	.5	0			0	28	9.0
16	0	0	0			0		
17	0	0	0	21	27	0		
18	0	0	0			0	27	
19	0	0	0			0	17	
20	0	0	0			0	19	
21	0	0	0	21	17	0	19	
22	0	0	1.8	21		29	19	
23	4.1	0	5.9	21		8.2	19	4.5
24	8.4	0	5.3	21	17	2.3	19	
25	7.7	0	0	21		0	20	
26	7.7	0	0	21		1.9	20	
27	1.8	0	0	21	17	5.6	20	
28	1.3	0	0	21		6.4	22	
29	1.3	0	0	21		8.4	22	
30	1.1	0	.9	21		8.4	23	0
31	1.1			21		8.4	24	

NOTE.—Mean discharge for period included in braces and daily discharge May 12–13, 22–23, July 27, Aug. 3, 20, 26, 31, Sept. 1, and 10 interpolated.

Monthly discharge of Willow Creek below reservoir near Malheur, Oreg., for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	8.4	0	1.15	71
November	1.3	0	.58	35
April	5.9	0	.46	27
May	24	1.4	18.7	1,150
June	34	17	22.2	1,320
July	29	0	10.4	640
August	30	8.4	23.6	1,450
September	24	0	10.2	607
The year	34	0	7.32	5,300

NOTE.—No flow during months for which no discharge is given.

SOUTH FORK OF PAYETTE RIVER NEAR GARDEN VALLEY, IDAHO

LOCATION.—In sec. 1, T. 8 N., R. 4 E., at Garden Valley ranger station, 300 feet above mouth of Station Creek, 4¾ miles above mouth of Middle Fork of Payette River, and 5 miles southeast of Garden Valley, Boise County.

DRAINAGE AREA.—779 square miles (measured on topographic maps).

RECORDS AVAILABLE.—May 15, 1921, to September 30, 1927.

EQUIPMENT.—Vertical staff on right bank directly to rear of ranger station; installed August 3, 1926. Discharge measurements made from cable 30 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed composed of rock overlain with cobbles and gravel. Control formed by well-defined riffle. One channel at all stages.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 7.60 feet June 8 (discharge, 9,660 second-feet); minimum discharge (estimated), 300 second-feet January 22–24.

1921–1927: Maximum discharge recorded, that of June 8, 1927; minimum discharge probably less than 300 second-feet December 18, 1924, following severe drop in temperature when stage-discharge relation was affected by ice.

DIVERSIONS AND REGULATION.—Practically none.

ACCURACY.—Stage-discharge relation permanent; slightly affected by ice. Rating curve well defined between 320 and 10,000 second-feet; checked closely by eight discharge measurements, ranging from 368 to 8,740 second-feet, made during current year. Gage read to hundredths once daily; record neither complete nor wholly reliable at times. Daily discharge ascertained by applying daily gage height to rating table except as indicated in footnote to table of daily discharge. Records fair.

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

Daily discharge, in second-feet, of South Fork of Payette River near Garden Valley, Idaho, for the year ending September 20, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			980	514		645	1,160	4,400	3,720	5,360	1,300	788
2			940	514		645	1,110	4,060	3,720	5,060	1,300	788
3			1,020	514	450	633	1,110	3,710	4,230	4,760	1,250	788
4	375	335	1,020	514		622	1,040	3,360	4,400	4,760	1,200	750
5			940	484	455	610	980	3,010	4,940	4,060	1,150	750
6			788	484		715	980	2,660	5,870	3,890	1,110	738
7	371		680	484			1,060		7,460	3,890	1,060	727
8			645	484		750	1,160	2,600	9,660	3,890	1,040	715
9			645	484	440		1,160		9,200	3,890	1,020	
10		350	645	484			1,060		8,750	3,560	1,020	
11	360		680	484		680	980	2,940	9,200	3,400	1,020	800
12			545	560	426	645	950	3,770	9,200	3,090	1,020	
13			484	545		680	1,060	4,600	8,750	2,940	1,090	
14		380		515		862	1,060	5,420	8,750	2,940	1,160	
15			350	485	450	825	1,200	6,250	8,750	2,780	1,110	750
16				455		715	1,250	6,850	8,310	2,610	1,020	750
17				426		750	1,220	8,750	7,880	2,440	980	750
18		420		426	484	715	1,200	7,050	7,880	2,280	940	741
19			550			680	1,090	5,900	8,090	2,160	940	722
20		825		400		645	980	4,760	8,310	2,030	900	702
21	340	825			600	645	1,060	4,060	7,880	2,030	900	683
22		825				645	1,060	3,720	7,880	1,790	875	664
23		825		300		680	1,110	3,560	7,880	1,790	850	645
24		900			645	700	1,510	3,400	7,460	1,790	825	645
25		980			680	715	2,280		7,460	1,790	806	680
26		788	500	425	680	750	3,400		8,530	1,740	788	645
27		715			645	788	4,060	3,600	7,460	1,680	788	645
28		645			645		3,890		6,250	1,600	788	1,060
29	330	825		426	-------	900	4,230		5,950	1,510	769	1,000
30		1,160		425	-------	980	4,230		5,650	1,440	750	
31		-------			-------	1,160	-------		-------	1,370	750	------

NOTE.—Discharge estimated on account of ice or missing or discredited gage heights Oct. 1–6, 8–31, Nov. 1–19, Dec. 14–31, Jan. 19–28, 30, 31, Feb. 1–4, 6–11, 13–17, 19–23, Mar. 7–10, 28, 29, May 7–10, 25–31, Sept. 9–14, 29, 30, by comparison with flow at station near Banks; interpolated Jan. 12, 14, 15, Mar. 1, 3, 4, 24, Apr. 4, 12, 17, 19, May 3–5, 12–14, 19, 23, June 22, 29, 30, July 1, 2, 8, 15–17, 19, 26, 28, 30, 31, Aug. 5, 6, 8, 11, 13, 22, 23, 25, 27, 29, Sept. 6, 7, and 18–22. Braced figures show mean discharge for periods indicated.

Monthly discharge of South Fork of Payette River near Garden Valley, Idaho, for the year ending September 30, 1927

[Drainage area, 779 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	----------	----------	351	0.451	0.52	21,600
November	1,160	----------	542	.696	.78	32,300
December	1,020	----------	608	.780	.90	37,400
January	560	----------	449	.576	.66	27,600
February	----------	----------	512	.657	.68	28,400
March	1,160	610	740	.950	1.10	45,500
April	4,230	950	1,620	2.08	2.32	96,400
May	8,750	----------	4,120	5.29	6.10	253,000
June	9,660	3,720	7,320	9.40	10.49	436,000
July	5,360	1,370	2,850	3.66	4.22	175,000
August	1,300	750	984	1.26	1.45	60,500
September	----------	645	764	.981	1.09	45,500
The year	9,660	----------	1,740	2.23	30.31	1,260,000

SOUTH FORK OF PAYETTE RIVER NEAR BANKS, IDAHO

LOCATION.—In sec. 28, T. 9 N., R. 3 E., 1 mile above junction with North Fork of Payette River, and 1½ miles northeast of Banks, Boise County.

DRAINAGE AREA.—1,200 square miles (measured on topographic maps).

RECORDS AVAILABLE.—August 19, 1921, to September 30, 1927.

EQUIPMENT.—Au continuous water-stage recorder on right bank installed September 12, 1922. Discharge measurements made from cable at gage.

CHANNEL AND CONTROL.—Bed composed of rock, boulders and sand. Banks steep. One channel at all stages. Control formed by well-defined rock and boulder riffle, 250 feet below gage; changes infrequently.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 10.6 feet morning of May 17, determined from high-water marks on staff when water-stage recorder was not recording properly (discharge, 13,800 sceond-feet); minimum stage, 0.17 foot 7 a. m. to noon January 22 (discharge, 338 second-feet).

1921–1927: Maximum stage recorded, that of May 17, 1927; minimum stage, 0.13 foot at noon December 30, 1925 (discharge, 322 second-feet). Slightly lower discharge may have occurred during winters following unusually cold periods.

DIVERSIONS AND REGULATION.—No diversions except a few small ranch ditches from tributaries in drainage basin above station; no regulation.

ACCURACY.—Stage-discharge relation permanent; slightly affected by ice December 14–18 and January 23–29. Rating curve well defined between 340 and 12,000 second-feet by discharge measurements made in 1925 and 1926 and checked closely by nine measurements, ranging from 453 to 11,200 second-feet, made during current year. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting recorder graph except as indicated in footnote to table of daily discharge. Records excellent except those for estimated periods, which are fair.

Daily discharge, in second-feet, of South Fork of Payette River near Banks, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	455	440	1,880	686	626	1,160	2,200	7,700	4,630	6,050	1,610	898
2	455	435	1,650	716	809	1,160	2,260	6,350	4,630	5,900	1,570	975
3	500	430	1,740	752	975	1,160	2,520	5,460	5,040	5,750	1,570	905
4	495	435	1,830	722	1,050	1,200	2,310	4,900	5,600	5,600	1,480	898
5	470	430	1,520	746	1,010	1,360	2,110	4,500	6,350	5,180	1,440	905
6	460	460	1,320	740	940	1,360	2,110	4,370	7,550	4,630	1,360	870
7	455	535	1,160	728	891	1,400	2,200	4,500	9,450	4,500	1,320	863
8	470	475	1,010	656	809	1,480	2,520	4,240	11,600	4,500	1,280	870
9	465	440	863	562	740	1,400	2,360	4,110	11,400	4,370	1,240	877
10	465	450	877	590	710	1,320	2,160	4,240	11,000	4,240	1,240	1,050
11	490	465	940	692	698	1,240	2,010	4,630	11,000	3,980	1,200	1,050
12	475	525	905	728	746	1,200	1,880	5,320	11,400	3,740	1,200	975
13	465	520	734	704	740	1,240	1,830	5,460	11,700	3,500	1,360	1,010
14	455	500		680	680	1,880	2,010	6,950	11,200	3,260	1,360	1,010
15	450	480	500	668	728	1,780	2,460	9,290	11,000	3,140	1,400	975
16	450	656		680	752	1,570	2,410	11,400	10,600	2,970	1,280	940
17	450	557		650	758	1,570	2,310	11,900	10,200	2,800	1,200	884
18	445	530	700	650	822	1,480	2,200	9,500	10,100	2,630	1,160	856
19	445	596	790	668	849	1,400	2,060	8,170	10,100	2,580	1,120	835
20	440	1,160	728	656	905	1,360	1,920	7,250	10,200	2,460	1,090	816
21	445	1,360	710	520	2,010	1,320	1,880	6,200	9,770	2,360	1,010	802
22	445	1,050	704	362	2,260	1,320	1,920	5,460	9,450	2,260	1,010	790
23	445	1,360	602	400	1,740	1,360	2,010	4,900	9,450	2,160	975	776
24	440	1,280	460		1,440	1,440	2,630	4,500	9,290	2,110	940	790
25	445	1,830	574		1,320	1,520	3,980	4,370	8,970	2,060	940	828
26	445	1,440	704	650	1,240	1,570	6,050	4,370	9,610	2,060	940	802
27	445	1,160	632		1,240	1,570	7,400	4,500	9,770	1,960	940	783
28	440	1,010	608		1,160	1,570	7,550	4,630	8,010	1,880	905	1,090
29	435	1,360	602			1,650	7,400	4,630	6,950	1,780	905	1,240
30	422	2,410	698	644	-------	1,920	7,400	4,630	6,500	1,700	898	1,160
31	422	-------	686	614	-------	2,260	-------	4,630	-------	1,650	891	-------

NOTE.—Stage-discharge relation affected by ice Dec. 14–18 and Jan. 23–26; water-stage recorder not operating properly May 16–18, June 8, 9, and 13; discharge estimated by comparison with flow at Garden Valley and Horseshoe Bend. Braced figures show mean discharge for periods indicated.

Monthly discharge of South Fork of Payette River near Banks, Idaho, for the year ending September 30, 1927

[Drainage area, 1,200 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	500	422	454	0.378	0.44	27,900
November	2,410	430	826	.688	.77	49,200
December	1,880	-------	898	.748	.86	55,200
January	752	362	641	.534	.62	39,400
February	2,260	626	1,020	.850	.89	56,600
March	2,260	1,160	1,460	1.22	1.41	89,800
April	7,550	1,830	3,070	2.56	2.86	183,000
May	11,900	4,110	5,910	4.92	5.67	363,000
June	11,700	4,630	9,080	7.57	8.45	540,000
July	6,050	1,650	3,350	2.79	3.22	206,000
August	1,610	891	1,190	.992	1.14	73,200
September	1,240	776	917	.764	.85	54,600
The year	11,900	362	2,400	2.00	27.18	1,740,000

PAYETTE RIVER AT BANKS, IDAHO

LOCATION.—In SE. ¼ sec. 29, T. 9 N., R. 3 E., three-eighths mile below confluence of North and South Forks of Payette River and one-fifth mile above railroad depot at Banks, Boise County.

DRAINAGE AREA.—2,120 square miles (measured on topographic maps).

RECORDS AVAILABLE.—May 31, 1922, to September 30, 1927.

EQUIPMENT.—Vertical staff in two sections on right bank; low-water section is 60 feet upstream from high-water section. Discharge measurements made from cable 125 feet below high-water gage.

CHANNEL AND CONTROL.—Bed composed of sand, gravel, and boulders. One channel at all stages. Control composed of large boulders; well defined and practically permanent prior to December 22, 1924, after which time several changes occurred by filling in and washing out of material on control caused by highway excavation on side hill above on left bank.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 13.7 feet at 8.30 and 11 a. m. June 14 (discharge, 22,300 second-feet); minimum stage, 2.12 feet October 30 (discharge, 655 second-feet).

1922–1927: Maximum stage and discharge recorded, that of June 14, 1927; minimum discharge recorded, 455 second-feet December 18, 1924.

DIVERSIONS AND REGULATION.—Several diversions for irrigation from tributaries above station. Spring and summer flow slightly affected by regulation at outlet of Payette Lake, 58 miles upstream. Between the stations at Banks and Horseshoe Bend the river leaves the granite and enters lava formation, and a loss occurs which ranges from 2 to nearly 4 per cent of the mean annual flow.

ACCURACY.—Stage-discharge relation not permanent; affected by ice January 22–27. Rating curves are well defined; based on discharge measurements for 1926 and nine measurements ranging from 841 to 22,000 second-feet and made during the current year. Gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table; shifting-control method used February 23 to June 13. Records good.

Daily discharge, in second-feet, of Payette River at Banks, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	670	670	4,340	1,390	1,180	2,430	3,800	14,400	9,450	12,600	2,230	1,410
2	670	685	3,930	1,540	1,500	2,320	4,060	12,700	9,310	11,900	2,140	1,480
3	740	685	4,340	1,500	1,760	2,320	4,600	11,200	9,800	11,000	2,140	1,440
4	702	685	4,200	1,580	2,030	2,430	4,480	9,890	10,900	10,500	2,050	1,440
5	702	670	3,760	1,670	2,030	2,430	4,060	9,450	12,300	9,420	1,880	1,410
6	805	740	3,310	1,760	1,940	2,430	4,060	8,820	13,700	8,780	1,880	1,350
7	830	740	2,860	1,710	1,840	2,430	4,480	8,610	16,800	8,570	1,800	1,350
8	855	740	2,540	1,670	1,840	2,540	5,250	8,200	20,700	8,150	1,760	1,350
9	830	720	2,120	1,580	1,760	2,430	4,480	8,000	19,500	8,150	1,680	1,350
10	855	720	2,220	1,540	1,670	2,220	4,200	8,200	19,900	7,350	1,650	1,380
11	882	740	2,120	1,470	1,630	2,220	3,930	9,030	20,800	6,770	1,620	1,440
12	830	855	2,100	1,430	1,580	2,120	3,670	9,670	21,100	6,390	1,650	1,580
13	830	830	1,840	1,430	1,540	2,120	3,800	10,100	21,400	6,030	1,800	1,720
14	805	805	1,120	1,390	1,470	3,080	4,480	11,900	22,100	5,680	1,800	1,650
15	782	782	938	1,360	1,500	2,970	5,580	14,800	21,000	5,340	1,880	1,680
16	760	1,150	1,320	1,390	1,500	2,750	5,580	17,600	20,400	4,850	1,800	1,650
17	760	855	1,580	1,390	1,500	2,750	5,250	20,000	19,900	4,540	1,680	1,580
18	740	910	1,710	1,390	1,540	2,640	4,630	17,400	19,600	4,390	1,650	1,410
19	702	1,280	1,840	1,320	1,580	2,430	4,200	16,100	19,400	3,820	1,580	1,410
20	720	2,220	1,670	1,280	1,710	2,430	3,670	15,400	19,100	3,690	1,540	1,380
21	702	2,430	1,630	1,060	2,640	2,320	3,670	13,900	18,300	3,430	1,480	1,320
22	702	2,220	1,470	800	2,970	2,430	4,060	12,700	18,100	3,310	1,440	1,320
23	702	2,540	1,320		2,750	2,540	4,480	11,200	17,800	2,960	1,380	1,260
24	702	2,640	1,180		2,640	2,640	5,920	10,300	17,300	2,960	1,350	1,290
25	685	3,200	1,220	1,150	2,640	2,750	8,200	10,600	16,800	2,850	1,320	1,320
26	685	2,860	1,360		2,640	2,750	11,500	11,200	18,100	2,850	1,260	1,260
27	685	2,540	1,250		2,430	2,800	13,600	11,500	16,800	2,740	1,260	1,180
28	670	2,320	1,430	1,280	2,430	2,860	13,900	11,900	15,300	2,630	1,260	1,960
29	670	2,640	1,470	1,220	-------	3,080	14,400	11,000	14,300	2,430	1,260	1,880
30	655	5,250	1,470	1,180	-------	3,430	13,900	10,300	13,300	2,430	1,240	1,760
31	670	-------	1,360	1,220	-------	3,930	--------	9,890	--------	2,330	1,320	------

NOTE.—Discharge estimated because of ice or missing gage heights Jan. 22–27, Dec. 12, and Apr. 3; interpolated Dec. 5, Mar. 27, May 15, June 5, and 12. Braced figures show mean discharge for periods indicated.

Monthly discharge of Payette River at Banks, Idaho, for the year ending September 30, 1927

[Drainage area, 2,120 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	882	655	742	0.350	0.40	45,600
November	5,250	670	1,540	.726	.81	91,600
December	4,340	938	2,100	.991	1.14	129,000
January	1,760		1,350	.637	.73	83,000
February	2,970	1,180	1,940	.915	.95	108,000
March	3,930	2,120	2,610	1.23	1.42	160,000
April	14,400	3,670	6,060	2.86	3.19	361,000
May	20,000	8,000	11,800	5.57	6.42	726,000
June	22,100	9,310	17,100	8.07	9.00	1,020,000
July	12,600	2,330	5,770	2.72	3.14	355,000
August	2,230	1,240	1,640	.774	.89	101,000
September	1,960	1,180	1,470	.693	.77	87,500
The year	22,100	655	4,510	2.13	28.86	3,270,000

PAYETTE RIVER NEAR HORSESHOE BEND, IDAHO

LOCATION.—In sec. 14, T. 7 N., R. 2 E., 100 feet east of tracks of Idaho Northern Branch of Oregon Short Line Railroad and 1½ miles northeast of Horseshoe Bend, Boise County.

DRAINAGE AREA.—2,230 square miles (measured on topographic and Land Office maps).

RECORDS AVAILABLE.—November 23, 1912 to September 30, 1916; July 27, 1919 to September 30, 1927. February 13, 1906, to November 22, 1912, at site in sec. 2, 2 miles upstream. Two small creeks enter between the two stations.

EQUIPMENT.—Au water-stage recorder on right bank; installed November 29, 1924. Discharge measurements made from cable 200 feet below gage.

CHANNEL AND CONTROL.—Bed of stream composed of cobbles and coarse gravel with a few large rocks. One channel at all stages. Contro' practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, from water-stage recorder, 9.27 feet at 7 a. m. June 13 (discharge, 21,000 second-feet); minimum stage recorded, 0.86 foot from 5 a. m. to 3 p. m. October 31 (discharge, 606 second-feet).

1906–1916, 1919–1927: Maximum stage recorded, 9.57 feet at 1 p. m. June 9, 1921 (discharge, 22,100 second-feet); minimum stage, 0.30 foot at 10 p. m. December 18, 1924 (discharge, 365 second-feet).

DIVERSIONS AND REGULATION.—Several diversions for irrigation from tributaries above station; none between this and the station at Banks. During irrigation season, flow past station slightly affected by regulation at outlet of Payette Lake 70 miles upstream.

ACCURACY.—Stage-discharge relation changed slightly immediately following high water on June 13; slightly affected by ice December 14–18 and January 22–29. From October 1 to June 13 rating curve used is well defined by nine discharge measurements ranging from 655 to 20,200 second-feet and made during this period; after June 13 curve used drawn on basis of five measurements, ranging from 1,270 to 16,900 second-feet and made after high water, and shape of previous curve. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height determined by inspection of recorder graph; shifting-control method used June 14–21. Records good.

Between the stations at Banks and Horseshoe Bend the river leaves the granite and enters lava formation, and a loss in flow occurs between these stations, as shown by the records.

Daily discharge, in second-feet, of Payette River near Horseshoe Bend, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	630	651	4,460	1,340	1,280	2,500	4,080	13,500	9,100	11,600	2,140	1,310
2	630	630	3,810	1,470	1,550	2,500	4,180	12,200	8,830	11,100	2,070	1,410
3	672	630	3,900	1,540	1,870	2,420	4,850	10,800	9,100	10,500	2,000	1,360
4	686	637	4,080	1,520	2,070	2,500	4,750	9,640	9,640	10,200	1,940	1,400
5	665	637	3,630	1,580	2,070	2,570	4,270	8,830	11,100	9,370	1,870	1,380
6	732	658	3,040	1,680	2,000	2,570	4,180	8,570	12,500	8,570	1,810	1,290
7	798	772	2,720	1,670	1,940	2,570	4,460	8,310	15,100	8,310	1,740	1,280
8	816	724	2,420	1,510	1,810	2,640	5,160	8,050	18,300	7,800	1,700	1,280
9	798	679	2,070	1,370	1,680	2,570	4,950	7,550	18,600	7,550	1,620	1,280
10	798	672	2,070	1,290	1,610	2,420	4,460	7,800	18,600	7,300	1,560	1,420
11	825	679	2,140	1,370	1,570	2,350	4,080	8,310	19,400	6,580	1,550	1,500
12	816	756	2,140	1,420	1,580	2,280	3,810	9,100	20,200	6,120	1,520	1,510
13	798	889	1,810	1,410	1,560	2,280	3,810	9,370	20,600	5,790	1,710	1,550
14	772	764	} 900	1,370	1,480	3,200	4,270	11,400	20,200	5,470	1,710	1,620
15	748	748		1,350	1,540	3,120	5,260	14,100	19,800	5,160	1,870	1,620
16	724	950		1,370	1,540	2,960	5,160	16,800	19,400	4,750	1,710	1,580
17	716	960	} 1,500	1,300	1,540	2,960	4,850	19,000	19,000	4,460	1,640	1,510
18	700	825		1,340	1,730	2,720	4,560	17,200	18,600	4,180	1,580	1,370
19	679	930	1,730	1,310	1,700	2,640	4,270	15,800	18,300	3,990	1,520	1,340
20	679	1,580	1,640	1,270	2,000	2,500	3,810	14,800	18,300	3,540	1,470	1,300
21	672	2,420	1,600	1,060	3,200	2,500	3,720	13,500	17,500	3,280	1,410	1,280
22	665	2,200	1,480	} 750	3,540	2,500	3,900	12,200	17,200	3,040	1,370	1,250
23	658	2,280	1,300		3,200	2,570	4,360	11,100	16,800	2,880	1,350	1,220
24	651	2,280	1,100		2,960	2,640	5,580	10,200	16,400	2,800	1,290	1,210
25	658	3,040	1,210		2,720	2,800	7,800	10,200	15,800	2,800	1,260	1,230
26	658	2,800	1,360	} 1,200	2,640	2,800	10,500	10,800	16,800	2,720	1,230	1,200
27	651	2,420	1,250		2,640	2,800	12,800	11,100	16,800	2,570	1,180	1,130
28	651	2,200	1,290		2,570	2,880	13,500	11,100	14,800	2,500	1,210	1,440
29	637	2,570	1,340		-------	3,040	13,500	10,800	13,500	2,420	1,190	1,810
30	624	4,850	1,400	1,220	-------	3,370	13,500	10,200	12,500	2,280	1,160	1,740
31	630	-------	1,360	1,180	-------	3,990	--------	9,640	--------	2,200	1,180	-------

NOTE.—Stage-discharge relation affected by ice Dec. 14-18, Jan. 22-29; discharge estimated on basis of weather records and flow at Banks and Emmett. Braced figures show mean estimated discharge for periods indicated.

Monthly discharge of Payette River near Horseshoe Bend, Idaho, for the year ending September 30, 1927

[Drainage area, 2,230 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	825	624	704	0.316	0.36	43,300
November	4,850	630	1,420	.637	.71	84,500
December	4,460	----------	2,000	.897	1.03	123,000
January	1,680	----------	1,300	.583	.67	79,900
February	3,540	1,280	2,060	.924	.96	114,000
March	3,990	2,280	2,710	1.22	1.41	167,000
April	13,500	3,720	5,950	2.67	2.98	354,000
May	19,000	7,550	11,400	5.11	5.89	701,000
June	20,600	8,830	16,100	7.22	8.06	958,000
July	11,600	2,200	5,540	2.48	2.86	341,000
August	2,140	1,160	1,570	.704	.81	96,500
September	1,810	1,130	1,390	.623	.70	82,700
The year	20,600	624	4,340	1.95	26.44	3,140,000

PAYETTE RIVER NEAR EMMETT, IDAHO

LOCATION.—In sec. 22, T. 7 N., R. 1 W., three-eighths mile below Black Canyon Dam and 5 miles northeast of Emmett, Gem County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—June 11, 1925, to September 30, 1927.

EQUIPMENT.—Au **water-stage recorder** on right bank; installed June 11, 1925. Discharge measurements made from cable 800 feet above gage.

CHANNEL AND CONTROL.—Bed composed of rock and coarse gravel. One channel at all stages. Control formed by well-defined rock and gravel riffle; permanent for long periods.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, from water-stage recorder, 12.6 feet at 11 a. m. May 17 (discharge, 21,400 second-feet); minimum stage recorded, 1.62 feet at 9.30 a. m. October 19 (discharge, 159 second-feet).

1925–1927: Maximum stage and discharge recorded on May 17, 1927; minimum stage, 1.17 feet from 3 to 4.30 p. m. March 3 (discharge, 56 second-feet).

DIVERSIONS AND REGULATION.—Numerous canals divert water for irrigation above and below station. Flow past gage regulated at times by operation of gates in Black Canyon Dam and by storage of water in Payette Lake.

ACCURACY.—Stage-discharge relation permanent; not affected by ice. Rating curve is well defined between 250 and 21,000 second-feet; based on preceding curve and 14 discharge measurements ranging from 603 to 19,700 second-feet and made during current year. Operation of water-stage recorder satisfactory except for short breaks in record. Daily discharge ascertained by applying to rating table mean daily gage height determined by inspection of recorder graph. Records excellent except those for estimated periods, which are fair.

COOPERATION.—Gage-height record furnished by United States Bureau of Reclamation.

Daily discharge, in second-feet, of Payette River near Emmett, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	400	935	5,750	1,110		3,330	4,980	15,000	9,790	11,800	1,810	773
2	392	945	4,620	1,300		3,260	4,980	13,800	9,790	11,400	1,680	905
3	385	915	4,530	1,880		3,190	5,950	11,800	9,790	10,500	1,630	985
4	385	886	4,800	2,010		3,190	5,950	10,700	10,500	10,000	1,590	975
5	415	895	4,360	2,250		3,400		10,000	11,600	9,350	1,490	985
6	422	965	3,780	2,070		3,400	5,500	9,130	13,000	8,690	1,360	905
7	484	915	3,190	1,950		3,330		9,130	15,500	8,250	1,350	857
8	605	1,020	2,910	1,850	1,900	3,400		8,690	18,200	7,820	1,320	810
9	605	1,020	2,640	1,720		3,260	6,150	8,250	19,600	7,610	1,270	810
10	597	965	2,320	1,630		3,120	4,980	8,250	19,000	7,190	1,080	975
11	580	935	2,320	1,630		2,980	4,800	8,690	19,600	6,560	1,120	1,150
12	666	985	2,440	1,620		2,910		9,570	20,400	5,950	1,120	1,080
13	648	985	2,250	1,630		2,910	5,000	10,000	20,600	5,750	1,180	1,110
14	622	1,010	1,670	1,630		4,980		11,800	20,400	5,170	1,360	1,260
15	605	985	1,130	1,630		4,530	5,950	13,500	20,100	4,800	1,600	1,360
16	719	995	1,100	1,690		4,270	5,950	17,200	19,600	4,530	1,410	1,320
17	819	1,120	1,520	1,660		3,860	5,550	19,600	19,000	4,100	1,270	1,230
18	838	985	1,840	1,620	2,400	3,700	4,980	18,500	18,800	3,780	1,240	1,200
19	755	985	2,010	1,660		3,400	4,530	16,500	18,500	3,630	1,150	1,080
20	819	1,290	1,950	1,640	5,360	3,190	4,180	15,500	18,500	3,190	1,070	955
21	848	2,380	1,950	1,460	6,150	3,190	4,270	14,000	17,700	2,840	995	945
22	905	2,510	1,840	1,130	5,550	3,190	4,270	13,000	17,500	2,640	935	975
23	985	2,580	1,570	995	4,710	3,190	4,800	11,800	17,000	2,510	915	985
24	800	2,640	1,240	1,140	4,100	3,480	5,950	10,900	16,700	2,440	886	955
25	915	3,400	1,230	1,280	3,700	3,480	8,690	10,700	16,200	2,330	791	895
26	975	3,560	1,440	1,270	3,700	3,480	11,800	11,400	16,700	2,330	746	925
27	965	3,050	1,480	1,220	3,630	3,480	14,200	11,600	17,500	2,320	755	905
28	975	2,640	1,390	1,290	3,400	3,560	15,000	11,800	15,200	2,130	737	975
29	935	3,050	1,420		-------	3,560	15,000	11,600	13,800	1,950	1,050	1,690
30	905	5,550	1,540	1,300	-------	3,940	15,000	11,200	12,800	1,890	857	1,690
31	828	-------	1,370		-------	4,620	-------	10,500	-------	1,870	764	------

NOTE.—Braced figures show estimated mean discharge for periods indicated; based on comparison with flow at Horseshoe Bend.

Monthly discharge of Payette River near Emmett, Idaho, for the year endin September 30, 1927

Month	Discharge in second-feet			Run-off ir acre-feet
	Maximum	Minimum	Mean	
October	985	385	703	43,2(
November	5,550	886	1,700	101,0(
December	5,750	1,100	2,370	146,0(
January	2,250	995	1,540	94,70
February	6,150		2,800	156,0(
March	4,980	2,910	3,510	216,0(
April	15,000	4,180	6,830	406,0(
May	19,600	8,250	12,100	744,0(
June	20,600	9,790	16,400	976,0(
July	11,800	1,870	5,340	328,0(
August	1,810	737	1,180	72,6(
September	1,690	773	1,060	63,10
The year	20,600	385	4,620	3,350,0(

DEADWOOD RIVER AT BEAVER CREEK RANGER STATION, NEAR LOWMAN, IDAHO

LOCATION.—In NE. ¼ sec. 17, T. 11 N., R. 7 E., immediately below dam site a lower end of Deadwood Basin, Valley County, 900 feet above mouth of Wilsor Creek, three-quarters of a mile below Beaver Creek ranger station, and 1! miles north of Lowman.

DRAINAGE AREA.—108 square miles (measured in Forest Service maps).

RECORDS AVAILABLE.—October 1, 1926, to September 30, 1927.

EQUIPMENT.—Au water-stage recorder on left bank; installed October 4, 1926 Prior to this date a staff gage at same site and datum was used. Discharge measurements made from cable 75 feet below gage or by wading. Elevation of zero at gage, 5,186.37 feet, mean sea-level datum.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, from water-stage recorder, 5.58 feet from 10 p. m. to midnight June 12 (discharge, 2,10(second-feet); minimum stage recorded, 1.54 feet October 1 and 6 (discharge, 53 second-feet). Slightly lower stage and discharge probably occurred during later part of October and first part of November when records were not collected.

DIVERSIONS AND REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent, except as affected by ice; records discontinued during winter. Rating curve, based on 29 discharge measurements made during current year, is well defined between 50 and 2,400 second-feet. Operation of water-stage recorder satisfactory; staff gage read to hundredths once daily was used October 1–3 and 6. Daily discharge ascertained by applying to rating table mean daily gage height determined by inspection of recorder graph, except for days staff gage only was read as noted above. Records excellent.

Daily discharge, in second-feet, of Deadwood River at Beaver Creek ranger station, near Lowman, Idaho, for the year ending September 30, 1927

Day	Oct.	Apr.	May	June	July	Aug.	Sept.
1	53		630	680	905	190	124
2	58		521	741	875	187	122
3	68		471	833	833	183	111
4	60		434	965	803	176	113
5	57		430	1,130	730	172	110
6	53		437	1,360	670	167	104
7			456	1,690	655	161	104
8			423	2,010	635	157	104
9			430	1,920	605	155	111
10			475	1,870	557	151	141
11			575	1,870	513	149	137
12			635	1,960	471	161	122
13			741	2,010	444	167	128
14			998	1,870	419	183	124
15			1,280	1,870	395	170	119
16			1,400	1,780	371	155	111
17		124	1,400	1,740	348	145	106
18		120	1,360	1,740	330	141	103
19		115	1,200	1,740	311	137	101
20		110	998	1,740	297	135	98
21		113	845	1,640	285	130	96
22		120	774	1,600	272	126	95
23		137	724	1,560	258	122	93
24		192	724	1,520	253	122	100
25		280	827	1,480	261	120	101
26		388	935	1,440	237	119	95
27		479	935	1,400	225	117	92
28		544	875	1,200	215	115	176
29		566	746	1,060	208	113	157
30		615	686	998	201	111	145
31			675		196	110	

NOTE.—No gage-height record Oct. 7 to Apr. 16.

Monthly discharge of Deadwood River at Beaver Creek ranger station, near Lowman, Idaho, for the year ending September 30, 1927

[Drainage area, 108 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October 1-6	68	53	58.2	0.539	0.12	693
April 17-30	615	110	279	2.58	2.34	7,750
May	1,400	423	775	7.18	8.28	47,700
June	2,010	680	1,510	14.0	15.62	89,800
July	905	196	444	4.11	4.74	27,300
August	190	110	147	1.36	1.57	9,040
September	176	92	115	1.06	1.18	6,840

DEADWOOD RIVER NEAR LOWMAN, IDAHO

LOCATION.—In sec. 29, T. 9 N., R. 7 E., 600 feet above bridge on Garden Valley-Lowman highway, 700 feet above confluence with South Fork of Payette River, and 2½ miles west of Lowman, Boise County.

DRAINAGE AREA.—201 square miles (measured on Forest Service maps).

RECORDS AVAILABLE.—August 11, 1921, to September 30, 1927.

EQUIPMENT.—Stevens continuous water-stage recorder on left bank. Discharge measurements made from highway bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of gravel and boulders; rough. Banks fairly low but not subject to overflow; gradient steep. Control fairly well defined, wide, and not sensitive; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 5.05 feet at 1 to 3 a. m. May 17 (discharge, 4,090 second-feet); minimum stage recorded, 1.21 feet at 3 to 4 p. m. October 30 (discharge, 66 second-feet).

1921–1927: Maximum stage and discharge recorded, that of May 17, 1927; minimum discharge, that of October 30, 1926. Lower discharge may have occurred about December 18, 1924, during extreme cold period.

DIVERSIONS AND REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent except as affected by ice. Rating curve, based on preceding curve and nine discharge measurements ranging from 92 to 3,200 second-feet and made during the current year, is well defined between 90 and 3,500 second-feet. Operation of water-stage recorder satisfactory except during winter, when its use was discontinued on account of ice, and staff gage was read to hundredths occasionally. Daily discharge ascertained by applying to rating table mean daily gage height determined from inspection of recorder graph. Records good except those for estimated periods, which are fair.

COOPERATION.—Services of observer furnished by United States Forest Service.

Daily discharge, in second-feet, of Deadwood River near Lowman, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	99	90	304				296	1,610	1,300	1,520	334	196
2	101	88	291				300	1,270	1,400	1,450	334	202
3	113	90	308				308	1,140	1,560	1,380	330	173
4	108	88	313				287	1,020	1,820	1,330	313	176
5	104	86	256				271	1,000	2,060	1,250	300	176
					140							
6	101	95	223			150	279	1,010	2,460	1,150	283	173
7	99	95	182				296	1,070	3,040	1,070	275	176
8	101	80	152				334	990	3,820	1,010	268	176
9	99	86	133				317	980	3,480	930	260	199
10	104	86					287	1,080	3,390	893	252	268
				130								
11	110	90	120				275	1,270	3,300	790	241	283
12	104	95				130	275	1,460	3,390	766	252	256
13	101	91				170	275	1,590	3,390	712	268	256
14	101	84				205	330	2,140	3,130	682	283	248
15	101	91				186	415	2,710	3,130	661	268	230
			90		130							
16	101	136				167	390	3,390	2,880	626	230	216
17	101	93				173	375	3,560	2,790	586	223	205
18	101	104				164	357	2,710	2,790	540	223	196
19	99	99				161	330	2,300	2,790	504	223	189
20	99	264				158	300	1,980	2,710	474	219	179
21	99	268				152	300	1,680	2,540	452	219	173
22	99	230		80		161	317	1,490	2,460	430	216	164
23	97	271				173	346	1,370	2,460	415	209	161
24	99	291	110			186	504	1,340	2,380	405	205	167
25	95	326			150	202	766	1,520	2,300	436	202	167
26	95	230				199	1,090	1,770	2,540	400	199	155
27	93	192		120		212	1,340	1,830	2,220	380	196	149
28	91	167				219	1,420	1,710	1,910	362	196	300
29	86	212			-------	241	1,460	1,490	1,760	352	192	291
30	84	330			-------	279	1,540	1,350	1,640	348	186	260
31	91	-------			-------	321	-------	1,300	-------	339	179	-------

NOTE.—Discharge estimated because of ice or missing gage heights Dec. 10 to Mar. 11, based on flow of other streams in the same basin and upon weather records. Braced figures show mean discharge for periods indicated.

Monthly discharge of Deadwood River near Lowman, Idaho, for the year ending September 30, 1927

[Drainage area, 201 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	113	84	99.2	0.494	0.57	6,100
November	330	80	152	.756	.84	9,040
December	313	----------	147	.731	.84	9,040
January	----------	----------	123	.612	.71	7,560
February	----------	----------	139	.692	.72	7,720
March	321	----------	178	.886	1.02	10,900
April	1,540	271	513	2.55	2.84	30,500
May	3,560	980	1,650	8.21	9.46	101,000
June	3,820	1,300	2,560	12.7	14.17	152,000
July	1,520	339	730	3.63	4.18	44,900
August	334	179	244	1.21	1.40	15,000
September	300	149	205	1.02	1.14	12,200
The year	3,820	----------	562	2.80	37.89	406,000

PAYETTE LAKE AT LARDO, IDAHO

LOCATION.—In sec. 8, T. 18 N., R. 3 E., at outlet of lake at Lardo, Valley County.

DRAINAGE AREA.—131 square miles (measured on topographic and Land Office maps).

RECORDS AVAILABLE.—Fragmentary records August 1, 1921, to September 30, 1927.

EQUIPMENT.—Vertical staff on tubular pier of highway bridge near right bank. Gage datum is 4,984.17 feet above mean sea level.

EXTREMES OF STAGE.—Maximum stage recorded during year, 5.75 feet June 15; minimum stage, 0.52 foot October 8.

1923–1927: Maximum stage recorded, 5.75 feet June 15, 1927; minimum stage recorded, −0.27 foot September 17, 1924. Records insufficient to warrant publication of extremes for 1921 and 1922.

DIVERSIONS AND REGULATION.—Water has been stored in Payette Lake since 1919 for irrigation use in Payette Valley 100 miles below. From 1919 to 1923, a small amount of regulation was effected during July, August, and September, by installation and later gradual removal of temporary dam above highway bridge. In the fall of 1923 a more permanent dam was installed 250 feet below highway bridge; thereafter regulation effected by operation of flashboards in dam. No storage effective prior to 1919.

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

Daily gage height, in feet, of Payette Lake at Lardo, Idaho, for the year ending September 30, 1927

Day	Oct.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1											
2						1.80			4.10		
3								3.48			2.60
4							3.12	3.60			
5											
6										3.35	
7							2.90			3.30	
8	0.52										
9						1.83			3.50		
10					1.80						2.32
11								5.55	3.28		
12											
13										3.20	
14							3.25				
15			1.87	1.83	1.84			5.75			
16						1.86			2.75		
17											2.15
18	.76										
19											
20								5.50		3.18	
21				1.70		1.84	4.15				
22											
23						1.88			2.25		
24											
25								5.10			
26					1.77						2.12
27								5.25		3.08	
28				1.96			4.05				
29											
30	.68	1.88				2.94			3.33		
31			1.80								

NOTE.—No storage regulation in lake during year prior to July 17, on which date flashboards were placed in dam below outlet of lake. Storage water was gradually released by operation of flashboards beginning Aug. 28.

NORTH FORK OF PAYETTE RIVER AT LARDO, IDAHO

LOCATION.—In sec. 8, T. 18 N., R. 3 E., a quarter mile below Lardo, Valley County, and outlet of Payette Lake. No tributaries enter between lake and gage.

DRAINAGE AREA.—131 square miles (measured on topographic and Land Office maps).

RECORDS AVAILABLE.—September 1, 1908, to June 30, 1917; May 24, 1919, to September 30, 1927.

EQUIPMENT.—Au water-stage recorder on left bank; installed March 14, 1926. Discharge measurements made from cable half a mile below gage or by wading.

CHANNEL AND CONTROL.—Bed of stream and control composed of boulders, cobbles, and gravel; slightly shifting. One channel at all stages.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, from water-stage recorder, 6.67 feet from 6 to 10 a. m. June 14 (discharge, 3,460 second-feet); minimum stage recorded, 0.87 foot October 22, 24, and 25 (discharge, 1.4 second-feet).

1908–1917, 1919–1927: Maximum stage recorded, 7.5 feet June 5, 1909 (discharge, 4,250 second-feet); minimum stage, that of October 22, 24, and 25, 1926.

DIVERSIONS AND REGULATION.—No diversions above gage. Flow during irrigation season partly regulated by changing flashboards in dam installed in October and November, 1923, at outlet of Payette Lake.

ACCURACY.—Stage-discharge relation permanent except during period February 21 to March 15, when tree was lodged on control; not affected by ice because of close proximity to lake. Rating curve is well defined below 3,500 second-feet; based on preceding curve and 16 discharge measurements made during 1926 and 1927, of which eight measurements, ranging from 105 to 3,380 second-feet, were made during current year; curve used during period affected by tree on control was based on one discharge measurement made March 10. Operation of water-stage recorder satisfactory except December 21–29, January 1–14, 24–30, and February 6–14. Daily discharge ascertained by applying to rating table mean daily gage height determined by inspection of recorder graph except as noted above. Records excellent except those for estimated periods, which are fair.

COOPERATION.—Services of observer furnished by United States Forest Service.

Daily discharge, in second-feet, of North Fork of Payette River at Lardo, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.8	1.9	330		150	143	111	900	1,200	2,020	98	221
2	2.7	2.3	400		168	143	127	935	1,200	1,870	96	205
3	2.7	2.4	480		168	143	143	900	1,280	1,770	91	190
4	2.5	2.7	515		179	138	141	868	1,450	1,680	89	182
5	2.4	2.8	505		185	134	136	816	1,630	1,630	86	171
6	2.4	2.8	480			127	132	758	1,920	1,500	84	160
7	2.3	6.2	445	150		121	132	716	2,370	1,410	81	153
8	2.2	14	413			117	132	668	2,810	1,320	79	141
9	2.2	3.6	372			111	134	617	3,160	1,280	76	134
10	2.2	4.9	346		160	109	138	600	3,160	1,160	73	134
11	2.3	18	326			111	136	628	3,160	1,120	72	148
12	2.2	14	299			113	134	680	3,160	1,010	69	211
13	2.2	13	272			117	132	746	3,340	935	69	202
14	2.2	13	237			132	132	900	3,340	835	63	196
15	2.2	14	221	150	134	136	138	1,240	3,340	728	65	93
16	1.9	16	211	150	134	134	143	1,720	3,220	668	63	47
17	2.1	16	202	145	132	132	143	2,320	3,100	507	62	47
18	1.8	16	205	148	132	132	148	2,420	3,100	69	60	47
19	1.7	20	205	153	134	125	143	2,320	3,100	66	59	47
20	1.6	36	208	166	143	119	143	2,060	3,100	65	58	45
21	1.5	52		166	148	115	138	1,820	3,040	67	56	45
22	1.4	69		160	155	113	143	1,580	2,980	75	56	45
23	1.5	91		155	155	111	150	1,410	2,930	84	55	44
24	1.4	121			160	111	158	1,280	2,810	93	52	43
25	1.4	166	175		158	109	185	1,280	2,700	102	50	32
26	1.5	193		145	153	107	251	1,450	2,870	109	43	24
27	1.5	211			150	105	350	1,630	2,980	109	42	23
28	1.5	221			148	103	480	1,680	2,640	107	87	23
29	1.6	258			-------	102	617	1,540	2,420	107	224	22
30	1.5	299	160		-------	102	758	1,410	2,220	105	211	21
31	1.6	-------	160	138	-------	109	-------	1,280	-------	100	205	------

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

Monthly discharge of North Fork of Payette River at Lardo, Idaho, for the year ending September 30, 1927

[Drainage area, 131 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	2.8	1.4	1.97	0.015	0.02	121
November	299	1.9	63.4	.484	.54	3,770
December	515	----------	276	2.11	2.43	17,000
January	----------	----------	150	1.15	1.33	9,220
February	----------	----------	154	1.18	1.23	8,550
March	143	102	120	.916	1.06	7,380
April	758	111	198	1.51	1.68	11,800
May	2,420	600	1,260	9.62	11.09	77,500
June	3,340	1,200	2,660	20.3	22.65	158,000
July	2,020	65	732	5.59	6.44	45,000
August	224	42	83.0	.634	.73	5,100
September	221	21	103	.786	.88	6,130
The year	3,340	1.4	483	3.69	50.08	350,000

LAKE FORK OF PAYETTE RIVER ABOVE RESERVOIR NEAR McCALL, IDAHO

LOCATION.—In NW. ¼ sec. 8, T. 18 N., R. 4 E., 700 feet above highway bridge, three-fourths mile below power plant, and 5 miles east of McCall, Valley County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—May 9, 1926, to September 30, 1927.

EQUIPMENT.—Vertical staff gage on left bank. Discharge measurements made from highway bridge or by wading.

CHANNEL AND CONTROL.—Bed of fine gravel with some cobblestones and boulders. One channel at all stages. Control formed by well-defined gravel riffle; subject to change.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 6.10 feet June 8 (discharge, 1,870 second-feet); minimum stage, 0.46 foot October 1, 2 (discharge, 22 second-feet).

1926–1927: Maximum stage recorded, that of June 8, 1927; minimum stage, 0.31 foot August 15, 1926 (discharge, 9 second-feet).

DIVERSIONS AND REGULATION.—Water is diverted about 1½ miles above gage and carried through pipe line to 250 horse-power plant three-fourths mile above gage. No effective regulation.

ACCURACY.—Stage-discharge relation changed May 16–20; observations discontinued during winter. Rating curve used October 1 to May 15 well defined below 300 second-feet by seven discharge measurements ranging from from 19 to 279 second-feet, two of which were made during current year; curve extended above 300 second-feet. Curve used May 21 to September 30 well defined below 1,200 second-feet, based upon preceding curve and six discharge measurements made during current year and ranging from 59 to 1,030 second-feet, above which it is an extension. Gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records good for limits of well-defined curves; others fair.

COOPERATION.—Gage-height record furnished by Lake Irrigation District.

Daily discharge, in second-feet, of Lake Fork of Payette River above reservoir near McCall, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Apr.	May	June	July	Aug.	Sept.
1	22	26	-------	541	356	666	79	37
2	22	26	-------	424	418	556	78	32
3	35	26	55	312	592	520	73	29
4	35	26	53	268	592	629	67	36
5	30	24	52	254	820	485	64	31
6	29	33	50	228	1,230	485	60	30
7	35	32	53	228	1,440	520	57	30
8	29	26	54	241	1,870	485	55	30
9	23	-------	52	228	1,140	418	53	32
10	36	-------	50	241	1,020	386	49	48
11	36	-------	48	375	1,270	328	47	48
12	35	-------	48	375	1,140	302	93	42
13	34	-------	49	507	1,270	290	60	53
14	35	-------	57	872	1,190	278	66	50
15	34	-------	74	951	1,060	244	60	55
16	36	-------	65	1,150	1,100	233	55	66
17	54	-------	63	1,140	1,140	212	50	61
18	41	-------	59	768	1,190	202	46	36
19	37	-------	57	647	1,190	192	44	36
20	34	-------	55	460	1,020	182	42	32
21	34	-------	67	371	1,140	164	40	32
22	32	-------	62	342	1,060	155	36	30
23	31	-------	69	302	1,060	141	34	30
24	30	-------	96	328	1,020	135	36	34
25	30	-------	162	485	1,100	136	34	30
26	36	-------	268	592	1,270	119	33	28
27	34	-------	507	520	781	108	33	28
28	30	-------	576	418	781	99	32	36
29	32	-------	611	356	666	92	31	68
30	34	-------	576	356	666	86	31	57
31	28	-------	-------	356	-------	81	30	-------

Monthly discharge of Lake Fork of Payette River above reservoir near McCall, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	54	22	33.0	2,030
November 1-8	33	24	27.4	435
April 3-30	611	48	142	7,890
May	1,150	228	472	29,000
June	1,870	356	1,020	60,700
July	666	81	288	17,700
August	93	30	50.6	3,110
September	68	28	39.6	2,360

LAKE FORK RESERVOIR NEAR McCALL, IDAHO

LOCATION.—In NW. ¼ NW. ¼ sec. 13, T. 18 N., R. 3 E., 3 miles east of McCall, Valley County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—April 22, 1926, to September 30, 1927.

EQUIPMENT.—Gage consists of graduations painted on concrete gate control tower in center of dam at upper end of tunnel outlet; set to read sea-level elevations.

EXTREMES OF CONTENTS.—Maximum stage recorded during year, 5,115.7 feet June 9, 27, and 28 (contents, 14,920 acre-feet); reservoir empty September 26–30.

1926–1927: Maximum and minimum stage and contents occurred in 1927.

COOPERATION.—Gage-height record furnished by Lake Irrigation District.

Water stored in this reservoir is used for irrigation of about 6,800 acres of land near Norwood. Elevation of spillway crest is 5,112.0 feet at which stage approximately 1,500 acres are submerged. Elevation of gate sill of outlet is 5,097.0 feet, and elevation of top of dam is 5,120.0 feet. Provision has been made for installation of temporary flashboards in spillway to raise the water level an additional 1½ feet.

Daily contents, in acre-feet, of Lake Fork Reservoir near McCall, Idaho, for the year ending September 30, 1927

Day	Oct.	May	June	July	Aug.	Sept.	Day	Oct.	May	June	July	Aug.	Sept.
1	2,967		12,320	13,850	8,838	4,266	16		9,379	14,310	12,020	6,535	2,044
2	2,967		12,320	13,390	8,703	4,173	17		11,570	14,000	11,870	6,418	1,800
3			12,320	13,230	8,568	3,987	18		14,620	14,000	11,870	6,186	1,444
4			12,350	12,930	8,298	3,894	19		13,850	14,000	11,720	6,128	1,232
5			12,320	12,930	8,028	3,801	20		13,390	13,850	11,570	5,954	969
6			12,320	12,780	7,903	3,708	21		13,080	13,850	11,420	5,838	775
7			13,230	12,320	7,651	3,615	22		13,080	14,000	11,120	5,606	530
8	969		14,310	12,170	7,525	3,534	23		13,080	14,310	10,970	5,510	336
9			14,920	12,320	7,399	3,372	24		12,930	14,310	10,670	5,288	240
10			14,620	12,470	7,147	3,210	25		12,930	14,310	10,390	5,182	96
11		7,903	14,620	12,320	7,021	3,048	26		12,930	14,620	10,240	5,076	0
12		7,903	14,620	12,320	6,895	2,887	27		12,930	14,920	9,954	4,970	0
13		8,028	14,620	12,320	6,769	2,665	28		12,930	14,920	9,810	4,864	0
14		8,028	14,620	12,320	6,769	2,455	29		12,620	14,620	9,522	4,547	0
15		8,703	14,340	12,170	6,652	2,245	30		12,320	14,310	9,379	4,453	0
							31		12,320		9,108	4,359	

LAKE IRRIGATION DISTRICT CANAL NEAR McCALL, IDAHO

LOCATION.—In SW. ¼ sec. 13, T. 18 N., R. 3 E., 600 feet below head of canal, half a mile south of Lake Fork Reservoir, and 3 miles east of McCall, Valley County.

RECORDS AVAILABLE.—May 9, 1926, to September 30, 1927.

EQUIPMENT.—Vertical staff gage on right bank; installed July 28, 1926. Discharge measurements made from footbridge 150 feet above gage.

CHANNEL AND CONTROL.—Bed of fine gravel. One channel at all stages. Control not definitely defined.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 4.62 feet at 8.10 a. m. June 27 (discharge, 106 second-feet); canal reported dry during fall and winter.

1926–1927: Maximum stage and discharge recorded, that of June 27, 1927; canal dry for long periods each year during nonirrigation seasons.

DIVERSIONS AND REGULATION.—No diversions above gage. Flow regulated at head gate 600 feet upstream.

ACCURACY.—Stage-discharge relation permanent; no flow during winter. Rating curve is well defined and based on preceding curve and five discharge measurements, ranging from 2.6 to 106 second-feet and made during current year. Gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table except as noted in footnote to table of daily discharge. Records good.

COOPERATION.—Gage-height record furnished by Lake Irrigation District.

Lake Irrigation District Canal diverts water from right bank of Lake Fork of Payette River in SW. ¼ sec. 13, T. 18 N., R. 3 E., for irrigation of 6,800-acre project of the Lake Irrigation District, situated near McCall and Norwood.

Daily discharge, in second-feet, of Lake Irrigation District Canal near McCall, Idaho, for the year ending September 30, 1927

Day	Oct.	May	June	July	Aug.	Sept.	Day	Oct.	May	June	July	Aug.	Sept.
1	18	------	10	105	74	34	16	------	------	42	98	56	17
2	18	------	12	105	74	34	17	------	------	60	98	56	17
3	}	------	17	105	74	34	18	------	14	80	98	56	17
4		------	13	105	74	34	19	------	19	88	98	56	17
5	3	------	24	105	72	34	20	------	15	88	98	56	17
6	}	------	25	105	67	34	21	------	15	88	98	56	17
7		------	14	105	64	34	22	------	15	95	98	56	17
8	2.6	------	8.1	105	63	34	23	------	15	98	98	56	17
9	------	------	8.1	104	60	34	24	------	15	98	98	56	17
10	------	------	8.1	102	58	30	25	------	15	98	98	56	17
11	------	------	8.1	102	56	27	26	------	15	102	98	56	17
12	------	------	8.1	99	56	21	27	------	15	106	94	56	17
13	------	------	12	98	56	17	28	------	10	105	85	56	17
14	------	------	20	98	56	17	29	------	8.1	105	79	56	17
15	------	------	27	98	56	17	30	------	8.1	105	74	56	17
							31	------	8.1	------	74	42	------

NOTE.—Discharge estimated Oct. 3–7, because of missing gage heights; on May 18, 28, June 7, 14–18, 22, and Aug. 31, discharge was determined by means of observer's record of changes at the head gates in canal. Braced figure shows mean discharge for period indicated.

Monthly discharge of Lake Irrigation District Canal near McCall, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October 1–8	18	2.6	6.70	106
May 18–31	19	8.1	13.4	372
June	106	8.1	52.4	3,120
July	105	74	97.6	6,000
August	74	42	59.4	3,650
September	34	17	23.0	1,370

SQUAW CREEK NEAR GROSS, IDAHO

LOCATION.—In sec. 19, T. 13 N., R. 2 E., at mouth of Cold Spring Creek, 2 miles southeast of Mill Creek ranger station, 10 miles north of Gross, Gem County, and 19 miles north of Ola. Prior to April 27, 1927, record includes flow of Cold Spring Creek.

DRAINAGE AREA.—21 square miles (measured on topographic maps).

RECORDS AVAILABLE.—May 26, 1925, to November 4, 1927, when station was discontinued.

EQUIPMENT.—Au continuous water-stage recorder on left bank. Discharge measurements made from footbridge 15 miles below gage or by wading.

CHANNEL AND CONTROL.—Bed composed of gravel and boulders. One channel at all stages. Gradient is steep. Control fairly well defined; subject to change at high stages.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, from water-stage recorder, 3.77 feet at 5 to 6 a. m. June 26 (discharge, 1,010 second-feet); minimum stage recorded, 0.80 foot from noon to 1 p. m. October 30 (discharge, 1.7 second-feet).

1925–1927: Maximum stage and discharge recorded, that of June 26, 1927; minimum stage, 0.80 foot at 1 to 2 p. m. September 25, and from noon to 1 p. m. October 30, 1926 (discharge, 1.7 second-feet).

DIVERSIONS AND REGULATION.—None above gage.

ACCURACY.—Stage-discharge relation not permanent; changed May 14–17. Observations discontinued during winter. Rating curves applicable October 1 to May 13 are based on four discharge measurements, made during this period, and shape of previous curve; after high water of May 14–17 curve used well defined below 75 second-feet and poorly defined above 150 second-feet, based on five measurements ranging from 8.5 to 306 second-feet. Operation of water-stage recorder satisfactory except October 8–24, 1926. Daily discharge ascertained by applying to rating table mean daily gage height determined by inspection of recorder graph. Shifting-control method used November 30 to December 13 and April 14 to May 17. Records good except those for May and June, which are poor.

Daily discharge, in second-feet, of Squaw Creek near Gross, Idaho, for the period October 1, 1926, to November 4, 1927

Day	Oct.	Nov.	Dec.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
1	3.3	3.2	82	------	48	195	150	193	18	7.0	9.0	9.0
2	3.7	3.0	82	------	53	155	157	178	17	7.0	9.4	9.8
3	5.7	3.2	83	------	52	140	197	181	16	6.7	10	11
4	4.3	3.4	83	------	45	130	246	164	15	6.7	13	12
5	3.7	3.4	57	------	42	124	301	136	13	6.7	9.4	------
6	3.5	4.8	44	------	44	121	370	136	13	6.7	8.0	------
7	3.5	6.0	36	------	52	121	498	130	12	6.4	8.0	------
8	}	3.5	30	------	56	114	616	122	12	6.4	8.0	------
9		4.0	29	------	50	116	492	110	11	6.1	8.0	------
10		4.3	28	------	45	127	421	96	11	8.0	8.0	------
11		4.5	24	------	42	145	426	85	9.8	7.7	7.7	------
12		7.2	21	------	40	159	470	76	11	7.4	7.4	------
13		5.5	21	------	44	190	487	70	12	8.6	8.0	------
14		4.8	------	------	59	280	465	65	14	9.8	9.0	------
15	} 3.5	4.8	------	------	79	391	390	60	13	8.6	8.6	------
16		8.8	------	------	70	530	355	54	11	7.4	8.3	------
17		4.8	------	------	64	511	370	49	10	7.0	7.7	------
18		6.9	------	------	60	375	365	48	9.0	6.4	7.4	------
19		6.5	------	------	56	315	370	45	8.3	6.4	7.4	------
20		42	------	------	51	246	340	43	8.0	6.1	7.0	------
21		57	------	------	50	208	335	39	7.0	6.1	7.0	------
22	3.5	34	------	------	56	181	330	36	7.0	6.1	7.0	------
23	} 3.5	50	------	------	71	161	330	33	6.7	6.1	7.0	------
24	}	46	------	------	116	161	296	29	6.7	6.1	7.0	------
25	3.5	64	------	28	180	178	340	28	6.4	6.1	9.4	------
26	3.5	38	------	28	280	216	520	26	6.4	6.1	11	------
27	3.5	30	------	28	307	216	272	25	6.4	6.1	16	------
28	3.4	25	------	30	213	193	224	23	6.4	13	12	------
29	3.2	64	------	36	210	164	220	21	6.4	14	10	------
30	2.5	122	------	46	213	147	200	19	6.4	11	9.8	------
31	3.2	------	------	52	------	147	------	19	6.4	------	7.7	------

NOTE.—Prior to Apr. 27 records in the above table include the flow of Cold Spring Creek at which time the creek cut a new channel which enters Squaw Creek below control for gage; thereafter flow of Cold Spring Creek not included in daily-discharge records. Braced figures show mean estimated discharge for periods indicated.

Monthly discharge of Squaw Creek near Gross, Idaho, for the period October 1, 1926 to November 4, 1927

[Drainage area, 21 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1926-27						
October			3.55	0.169	0.19	218
November	122	3.0	22.2	1.06	1.18	1,320
December 1-13	83	21	47.7	2.27	1.10	1,230
March 25-31	52	28	35.4	1.69	.44	491
April	307	40	91.6	4.36	4.86	5,450
May	530	114	208	9.90	11.4	12,800
June	616	150	352	16.8	18.7	20,900
July	193	19	75.5	3.60	4.15	4,640
August	18	6.4	10.2	.486	.56	627
September	14	6.1	7.46	.355	.40	444
1927						
October	16	7.0	8.81	.420	.48	542
November 1-4	12	9.0	10.4	.495	.07	82

WEISER RIVER ABOVE CRANE CREEK, NEAR WEISER, IDAHO

LOCATION.—In sec. 10, T. 11 N., R. 4 W., at Purcell ranch, 1 mile above mouth of Crane Creek and 9 miles northeast of Weiser, Washington County.

DRAINAGE AREA.—1,160 square miles (measured on Forest Service map, topographic maps, and base map of Idaho).

RECORDS AVAILABLE.—July 15, 1920, to September 30, 1927.

EQUIPMENT.—Friez water-stage recorder on left bank a quarter of a mile from ranch house on Purcell ranch. Discharge measurements made from cable 200 feet above gage or by wading.

CHANNEL AND CONTROL.—Bed composed of sand and gravel. One channel at all stages. Control formed by well-defined gravel and boulder riffle 200 feet below gage; changes at times.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, from water-stage recorder, 8.90 feet at 4 to 6 p. m. February 21 (discharge, 10,700 second-feet); minimum discharge recorded. 54 second-feet October 1, 2, and from 7 p. m. to midnight August 10 (gage height, 1.08 feet on August 10).

1920–1927: Maximum stage recorded, from well-defined high water mark, 10.65 feet about February 4, 1925 (discharge, about 13,500 second-feet); minimum discharge, 10 second-feet, July 31, August 1 and 6–18, 1924 (gage height, 0.80 foot).

DIVERSIONS AND REGULATION.—Numerous diversions for irrigation above station. No regulation except that due to diversions.

ACCURACY.—Stage-discharge relation changed somewhat at high stages about February 4; seriously affected by ice December 24 to February 1. Rating curve used October 1 to February 3 is well defined by discharge measurements made in 1926 and was checked closely by a measurement made December 10 of the current year; after February 3, rating curve which parallels preceding curve closely below 2,200 second-feet, is well defined below 7,000 second-feet and extended above, based on eight measurements, ranging from 88.3 to 5,690 second-feet, made during February to September of the current year. Operation of water-stage recorder satisfactory except for short periods. Daily discharge ascertained by applying to rating table mean daily gage height determined by inspection of recorder graph except as indicated in footnote to table of daily discharge. Records excellent except those for estimated periods, which are fair.

Daily discharge, in second-feet, of Weiser River above Crane Creek, near Weiser, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	54		5,430		800	2,640	2,640	4,800	2.040	1,250	79	87
2	54		3,980		2,810	2,780	3,240	4,380	1.980	1,160	89	89
3	56		3,980		3,230	2,940	3,720	3,720	2,040	1,070	89	84
4	58		4,610		8,430	3,320	3,320	3,160	2,220	990	92	84
5	62	80	3,230		6,210	4,200	2,780	2,860	2.560	922	84	84
6	62		2,410		3,880	3,640	2,500	2,560	2.860	849	77	84
7	64		1,910		2,780	3,400	2,500	2,360	3.240	778	72	89
8	69		1,620		2,040	3,010	2,560	2,220	3.800	706	59	97
9	70		1,340		1,680	2,640	2,500	2,160	4 040	634	55	105
10	71		1,200	650	1,480	2,360	2,420	2,220	3 560	563	55	117
11	71	85	1,150		1,280	2,160	2,160	2,420	3 560	514	55	129
12	71	95	1,120		1,200	2,160	1,860	2,710	3 400	479	57	135
13	71	120	951		1,040	2,500	1,740	2,860	3 480	445	59	145
14	71	132	635		1,030	6,030	1,680	3,320	3 400	418	72	161
15	71	117	502		999	4,800	1,920	4,120	3 240	408	97	175
16	71	123	621		1,040	3,400	2,100	4,800	3 010	402	132	175
17	71	139	738		1,450	3,010	1,980	5,310	2.860	402	135	165
18	71	139	752		3,640	2,640	1,860	4,970	2.860	386	129	158
19	70	136	752		3,640	2,160	1,680	4,290	2.640	371	117	142
20	69	321	682		4,630	1,980	1,530	3,800	2 520	212	114	132
21	69	926	615		9,950	1,860	1,430	3,090	2. 100	200	111	129
22	68	642	595		6,570	1,980	1,380	2,640	2.280	190	103	126
23	67	1,070	439	400	4,120	2,040	1,460	2,420	2.160	145	95	123
24	69	1,210			3,090	2,100	1,680	2,290	2.040	132	87	120
25		2,030			2,640	2,100	2,360	2,290	1.920	132	79	120
26		2,150			2,360	2,040	3,480	2,560	1.980	132	81	120
27		2,280	550		2,710	1,920	4,460	2,710	2.160	117	82	120
28	70	1,560			2,780	1,860	5,140	2,560	1.820	108	84	123
29		5,600		600	-------	1,980	5,140	2,420	1.490	100	92	158
30		6,280			-------	2,160	4,800	2,220	1.420	95	95	193
31		-------			-------	2,420	-------	2,100	-------	92	79	-------

NOTE.—Discharge estimated because of ice or missing gage heights Oct. 25 to Nov. 10 and Dec. 24 to Feb. 1; interpolated Oct. 9, 12–16, 19–22, June 20–23, 28, July 7–9, 18, Aug. 22–24, 26, 27. Braced figures show mean discharge for periods indicated.

Monthly discharge of Weiser River above Crane Creek, near Weiser, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	----------	54	67.4	4,140
November	6,280	----------	865	51,500
December	5,430	----------	1,410	86,700
January	----------	----------	600	36,900
February	9,950	----------	3,130	174,000
March	6,030	1,860	2,720	167,000
April	5,140	1,380	2,600	155,000
May	5,310	2,100	3,110	191,000
June	4,040	1,420	2,630	156,000
July	1,250	92	465	28,600
August	135	55	87.3	5,370
September	193	84	126	7,500
The year	9,950	54	1,470	1,060,000

LOST CREEK NEAR TAMARACK, IDAHO

LOCATION.—In sec. 28, T. 19 N., R. 1 W., a quarter mile below dam of Lost Valley Reservoir, 4 miles west of Tamarack, Adams County, and 16 miles north of Council.

DRAINAGE AREA.—30 square miles (furnished by Weiser Valley Land & Water Co.).

RECORDS AVAILABLE.—January 1, 1910, to August 21, 1914; May 21, 1920, to September 30, 1921; May 22, 1924, to September 30, 1927.

EQUIPMENT.—Stevens continuous water-stage recorder on right bank; installed May 21, 1920. Discharge measurements made from footbridge near gage or by wading.

CHANNEL AND CONTROL.—Bed composed of gravel, cobbles, and boulders; very rough. One channel at all stages. Control formed by well-defined rock riffle 20 feet below gage.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, from water-stage recorder, 3.33 feet from 10 a. m. to 3 p. m. May 17 (discharge, 397 second-feet); minimum stage recorded, 0.79 foot July 26, 27 (discharge, 1 second-foot).

1910–1914, 1920–1921, 1924–1927: Maximum stage recorded, 4.29 feet from 9 p. m. May 17 to 8 a. m. May 18, 1921 (discharge, 688 second-feet); practically no flow at times gates in dam were closed.

DIVERSIONS AND REGULATION.—No diversions between gage and reservoir; practically entire flow diverted below station during irrigation season. Flow entirely regulated by head gates at dam.

ACCURACY.—Stage-discharge relation permanent; records discontinued during winter. Rating curve, well defined between 20 and 140 second-feet and fairly well defined above, was checked fairly close by two discharge measurements made during August and September of the current year. Operation of water-stage recorder satisfactory except October 1–5 and July 6–23. Daily discharge ascertained by applying to rating table mean daily gage height determined by inspection of recorder graph, except as noted. Records fair.

Daily discharge, in second-feet, of Lost Creek near Tamarack, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	May	June	July	Aug.	Sept.
1		9			134	30	20	38
2		8			134	28	20	38
3	29	8			130	27	20	38
4		8			128	24	20	38
5		8	27	229	88	24	19	38
6	26	9		216	68		19	38
7	26	11		206	80		19	38
8	26			197	93		19	38
9	25			192	105		19	37
10	24			189	111		19	36
11	24			178	111		27	35
12	23			199	109		68	35
13	22			227	105		68	35
14	21			251	100		66	35
15	19			326	96	17	66	35
16	16			355	91		65	34
17	12			382	85		65	34
18	10			367	78		64	34
19	9			323	72		64	34
20	9			277	66		62	34
21	9			245	61		62	33
22	9			219	51		62	33
23	9			201	50	5	61	33
24	9			185	46	2	61	33
25	9			172	43	2	59	32
26	9			169	42	1	56	32
27	10			172	40	1	58	32
28	8			169	37	3	58	32
29	6			161	34	12	57	32
30	8			154	32	22	57	32
31	8			144		22	46	

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

Monthly discharge of Lost Creek near Tamarack, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October		6	17.1	1,05
November 1–7	11	8	8.7	120
May 5–31	382	144	226	12,100
June	134	32	80.7	4,800
July	30	1	15.9	978
August	68	19	46.6	2,870
September	38	32	34.9	2,080

LITTLE WEISER RIVER NEAR INDIAN VALLEY, IDAHO

LOCATION.—In sec. 36, T. 14 N., R. 1 W., half a mile below Richardson ranch house and 5 miles southeast of Indian Valley, Adams County.

DRAINAGE AREA.—81 square miles (measured on topographic maps).

RECORDS AVAILABLE.—June 26, 1920, to February 28, 1921; March 24 to June 29, 1923; February 25, 1924, to October 12, 1927, when station was discontinued. From February 25 to April 22, 1924, records were collected at the Burger ranch 1 mile downstream.

EQUIPMENT.—An water-stage recorder on left bank installed March 30, 1925. Discharge measurements made from footbridge at gage or by wading.

CHANNEL AND CONTROL.—Bed composed of lava rock overlain with gravel. One channel at all stages. Banks fairly high. Control well defined; not permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, from water-stage recorder, 3.98 feet at 6.30 p. m. May 16 (discharge, 1,130 second-feet); minimum stage, 0.68 foot November 2 (discharge, 8.7 second-feet).

1920–1921, 1923–1927: Maximum stage recorded, 4.19 feet about 10 p. m. February 4, 1925 (discharge, about 1,840 second-feet); minimum discharge, 3.6 second-feet August 28–30 and September 4 and 5, 1924.

DIVERSIONS AND REGULATION.—Few small ranch diversions upstream. After high-water period the entire flow is diverted for irrigation below gage. No regulation.

ACCURACY.—Stage-discharge relation not permanent; affected by ice for short periods during winter. Several rating curves used based on 1926 and 1927 discharge measurements of which 12 measurements, ranging from 20 to 516 second-feet, were made during the current year. Operation of water-stage recorder satisfactory except for periods in December, January, and February. Daily discharge ascertained by applying to rating table mean daily gage height determined by inspection of recorder graph. Records good October, November, 1926; March, April, and July to October, 1927; others fair.

Daily discharge, in second-feet, of Little Weiser River near Indian Valley, Idaho, for the period October 1, 1926, to November 18, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
1	9.5	9.5	289			102	171	498	292	264	38	16	20	
2	10	8.7	280			98	181	425	296	252	37	17	21	
3	13	9.1	324		200	100	191	397	322	245	36	16	22	
4	12	10	311			105	168	385	536	224	34	18	23	
5	11	10		65		112	152	385	524	197	33	16	20	
6	11	12	210		162	110	158	377	601	177	30	16	18	
7	11	16			134	107	174	381	642	160	29	17	18	
8	11	13	115		122	110	181	361	710	145	28	17	19	
9	12	12	107	56	109	102	168	369	642	130	27	16	18	
10	13	11	102		102	100	155	385	664	123	26	22	18	
11	14	12	104		92	96	149	417	642	112	25	19	18	
12	12	18	90	60	81	94	138	429	642	105	28	18	18	
13	12	14	77		75	165	144	461	563	97	29	21		
14	12	13	73			270	168	519	581	92	33	22		
15	12	14	70		80	205	198	601	563	84	34	20		
16	12	21	72	66		152	181	664	528	79	29	17		
17	12	14	73			135	165	905	510	74	26	16		
18	12	18	73			155	158	710	510	68	25	16		99
19	12	22	75			117	149	545	510	65	24	15		
20	11	180	75	45	400	112	135	350	490	64	22	15		
21	11	128	70			112	135	292	490	59	22	14		
22	11	112			205	112	146	244	490	58	20	14		
23	11	152			165	112	174	237	490	56	19	14		
24	10	143		50	135	114	230	259	486	54	17	15		
25	10	149			130	117	266	307	486	53	16	15		
26	10	137	60		124	114	409	381	476	50	16	15		
27	9.5	125		70	119	114	503	413	425	47	16	15		
28	9.5	131			105	122	519	361	356	45	15	25		
29	9.5	422				138	507	322	295	44	16	27		
30	9.1	356				158	524	303	273	40	16	23		
31	9.5					158		30		40	16			

NOTE.—Because of ice, missing gage heights, and unsatisfactory operation of recorder, discharge estimated Dec. 5–7, 22–31, Jan. 1–8, 10–15, 17–23, 25–31, Feb. 1–5, and 14–21, on basis of weather records and by comparison with flow of near-by streams. Braced figures show mean discharge for periods indicated.

Monthly discharge of Little Weiser River near Indian Valley, Idaho, for the period October 1, 1926, to November 18, 1927

[Drainage area, 81 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1926–27						
October	14	9.1	11.1	0.137	0.16	682
November	422	8.7	76.4	.943	1.05	4,550
December	324		116	1.43	1.65	7,130
January			59.9	.740	.85	3,680
February			171	2.11	2.20	9,500
March	270	94	126	1.56	1.80	7,750
April	524	135	223	2.75	3.07	13,300
May	905	237	419	5.17	5.96	25,800
June	710	273	501	6.19	6.91	29,800
July	264	40	107	1.32	1.52	6,580
August	38	15	25.2	.311	.36	1,550
September	27	14	17.6	.217	.24	1,050
The year	905	8.7	154	1.90	25.77	111,000
1927						
October 1–12	23	18	19.4	.240	.11	462

CRANE CREEK RESERVOIR NEAR MIDVALE, IDAHO

LOCATION.—In SE. ¼ sec. 19, T. 12 N., R. 2 W., 12 miles southeast of Midvale Washington County.

DRAINAGE AREA.—269 square miles (measured on topographic maps).

RECORDS AVAILABLE.—November 25, 1923, to September 30, 1927.

EQUIPMENT.—Sloping staff gage consisting of painted chisel marks on gate-control pipe at southeast end of dam above tunnel outlet.

EXTREMES OF STAGE.—Maximum stage recorded during year, determined from high-water marks, 56.3 feet on February 22; minimum stage, 28.1 feet November 10, 13, 14, and 16.

1924–1927: Maximum stage recorded, that of February 22, 1927; minimum stage, 9.4 feet November 25, 1923.

COOPERATION.—Gage-height record furnished by Crane Creek Reservoir Administration Board.

Stored water from this reservoir is used for irrigation in the lower Weiser Valley. Elevation of spillway crest referred to gage datum is 55 feet, at which stage the capacity of reservoir is reported to be about 60,000 acre-feet, about 3,300 acres being submerged. Elevation at bottom of outlet gate corresponds to approximately 8.0 feet on gage, at which stage the usable storage is zero.

Daily gage height, in feet, of Crane Creek Reservoir near Midvale, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	30.2	29.3					54.8	54.75	54.7	54.2	53.3	51.45
2	30.15	29.2	34.5	38.0		54.65	54.8	54.79	54.7		53.25	51.4
3	30.1	29.1			47.2		54.8	54.75			53.15	51.4
4	30.0	28.85			50.7	54.7	54.8	54.75	54.65		53.1	
5	29.85	28.7	35.8		52.5	54.7	54.65	54.75	54.7	54.1	53.1	51.3
6	29.8	28.65			53.1	54.7	54.65	54.75	54.65	54.1	53.05	51.25
7	29.75	28.55			53.4	54.7		54.75	54.65	54.1	53.0	51.2
8	29.6	28.45			53.7	54.65	54.7	54.75		54.05	52.85	51.2
9	29.6			40.4	53.9	54.6	54.7	54.7	54.65	54.05		51.15
10	29.6	28.1			54.0	54.65	54.7	54.7	54.6		52.75	51.15
11	29.6				54.1		54.75	54.7	54.6	54.0	52.5	
12	29.6		36.6		54.2	54.7	54.7	54.7	54.6	54.0	52.4	51.1
13	29.6	28.1			54.3	54.7	54.75		54.55	53.9	52.35	51.05
14	29.6	28.1			54.35	54.8		54.7	54.55	53.95		51.0
15	29.6				54.55	55.3	54.75	54.7	54.5	53.95	52.2	50.98
16	29.6	28.1		41.4	54.7	55.0	54.7	54.7	54.5	53.9	52.1	50.95
17	29.6				55.0	54.8	54.75		54.45	53.9	52.05	
18	29.6				55.0	54.7	54.75	54.65	54.45	53.85		50.9
19	29.6		37.0		55.0	54.3	54.75	54.65	54.45	53.8	51.95	50.9
20	29.6	28.45			55.05	54.2	54.75	54.65	54.45	53.75	51.95	50.9
21						54.66	54.75	54.65	54.4	53.75		
22	29.57				56.3	54.6	54.8	54.65	54.4		51.9	50.8
23	29.57			42.0		54.7	54.75	54.65	54.4	53.65	51.9	50.8
24					55.7	54.7	54.75	54.65	54.4	53.6	51.85	50.75
25					55.5	54.75		54.65	54.35	53.6	51.8	50.75
26			37.4		55.3	54.75	54.75		54.35	53.55		50.75
27	29.65	31.0			55.0	54.8			54.35	53.55	51.7	
28	29.6				54.8	54.8	54.75	54.7	54.3	53.5	51.6	50.75
29	29.5					54.8	54.75	54.7	54.3	53.45	51.55	50.75
30	29.45			42.7			54.79	54.7	54.2	53.4	51.5	50.75
31	29.35					54.8		54.7			51.45	

NOTE.—Water reported flowing over spillway crest Feb. 17–27 and Mar. 14–16. Gage height for Feb. 22 determined from high-water mark on gage.

CRANE CREEK NEAR MIDVALE, IDAHO

LOCATION.—In SE. ¼ sec. 19, T. 12 N., R. 2 W., 400 feet below Crane Creek Dam and 12 miles southeast of Midvale, Washington County. No tributaries between dam and station; Last Chance Creek enters three-quarters of a mile below station.

DRAINAGE AREA.—269 square miles (measured on topographic maps).

RECORDS AVAILABLE.—October 30, 1910, to April 8, 1916; May 1, 1924, to September 30, 1927.

EQUIPMENT.—Au water-stage recorder on right bank, installed May 2, 1924. Discharge measurements made from cable or by wading.

CHANNEL AND CONTROL.—Bed composed of lava rocks and coarse gravel, very rough. One channel at all stages. Control formed by 20-foot Cippoletti weir, installed in concrete 25 feet below gage. Average elevation of weir crest corresponds to 0.02 foot on gage.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, from water-stage recorder, 3.19 feet February 21–23 (discharge, 596 second-feet); channel reported dry October 9–26, November 17 to February 4, February 9–16, May 16–31, June 1, 21, 22, July 14 and 15.

1910–1916, 1924–1927: Maximum stage recorded, 8.9 feet December 3, 1910 (discharge, 4,240 second-feet); no flow reported at times each year when gates in dam are closed.

DIVERSIONS AND REGULATION.—No large diversions above gage. Flood waters are impounded in Crane Creek Reservoir and flow past gage therefore shows only the amount of water released through dam and does not necessarily represent natural flow of Crane Creek. Flow regulated by gates at dam.

ACCURACY.—Stage-discharge relation changed slightly about February 21, owing mostly to leakage under artificial control; not affected by ice. Rating curves are well defined below and extended above 300 second-feet. Curve used October 1 to February 21 is based on discharge measurements made in 1926; curve used thereafter is based on shape of preceding curve and eight discharge measurements ranging from 9 to 191 second-feet, made during current year. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height determined by inspection of recorder graph, except during days of appreciable change in stage for which discharge was determined by averaging results obtained by applying to rating table mean gage heights for hourly or other intervals of the day and except as indicated in footnote to table of daily discharge. Records good.

COOPERATION.—Services of observer furnished by Crane Creek Reservoir Administration Board.

Daily discharge, in second-feet, of Crane Creek near Midvale, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	48	59	0	389	84	16	0	9	48	2
2	46	70	0	274	112	16	6	9	48	2
3	45	69	0	191	185	16	14	9	48	2
4	46	69	0	191	226	16	15	9	48	2
5	46	69	11	191	160	16	16	9	48	24
6	46	69	73	191	83	15	16	9	51	2
7	46	57	100	191	62	15	16	9	70	2
8	29	35	7	191	62	15	17	9	77	2
9	0	23	0	129	60	15	17	9	123	2
10	0	24	0	49	59	15	17	9	123	2
11	0	23	0	47	59	15	17	9	123	2
12	0	22	0	44	35	14	18	9	123	2
13	0	20	0	43	17	15	13	6	108	2
14	0	11	0	259	17	15	9	0	60	2
15	0	4	0	497	17	9	9	0	60	24
16	0	1	0	561	16	0	9	5	56	21
17	0	0	100	554	16	0	9	5	46	
18	0	0	469	490	16	0	9	6	23	6
19	0	0	589	258	16	0	9	9	21	6
20	0	0	589	69	16	0	7	9	21	6
21	0	0	596	23	16	0	0	10	21	6
22	0	0	596	17	16	0	0	10	21	5
23	0	0	596	18	16	0	4	10	23	
24	0	0	592	37	16	0	9	10	42	5
25	0	0	592	37	16	0	9	10	47	5
26	0	0	59-	37	16	0	9	10	66	6
27	27	0	533	48	16	0	9	10	66	7
28	20	0	429	65	16	0	9	52	66	7
29	20	0	-------	76	16	0	9	72	66	7
30	32	0	-------	84	16	0	9	65	66	7
31	42	-------	-------	84	-------	0	-------	48	39	------

NOTE.—Gage-height record missing Nov. 9, 11, 12, 15, 16, Mar. 1, 22; discharge estimated.

Monthly discharge of Crane Creek near Midvale, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	48	0	15.9	978
November	70	0	20.8	1,240
February	596	0	231	12,800
March	561	17	172	10,600
April	226	16	49.3	2,930
May	16	0	7.2	440
June	18	0	10.3	613
July	72	0	14.7	904
August	123	21	59.6	3,660
September	28	5	16.1	958
The year	596	0	48.5	35,1004

NOTE.—Water flowed over spillway from dam above and returned to Crane Creek below gage on Feb. 17-27 and Mar. 14-16; discharge diverted around gage during these periods estimated at 7,150 acre-feet and 300 acre-feet, respectively, based on observer's record of depth of water fowing over spillway crest. No flow during months omitted.

CRANE CREEK AT MOUTH, NEAR WEISER, IDAHO

LOCATION.—In sec. 14, T. 11 N., R. 4 W., just below steel highway bridge at Harris ranch, a quarter mile above mouth, and 12 miles northeast of Weiser, Washington County.

DRAINAGE AREA.—312 square miles (measured on topographic maps).

RECORDS AVAILABLE.—July 14, 1920, to September 30, 1927.

EQUIPMENT.—Friez water-stage recorder on right bank, installed July 21, 1920. Discharge measurements made from highway bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of cobbles and boulders; very rough. Concrete control constructed August 21, 1920, 100 feet below gage. Above stage of about 4.0 feet stream flows in two channels. Stage of zero flow, gage height 1.25±0.05 foot as determined July 1, 1927.

EXTREMES OF DISCHARGE.—Maximum stage during year, from high-water marks on gage, 6.5 feet February 22 (discharge, 2,060 second-feet); minimum stage recorded, 1.47 feet at 11 p. m. June 2 to 9 a. m. June 3 (discharge, 1.0 second-foot).

1920–1927: Maximum stage recorded, from well-defined high-water marks on gage, 6.80 feet on or about February 7, 1925 (discharge, about 2,350 second-feet); minimum stage recorded, 1.30 feet January 21, 1922 (discharge, 0.4 second-foot).

DIVERSIONS AND REGULATION.—Canal of Washington County Irrigation District, which diverts about 4 miles above gage, is principal diversion. Small ranch diversions a short distance above gage. Flow is regulated by head gates at Crane Creek Reservoir and by diversions above.

ACCURACY.—Stage-discharge relation permanent; not affected by ice. Rating curve well defined below and extended above 1,000 second-feet, on basis of preceding curve and eight discharge measurements of which seven measurements, ranging from 7.1 to 452 second-feet, were made during the current year. Operation of water-stage recorder satisfactory except for few short periods. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspection of recorder graph except as noted in footnote to daily-discharge table. Records good except those for estimated periods, which are fair.

Daily discharge, in second-feet, of Crane Creek at mouth, near Weiser, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27	29	44	5.4	72	460	94	20	1.1	7.4	40	32
2	27	44	40	5.4	511	380	104	18	1.1	7.7	40	30
3	25	44	61	6.2	541	253	200	16	5.7	8.0	40	28
4	25	44	40	16	718	242	239	16	14	7.5	42	27
5	25	44	19	30	450	231	203	16	16	7.1	40	27
6	25	44	14	37	188	226	108	17	15	6.6	40	27
7	25	37	11	37	210	218	77	18	16	6.2	52	27
8	26	21	11	21	48	218	75	18	19	5.7	59	27
9	12	14	11	14	34	181	75	18	20	5.2	95	27
10	6.4	12	9.0	10	27	69	75	17	20	5.2	111	28
11	5.2	12	8.7	9.4	23	64	75	17	19	4.7	114	28
12	4.5	11	8.7	9.0	21	61	65	17	19	4.5	114	28
13	4.5	11	8.0	11	18	86	30	17	20	4.2	116	27
14	4.2	9.7	5.9	19	15	353	26	16	13	3.8	73	27
15	4.5	8.7	6.2	24	16	622	25	16	11	2.6	58	27
16	4.5	7.4	6.2	27	40	674	25	9.4	8.4	1.4	55	27
17	4.0	6.4	5.9	21	138	656	25	4.0	9.0	1.4	54	20
18	4.0	6.7	5.9	16	964	572	25	2.6	9.4	1.3	31	11
19	3.7	7.1	5.9	14	1,110	292	24	2.3	8.7	1.4	25	7.7
20	3.7	15	5.9	14	1,560	112	23	2.0	8.0	2.3	24	7.7
21	3.7	14	5.9	7.7	1,700	44	23	1.9	6.4	2.3	24	8.0
22	3.8	27	5.7	9.4	1,900	36	23	2.1	3.3	1.8	}	7.7
23	3.8	38	5.4	9.7	1,400	18	23	2.0	2.6	1.3	25	7.4
24	3.7	70	6.2	8.7	1,000	44	20	1.8	4.0	1.6	}	6.7
25	3.7	34	6.2	8.0	910	50	20	1.5	6.7	1.9	}	6.4
26	3.7	43	5.9	8.0	845	50	18	1.5	7.1	1.8	50	6.4
27	3.5	36	5.9	7.7	737	52	16	1.5	6.7	1.8	}	6.7
28	8.3	24	5.7	11	531	74	16	1.5	6.7	8.7	60	7.7
29	13	303	5.7	17	-------	82	16	1.5	6.7	55	60	8.7
30	18	99	5.4	14	-------	92	16	1.5	7.1	57	61	8.7
31	30	-------	5.2	13	-------	94	-------	1.3	-------	40	56	-------

NOTE.—Because of missing gage heights discharge estimated Oct. 28, 29, Feb. 5, 21-24, July 2, 4-7, Aug. 22-27, and Sept. 5-7, based on comparison with flow released from Crane Creek Reservoir and with flow of Weiser River. Braced figures show mean discharge for periods indicated.

Monthly discharge of Crane Creek at mouth, near Weiser, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	30	3.5	11.7	719
November	303	6.4	37.2	2,210
December	61	5.2	12.6	775
January	37	5.4	14.9	916
February		15	562	31,200
March	674	18	213	13,100
April	239	16	59.5	3,540
May	20	1.3	9.53	586
June	20	1.1	10.4	619
July	57	1.3	8.63	531
August	116		55.1	3,390
September	32	6.4	18.8	1,120
The year		1.1	81.1	58,700

WEISER IRRIGATION DISTRICT CANAL NEAR WEISER, IDAHO

LOCATION.—In sec. 32, T. 11 N., R. 4 W., at Durbin ranch, 1½ miles below headworks of canal and 7 miles above Weiser, Washington County.

RECORDS AVAILABLE.—April 29, 1920, to September 30, 1927.

EQUIPMENT.—Friez water-stage recorder adjacent to left side of concrete rating flume. Zero of gage is at bottom of rating flume. Discharge measurements made from footwalk across concrete rating flume.

CHANNEL AND CONTROL.—Bed composed of hard clay and gravel; fairly permanent. Banks are clean and not subject to appreciable growth of moss or weeds.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, from water-stage recorder, 3.38 feet at noon July 8 (discharge, 215 second-feet); canal practically dry for long periods during winter.

1920–1927: Maximum discharge recorded, 3.43 feet at 9 a. m. May 5, 1926 (discharge, 219 second-feet); canal usually dry except during irrigation season.

DIVERSIONS AND REGULATION.—One farm lateral diverts water a quarter of a mile above gage. Flow regulated at Luck waste gate, half a mile above, which practically forms head of canal, although actual diversion from Weiser River is located about 1½ miles above gage. Water from waste gate returns to Weiser River through a slough which formerly was main channel of river.

ACCURACY.—Stage-discharge relation not permanent; no flow during winter. Three well-defined rating curves used, based on shape of previous curves and eight discharge measurements ranging between 119 and 184 second-feet and made during the current year. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height determined by inspection of recorder graph; shifting-control method used May 5–6 and July 23–28. Records excellent.

COOPERATION.—Gage-height record furnished by Weiser Irrigation District.

The Weiser Irrigation District Canal diverts water from the north side of Weiser River in sec. 3, T. 10 N., R. 4 W., 1½ miles above gage, and furnishes water for irrigation of about 7,000 acres, included in projects of the Weiser Irrigation District and Weiser Bench Irrigation District near Weiser. The district maintains about 20 miles of main canal.

Daily discharge, in second-feet, of Weiser Irrigation District Canal near Weiser, Idaho, for the year ending September 30, 1927

Day	Apr.	May	June	July	Aug.	Sept.	Day	Apr.	May	June	July	Aug.	Sept.
1		152	157	163	110	113	16		189	157	180	187	127
2		143	156	161	117	114	17		187	158	177	184	107
3		147	157	158	123	107	18		185	158	171	156	96
4		166	160	155	128	103	19		187	157	165	127	95
5		115	164	160	119	101	20		184	156	173	124	93
6		40	166	171	103	102	21		156	156	164	114	93
7		60	175	179	100	103	22		173	158	167	110	93
8		154	166	198	113	112	23		171	160	137	105	93
9		159	167	200	142	117	24	100	170	159	126	99	93
10		174	163	209	161	126	25	121	170	156	124	110	92
11		184	160	170	156	155	26	132	171	157	137	123	93
12		185	160	172	150	120	27	144	173	162	121	134	93
13		185	160	182	156	122	28	156	173	158	111	136	94
14		187	161	183	151	125	29	152	171	165	148	141	97
15		190	160	184	163	127	30	149	168	165	142	153	99
							31		161		126	135	

NOTE.—Discharge estimated, 0.2 second-foot on Mar. 22 by Geological Survey engineer.

Monthly discharge of Weiser Irrigation District Canal near Weiser, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
April 24-30	156	100	136	1,890
May	190	40	162	9,960
June	175	156	160	9,520
July	200	111	161	9,900
August	187	99	133	8,180
September	135	92	106	6,310
The year				45,800

SALMON RIVER BELOW VALLEY CREEK, AT STANLEY, IDAHO

LOCATION.—In S. ½ SE. ¼ SE. ¼ sec. 34, T. 11 N., R. 15 E., three-quarters of a mile below mouth of Valley Creek and 1¼ miles northeast of Stanley, Custer County.

DRAINAGE AREA.—535 square miles (measured on topographic maps).

RECORDS AVAILABLE.—July 17, 1925, to September 30, 1927.

EQUIPMENT.—An water-stage recorder on left bank; installed October 13, 1925. Elevation of zero of gage is 6,189.24 feet above mean sea level. Discharge measurements made from cable 75 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed composed of coarse gravel, cobbles, and boulders; practically permanent. Banks low; one channel at all stages. Control fairly well defined.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, from water-stage recorder, 4.41 feet at 2 to 3 a. m. June 27 (discharge, 5,020 second-feet); minimum stage recorded, 0.70 foot at 8 to 9 a. m. March 16 (discharge, 210 second-feet).

1925–1927: Maximum stage recorded, that of June 27, 1927; minimum stage recorded, that of March 16, 1927.

DIVERSIONS AND REGULATION.—Few small ranch diversions above gage. No regulation.

ACCURACY.—Stage-discharge relation permanent except as affected by ice for short periods in January and February. Rating curve is well defined between 200 and 4,000 second-feet, based on 20 discharge measurements made during

years 1925 to 1927, inclusive, of which 11 measurements, ranging from 261 to 3,800 second-feet, were made during current year. Operation of water-stage recorder satisfactory except January 26 to March 10; during which period staff gage was read to hundredths about once or twice weekly. Daily discharge ascertained by applying to rating table mean daily gage height determined by inspection of recorder graph. Records excellent except those for estimated periods, which are fair.

Daily discharge, in second-feet, of Salmon River below Valley Creek, at Stanley, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	269	269	433	372	318		269	1,070	1,360	2,700	838	446
2	269	265	440	313	313	290	283	961	1,380	2,620	799	459
3	269	269	459	328			283	940	1,460	2,540	761	446
4	274	269	440	313		288	283	919	1,590	2,540	742	446
5	274	274	378	292	320		279	908	1,790	2,390	714	446
6	279	292	344	292		285	292	940	2,170	2,100	688	433
7	283	292	344	288	288		292	972	2,700	2,100	661	433
8	279	269	333	269	240	274	292	878	3,340	2,100	644	426
9	283	283	302	279		270	297	878	3,600	2,100	618	446
10	283	292	310	288			288	972	3,600	2,100	602	523
11	288	288	318	269	220	265	288	1,120	3,680	1,960	594	494
12	288	288	302	265		260	292	1,160	3,850	1,870	594	479
13	288	297	283	265		269	292	1,280	4,030	1,780	635	530
14	288	288	260	265		283	297	1,520	4,030	1,680	635	501
15	283	279	274	269		269	318	1,870	3,940	1,600	635	472
16	283	328	313	260	250	256	313	2,240	3,760	1,510	602	459
17	283	288	307	269		269	307	2,700	3,600	1,410	577	446
18	283	313	307	269		265	323	2,620	3,600	1,370	569	440
19	279	323	297	274		256	302	2,460	3,680	1,350	569	433
20	283	366	288	243		256	288	2,100	3,760	1,310	545	426
21	283	378	292	247	320	260	292	1,860	3,680	1,260	538	414
22	283	378	292	265		256	307	1,680	3,600	1,210	523	414
23	283	395	279	265	313	256	318	1,500	3,680	1,160	508	407
24	279	414	274	279		260	366	1,410	3,680	1,120	501	401
25	279	426	307	274	300	256	433	1,480	3,600	1,140	494	440
26	279	390	292	313		260	523	1,670	4,200	1,100	479	420
27	279	390	283		288	260	618	1,660	4,650	1,040	472	414
28	279	378	274	315	302	260	733	1,660	3,760	993	466	494
29	269	390	283		-------	256	858	1,540	3,180	950	459	508
30	265	440	292	318	-------	260	993	1,460	2,860	908	446	508
31	269	-------	318	318	-------	269	-------	1,380	-------	868	440	------

NOTE.—Discharge estimated on account of ice and missing gage heights, Jan. 27-29, Feb. 3-6, 8-22, 24-26, Mar. 1-3, 5-7, 9, 10; based on observer's notes, weather records, and flow at other stations in Salmon River Basin; interpolated Dec. 10 and Jan. 31. Braced figures show mean discharge for periods indicated.

Monthly discharge of Salmon River below Valley Creek, at Stanley, Idaho, for the year ending September 30, 1927

[Drainage area, 535 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	288	265	279	0.521	0.60	17,200
November	440	265	327	.611	.68	19,500
December	459	260	320	.598	.69	19,700
January	372	243	287	.536	.62	17,600
February	-------	-------	279	.521	.54	15,500
March	-------	256	269	.503	.58	16,500
April	993	269	377	.705	.79	22,400
May	2,700	878	1,480	2.77	3.19	91,000
June	4,650	1,360	3,260	6.09	6.80	194,000
July	2,700	868	1,640	3.07	3.54	101,000
August	838	440	592	1.11	1.28	36,400
September	530	401	453	.847	.94	27,000
The year	4,650	-------	798	1.49	20.25	578,000

SALMON RIVER BELOW YANKEE FORK, NEAR CLAYTON, IDAHO

LOCATION.—In sec. 20, T. 11 N., R. 15 E., an eighth of a mile below Sunbeam Dam and mouth of Yankee Fork, 4 miles above Robinson Bar, 12 miles below Stanley and mouth of Valley Creek, and 17 miles above Clayton, Custer County.

DRAINAGE AREA.—841 square miles (measured on topographic maps).

RECORDS AVAILABLE.—October 28, 1921, to September 30, 1927.

EQUIPMENT.—Au water-stage recorder on left bank; installed September 3, 1927. Prior to this date a vertical staff at present site was used. Gage datum lowered 1.50 feet on October 3, 1926. Discharge measurements made from cable three-tenths mile below gage.

CHANNEL AND CONTROL.—Bed composed of boulders and gravel. Banks high; one channel at all stages. Control formed by well-defined boulder and rock riffle; practically permanent.

EXTREMES OF DISCHARGE.—Maximum discharge during year (estimated), 8,000 second-feet June 27, based on flow at Stanley and Salmon (gage height, about 9.65 feet); minimum stage recorded, 1.42 feet on mornings of October 30, 31, February 11 and 12 (discharge, 249 second-feet).

1922–1927: Maximum discharge recorded, that of June 27, 1927; minimum stage and discharge recorded, that of October 30, 31, 1926, and February 11 and 12, 1927.

DIVERSIONS AND REGULATION.—No large diversions above station. No regulation because power plant at Sunbeam Dam is not being operated.

ACCURACY.—Stage-discharge relation permanent except as affected by ice January 21–25 and February 13–18. Rating curve is well defined between 300 and 7,000 second-feet, based on shape of preceding curve and eight discharge measurements ranging from 333 to 6,230 second-feet and made during current year. After September 2 operation of water-stage recorder was satisfactory; from October 1 to September 1 staff gage was read to hundredths and half-tenths generally twice daily except during period December to April when only one reading daily was reported. Daily discharge ascertained by applying daily or mean daily gage height to rating table, except as indicated in footnote to table of daily discharge. During period water-stage recorder was operated mean daily gage heights were determined by inspection of recorder graph. Records excellent for September; others good except those for estimated periods, which are fair.

COOPERATION.—Gage-height record furnished by Love & Von Brecht.

Daily discharge, in second-feet, of Salmon River below Yankee Fork, near Clayton, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	307		526		373	356	409	1,930	2,100	4,100	1,160	592
2	307		526	400	373	339	409	1,550	2,100	3,870	1,040	614
3	339	310	614		373	356	409	1,550	2,280	3,640	980	582
4	339		569	373	373	373	409	1,340	2,570	3,640	920	610
5	339		446	356	373	339	373	1,300	2,770	3,300	920	614
6	339	339	391	339	356	356	391	1,220	2,770	2,980	920	592
7	339	356	409	339	339	339	356	1,220	5,320	2,770	865	582
8	339	292	409	339	307	339	373		6,210	2,770	810	582
9	339	339		339	263	339	409	1,200	6,210	2,770	810	605
10	339	339		307	263	307	373		6,340	2,670	810	735
11	339	339	350	356	249	307	391		6,470	2,570	760	661
12	339	356		339	249	307	373	1,500	7,120	2,380	865	642
13	323	356		339		339	391		7,260	2,280	865	735
14	323	323	307	339	280	373	409	2,500	7,120	2,190	865	686
15	339	320	307	339		339	485		6,860	2,100	920	642
16	323	428	339	339		339	446	4,580	6,210	2,020	865	623
17	339	350	339	277	300	339	446	4,820	6,210	1,850	810	605
18	339	391	339	307		339	485	4,700	6,080	1,770	810	587
19	339	409	339	307	323	339	446	3,640	6,340	1,770	760	578
20	323	446		307	373		446	3,200	6,080	1,700	865	565
21	323	485			409		446	2,770	5,820	1,620	788	552
22	323	466			373		446	2,380	5,820	1,550	710	548
23	323	506	330		373	320	446	2,190	5,820	1,550	661	539
24	339	526		300	356		661	2,100	5,820	1,550	661	539
25	339	569			391		920	2,190	5,820	1,550	661	587
26	323	485		339	373		1,100	2,190	6,500	1,480	638	560
27		485	307	339	373	307	1,280	2,770	8,000	1,340	638	548
28		466	307	339	356	339	1,340	2,570	6,000	1,280	614	656
29	320	466	339	373		339	1,700	2,380	4,820	1,280	614	710
30		592	339	339		391	1,930	2,190	4,340	1,220	614	656
31			400	339		373		2,190		1,160	592	

NOTE.—Discharge estimated on account of ice Jan. 21–25, Feb. 13–18; because of missing and discredited gage heights, Oct. 27–31, Nov. 1–5, 15, 17, Dec. 9–13, 20–26, 31, Jan. 1–3, Mar. 20–26, May 5, 8–15, and June 26–28; based on flow at Stanley and Salmon; interpolated Apr. 20, June 22, Aug. 3, 21. Braced figures show mean discharge for periods indicated.

Monthly discharge of Salmon River below Yankee Fork, near Clayton, Idaho, for the year ending September 30, 1927

[Drainage area, 841 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	339		330	0.392	0.45	20,300
November	592		399	.474	.53	23,700
December	614		375	.446	.51	23,100
January			336	.400	.46	20,700
February	409	249	333	.396	.41	18,500
March	391		337	.401	.46	20,700
April	1,930	356	617	.734	.82	36,700
May	4,820		2,260	2.69	3.10	139,000
June	8,000	2,100	5,440	6.47	7.22	324,000
July	4,100	1,160	2,220	2.64	3.04	136,000
August	1,160	592	800	.951	1.10	49,200
September	735	539	611	.727	.81	36,400
The year	8,000	249	1,170	1.39	18.91	848,000

SALMON RIVER AT SALMON, IDAHO

LOCATION.—In sec. 6, T. 21 N., R. 22 E., at rear of Rose ranch buildings, 300 feet below island, just above Lemhi River, and a quarter mile below highway bridge at Salmon, Lemhi County.

DRAINAGE AREA.—3,600 square miles (Forest Service records).

RECORDS AVAILABLE.—April 25, 1912, to September 30, 1916; July 6, 1919, to September 30, 1927.

EQUIPMENT.—Vertical and inclined staff on left bank; installed September 13, 1923. Discharge measurements made from cable 700 feet below gage, except during ice-affected periods when measurements are sometimes made from highway bridge a quarter of a mile above gage.

CHANNEL AND CONTROL.—Bed composed of rock overlain with sand and gravel. One channel at all stages. Control subject to change.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 8.0 feet June 12–14 and 27 (discharge, 10,800 second-feet); minimum stage, 2.00 feet December 25, January 28, and February 12 (discharge, 675 second-feet).

1912–1916, 1919–1927: Maximum stage recorded, 9.35 feet June 12, 1921 (discharge, 16,400 second-feet); minimum discharge, 595 second-feet August 17–19, 25–31, September 1–5, December 18, 1924, and August 4–7, 1926 (minimum gage height, 1.78 feet September 4, 1924).

DIVERSIONS AND REGULATION.—A small ditch diverts from left bank between bridge and gage, but its total capacity is less than 1 per cent of low-water flow. Numerous diversions, principally on tributaries above. No regulation.

ACCURACY.—Stage-discharge relation permanent; not affected by ice. Rating curve, well defined between 570 and 10,000 second-feet, is based upon preceding curve and eight discharge measurements ranging from 862 to 9,000 second-feet and made during the current year. Gage read to hundredths once daily except during high stages when it was read to half-tenths. Daily discharge ascertained by applying daily gage height to rating table except as indicated in footnote to table of daily discharge. Records good except those for March to April, which are fair.

Daily discharge, in second-feet, of Salmon River at Salmon, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	800	870	1,180	945	945	870	945	2,870	3,450	6,590	2,040	1,230
2	800	870	1,180	908	908	945	945	3,010	3,300	6,170	1,920	1,180
3	800	870	1,230	908	945	945	982	2,320	3,450	6,170	1,920	1,230
4	800	870	1,280	908	945	1,020	945	2,180	3,750	5,960	1,790	1,280
5	768	870	1,280	870	1,020	1,020	945	2,180	4,240	5,460	1,790	1,180
6	800	945	1,180	908	1,020	945	908	2,040	4,770	4,960	1,720	1,180
7	835	945	1,180	908	945	945	945	2,040	6,380	4,590	1,640	1,180
8	835	945	1,100	908	945	945	908	1,920	8,150	4,590	1,570	1,180
9	835	945	1,100	870	870	1,020	945	1,920	9,790	4,590	1,570	1,140
10	835	945	1,060	800	800	945	908	1,790	9,310	4,590	1,570	1,220
11	870	982	1,020	735	735	945	908	1,980	9,790	4,410	1,470	1,290
12	908	945	1,100	835	675	945	908	2,180	10,800	4,070	1,470	1,370
13	908	982	945	945	735	945	908	2,320	10,800	3,910	1,470	1,370
14	908	982	945	982	800	1,020	908	2,320	10,800	3,750	1,570	1,470
15	870	982	908	945	870	945	908	2,870	10,300	3,600	1,570	1,470
16	908	1,020	850	908	945	945		5,550	10,300	3,300	1,570	1,420
17	908	1,020		945	1,020	945		6,170	9,790	3,300	1,570	1,370
18	870	1,020	1,100	945	1,100	945		7,250	9,790	3,010	1,470	1,400
19	870	1,060	1,100	945	1,100	926		6,170	9,790	3,010	1,470	1,420
20	908	1,060	1,100	800	1,280	908	1,050	5,550	9,790	2,870	1,470	1,320
21	908	1,100	1,180	735	1,570			4,770	9,310	2,730	1,420	1,370
22	870	1,140	1,020		1,140			4,070	9,070	2,590	1,370	1,370
23	870	1,180	870		945			3,600	9,070	2,320	1,370	1,280
24	908	1,180	735		945			3,160	8,840	2,380	1,320	1,280
25	908	1,230	675	700	1,020	900	1,150	3,450	8,840	2,450	1,180	1,280
26	908	1,280	800		1,020		1,370	3,760	9,310	2,320	1,280	1,280
27	908	1,180	870		945		1,790	4,070	10,800	2,450	1,280	1,280
28	870	1,180	870	675	945		2,180	4,240	8,840	2,180	1,280	1,280
29	870	1,140	800	870	-------		2,450	4,070	8,380	2,040	1,280	1,370
30	870	1,180	870	945	-------	870	2,450	3,750	7,030	2,040	1,230	1,420
31	870	-------	908	945	-------	908	-------	3,600	-------	2,040	1,230	------

NOTE.—Discharge estimated or interpolated on account of missing and unreliable gage heights Oct. 25, Dec. 16, 17, Jan. 22–27, Mar. 19, 21–29, Apr. 16–25, May 11, 26, June 1, 19, July 5, 21, 24, 30, 31, Aug. 6, 7, 12, 21, Sept. 10, 11, 18, 24, and 25. Braced figures show mean discharge for periods indicated.

Monthly discharge of Salmon River at Salmon, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	908	738	864	53,100
November	1,280	870	1,030	61,300
December	1,280	675	1,010	62,100
January	945		848	52,100
February	1,570	675	969	53,800
March	1,020		934	57,400
April	2,450	908	1,160	69,000
May	7,250	1,790	3,460	213,000
June	10,800	3,300	8,270	492,000
July	6,590	2,0[illegible]	3,690	227,000
August	2,040	1,1[illegible]	1,510	92,800
September	1,470	1,140	1,300	77,400
The year	10,800	675	2,090	1,510,000

SALMON RIVER AT WHITEBIRD, IDAHO

LOCATION.—In sec. 22, T. 28 N., R. 1 E., at highway bridge just above Whitebird Creek, 1 mile southwest of Whitebird, Idaho County, and below all sizable tributaries.

DRAINAGE AREA.—13,600 square miles (measured on Land Office maps).

RECORDS AVAILABLE.—August 18, 1910, to September 30, 1917; October 1, 1919 to September 30, 1927.

EQUIPMENT.—Chain gage on handrail of highway bridge; installed September 14, 1920. Discharge measurements made from cable 900 feet below gage. Discharge measurements include flow of Whitebird Creek, which enters Salmon River between gage and cable.

CHANNEL AND CONTROL.—Channel straight for several hundred feet above and below gage; one channel at all stages. Banks not subject to overflow. Control composed of section of river channel and large boulder riffle three-eighths of a mile downstream; permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 18.88 feet June 9 (discharge, 73,800 second-feet); minimum stage, 1.56 feet October 2, 3 (discharge, 2,900 second-feet).

1910–1917, 1919–1927: Maximum stage recorded, 21.2 feet June 9, 1921 (discharge, 88,800 second-feet); minimum stage, 0.94 foot January 1, 1926 (discharge, 2,150 second-feet).

Maximum stage determined from high-water marks, 27.5 feet June, 1894 (discharge, 120,000 second-feet; estimated by extending rating curve).

DIVERSIONS AND REGULATION.—Very little water diverted for irrigation above station. No regulation.

ACCURACY.—Stage-discharge relation permanent, except as affected by ice January 22–29. Rating curve well defined between 2,500 and 80,000 second-feet, based on ten discharge measurements, ranging from 3,940 to 73,200 second-feet and made during the current year, and shape of previous curve. Gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table except as indicated in footnote to table of daily discharge. Records good except those for estimated periods, which are fair.

Daily discharge, in second-feet, of Salmon River at Whitebird, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,030	3,900		3,590	3,900	4,400	5,510	29,300	33,400	37,200	8,020	4,760
2	2,900	3,900		3,590	3,900	4,580	6,310	27,500	32,900	37,200	8,020	4,760
3	2,900	3,900	7,500	4,060	4,230	4,580	6,520	22,800	33,400	35,800	8,020	4,760
4	3,160	3,900		4,230	4,230	4,580	6,310	20,400	37,700	33,000	8,240	4,760
5	3,160	3,900	6,310	4,230	4,230	4,760	6,110	16,700	38,200	31,100	8,020	4,760
6	3,160	3,900	6,310	4,230	4,060	4,760	5,910	16,400	45,100	27,500	7,800	4,760
7	3,740	4,060	6,310	4,580	3,900	4,580	5,910	16,400	55,600	24,000	7,150	4,760
8	4,060	3,900	6,520	4,580	3,900	4,580	6,110	14,700	67,700	24,400	6,940	4,760
9	4,060	3,900	6,310	4,300	3,740	4,400	6,310	14,400	73,800	24,400	6,310	
10	3,900	3,900	6,310	4,060	3,440	4,400	5,910	13,700	64,700	22,400	6,310	5,200
11	3,900	3,900	6,310	3,440	3,030	4,580	5,910	14,700	64,100	21,200	6,110	5,510
12	4,060	3,900	5,910	3,440	3,030	4,580	6,310	16,400	70,100	19,200	6,110	5,710
13	4,060	3,900	5,910	4,400	3,160	4,400	5,910	18,100	72,600	18,500	6,310	6,110
14	4,060	3,900	6,310	4,230	3,160	4,940	5,910	18,100	71,300	16,400	6,310	6,730
15	4,060	3,900	5,130	4,230	3,300	5,130	5,910	32,900	69,500	16,400	7,150	6,730
16	4,060	3,900	5,130	4,400	3,440	6,110	5,910	45,100	65,300	16,000	7,150	6,500
17	4,060	3,900	4,580	3,440	3,740	5,510	6,310	59,000	64,700	15,000	6,730	6,310
18	4,060	3,900	4,580	3,440	4,060	5,130	6,310	47,700		14,100	6,520	6,110
19	4,060	3,900	4,580	3,440	4,940	4,760	6,110	47,700	63,000	13,100	5,910	5,510
20	4,060	4,940	5,130	3,300	4,940	4,580	5,710	41,600	61,200	12,800	5,910	5,510
21	4,060	4,940	4,700	3,160	4,940	4,230	5,710	35,800	59,500	12,200	5,910	5,510
22	4,060	4,940	4,230		5,130	3,900	5,710	32,500	57,800	11,900	5,910	5,320
23	4,060	5,130	4,060		5,130	3,900	5,910	28,800	57,800	11,100	6,110	4,940
24	4,060	5,910	3,740		5,320	3,900	6,730	27,500	56,200	11,100	5,910	5,320
25	4,060	6,310	3,500		4,580	3,900	6,730	27,000	54,500	11,100	5,910	5,320
26	4,060	6,310	3,160	3,300	4,400	4,060	14,700	29,700	56,200	10,800	4,940	5,320
27	4,060	6,310	3,440		4,060	4,580	22,000	33,400	57,300	10,500	5,130	
28	4,060	6,310	3,590		4,230	4,580	28,400	36,300	53,500	9,180	4,760	6,400
29	4,060	6,310	3,300		-------	4,760	29,300	36,300	56,200	8,940	5,130	
30	3,900	6,310	3,440	3,900	-------	4,400	28,800	35,300	44,600	8,940	4,940	6,940
31	3,900	-------	3,440	3,900	-------	5,320	--------	33,400	--------	8,020	4,940	------

NOTE.—Discharge estimated on account of ice and missing gage heights, Dec. 1–4, 21, 25, Jan. 9, 22–29, June 18, 19, July 4, Sept. 9, 10, 16, 27–29, based on weather records and flow at stations in upper Salmon River Basin. Braced figures show mean discharge for periods indicated.

Monthly discharge of Salmon River at Whitebird, Idaho, for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	4,060	2,900	3,830	236,000
November	6,310	3,900	4,600	274,000
December	----------	----------	5,230	322,000
January	4,580	----------	3,760	231,000
February	5,320	3,030	4,080	227,000
March	6,110	3,900	4,610	283,000
April	29,300	5,510	9,170	546,000
May	59,000	13,700	28,700	1,760,000
June	73,800	32,900	56,700	3,370,000
July	37,200	8,020	18,500	1,140,000
August	8,240	4,760	6,410	394,000
September	6,940	4,760	5,570	331,000
The year	73,800	2,900	12,600	9,110,000

VALLEY CREEK AT STANLEY, IDAHO

LOCATION.—In sec. 3, T. 10 N., R. 13 E., one-eighth mile above Valley Creek ranger station, one-fourth mile above confluence with Salmon River, and three-eighths mile below Stanley, Custer County.

DRAINAGE AREA.—176 square miles (measured on topographic maps).

RECORDS AVAILABLE.—December 21, 1910, to October 31, 1913; May 2, 1921, to September 30, 1927.

EQUIPMENT.—Vertical staff on left bank; installed May 2, 1921. Discharge measurements made from log bridge 300 feet above gage or by wading.

CHANNEL AND CONTROL.—Bed composed of gravel. Banks fairly low; left bank may be overflowed at extremely high stages. Control well defined; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 3.63 feet on June 26 (discharge, 1,390 second-feet); minimum stage, 0.94 foot October 30 (discharge, 54 second-feet).

1910–1913, 1921–1927: Maximum stage recorded, 4.4 feet May 29, 1921 (discharge, 1,850 second-feet); minimum stage, 0.84 foot September 7, 1924 (discharge, 41 second-feet).

DIVERSIONS AND REGULATION.—A few ranch diversions for irrigation above station. No regulation.

ACCURACY.—Stage-discharge relation changed slightly during winter; affected by ice for short periods. Rating curve applicable October 1 to February 16 is well defined by eight discharge measurements made during previous year and checked by one measurement during current year; curve applicable after March 3 is well defined between 50 and 1,300 second-feet, based on seven discharge measurements ranging from 75 to 1,100 second-feet and made during April to September of the current year. Gage read to hundredths once daily during part of October to December, and April to July; read from once to twice weekly at other times. Daily discharge determined by applying daily or mean daily gage height to rating table except as indicated in footnote to table of daily discharge. Records good except those for estimated periods, which are fair.

Daily discharge, in second-feet, of Valley Creek at Stanley, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	64	56	120	83	70			382	519	771	239	135
2	65	56			75	80	85	348	519	746	226	133
3	68	56	134	85	75			338	548	720	214	131
4	68	56	134		74	84	76	338	609	695	207	128
5	68	62	112	82	73	87	75	348	670	670	200	126
6	69	75	112		73	91		348	764	639	194	122
7	70	65	92			94	80	348	926	639	187	117
8	70	59	75				78	319	1,160	639	181	120
9	71	62	82				76	408	1,100	639	174	
10	72	62	89				74	462	1,100	608	168	146
11	68	78	85		65	95			1,160	578	170	137
12	65	78		70			75	620	1,160	548		128
13	65	72	75				82		1,240	520	190	125
14		75							1,160	491	180	122
15		84	73			102	110	940	1,160	462		121
16		92			73	96			1,130	444	162	120
17	64	96				90	91	1,100	1,100	426	158	118
18		96	80			84	85	990	1,100	408	154	117
19		96				82	80	879	1,100	395	150	115
20		96				79	74	769	1,060	382	146	113
21		100	75	65		76	82	658	1,030	370	140	111
22	62	100	74		80	74	91	548	1,100	357	138	109
23	59		74			77	102	490	1,100	344	135	
24	60	120	73			80	113	490	1,100	331	133	
25	62					80	122	639	1,100	318	132	120
26	62	108				80	200	670	1,390	306	132	
27	59		70			78	251	578	1,100	293	131	
28	59	90		70		77	348	548	996	280	132	
29	56				-------	78	382	519	893	270	133	151
30	54				-------	80	435	519	796	261	133	150
31	56	-------			-------	85	-------	519	-------	251	134	-------

NOTE.—Discharge estimated or interpolated because of ice or missing or discredited gage heights as follows: Oct. 6–9, 14–21, 24, Nov. 15, 23–25, 27–30, Dec. 1–2, 12–14, 16–20, 22, 23, 25–31, Jan. 2–4, 6–31, Feb. 1, 3–5, 7–15, 17–28, Mar. 1–3, 5, 6, 8–14, 16, 17, 19–21, 23, 25, 27, 29, 31, Apr. 1–3, 5, 6, 8, 9, 11, 12, 14–16, 18, 19, 21, 23, May 6, 11–16, 18–21, 28, June 4, 16, 20, 23, 28–30, July 1–4, 13, 14, 16, 17, 19–27, 29, 30, Aug. 1, 2, 4–6, 8, 9, 11, 12, 14, 15, 17–19, 22, 23, 25, 26, 28–31, Sept. 3, 4, 6, 11, 13, 15–17, 19–21, 30.

Monthly discharge of Valley Creek at Stanley, Idaho, for the year ending September 30, 1927

[Drainage area, 176 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	72	54	64.0	0.364	0.42	3,940
November		56	83.3	.473	.53	4,960
December			85.1	.484	.56	5,230
January			71.1	.404	.47	4,370
February			73.5	.418	.44	4,080
March		74	85.8	.488	.56	5,280
April	435		127	.722	.81	7,560
May	1,100	319	588	3.34	3.85	36,200
June	1,390	519	996	5.66	6.32	59,300
July	771	251	477	2.71	3.12	29,300
August	239	131	165	.938	1.08	10,100
September			124	.705	.79	7,380
The year	1,390	54	246	1.40	18.95	178,000

YANKEE FORK OF SALMON RIVER NEAR CLAYTON, IDAHO

LOCATION.—In sec. 20, T. 11 N., R. 15 E., at Sunbeam Dam, 350 feet above confluence with Salmon River, 3 miles west of Robinson Bar, 7 miles south of Bonanza, and 18 miles west of Clayton, Custer County.

DRAINAGE AREA.—195 square miles (measured on topographic map).

RECORDS AVAILABLE.—May 3, 1921, to September 30, 1927.

EQUIPMENT.—Vertical staff on right bank. Datum of gage lowered 0.50 foot October 3, 1926. Discharge measurements made from highway bridge 175 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed composed of rock, boulders, and gravel. One channel at all stages. Control formed by rock and gravel riffle 50 feet below gage; well defined at low and medium stages. Although gradient is steep, control is not well defined at high stages owing possibly to a slight backwater effect from Salmon River when in flood.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 6.10 feet June 8 (discharge, 2,420 second-feet); minimum discharge, 14 second-feet at 7.10 a. m. October 30, November 2, and at 4.10 p. m. December 5 (gage height, 0.79 foot).

1921–1927: Maximum discharge recorded, 3,360 second-feet at 8 p. m. June 12, 1921 (gage height, 6.79 feet present datum); minimum stage and discharge recorded, that of October 30, November 2, and December 5, 1926.

DIVERSIONS AND REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent; affected by ice during winter. Rating curve well defined between 30 and 2,000 second-feet, is based on 20 discharge measurements made during 1925 to 1927, of which seven measurements, ranging from 35.1 to 1,780 second-feet, were made during current year. Gage read, usually to hundredths twice daily. Daily discharge ascertained by applying daily or mean daily gage height to rating table. Records good except those for estimated periods, which are fair.

COOPERATION.—Gage-height record furnished by Love & Von Brecht.

Daily discharge, in second-feet, of Yankee Fork of Salmon River near Clayton, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	43	24	52				58	594	508	800	154	93
2	45	14	54				54	414	550	**744**	154	87
3	49	24	57				60	332	641	**744**	139	87
4	46	25	56				55	228	800	**691**	139	87
5	45	24	16			40	34	207	986	641	132	87
6	45	45					54	218	1,360	550	132	81
7	45	43					51	228	1,860	550	125	81
8	45	20	40				55		2,420	508	125	81
9	45	39					58		2,040	488	118	81
10	44	56				38	56	250	2,040	431	118	99
11	44	56				41	51		2,040	414	112	87
12	43	42				43	40	363	2,140	380	99	87
13	43	41				47	50	468	2,230	348	125	99
14	43	31				47	59	800	2,140	332	118	87
15	43	27			30	43	81	1,120	2,040	303	125	87
16	43	62		35		43	81	1,600	1,860	276	118	81
17	43	37				45	60	1,780	1,780	251	112	81
18	43	75				45	70	1,280	1,690	251	112	75
19	43	64				41	45	986	1,780	240	112	75
20	40	64					50	744	1,690	228	112	75
21	41	70	30				55	641	1,520	207	106	75
22	40	57					70	550	1,440	198	99	70
23	40	59				35	75	468	1,440	188	99	70
24	41	57					125	450	1,440	185	93	70
25	42	53					218	641	1,440	182	93	75
26	42	54					396	744	1,520	179	93	70
27	42	54				34	488	859	1,440	179	87	70
28	36	46				50	508	744	1,200	162	87	93
29	34	47			-------	50	550	641	986	154	87	87
30	31	60			-------	50	594	550	859	154	87	87
31	34	-------			-------	64	-------	508	-------	154	87	------

NOTE.—Discharge estimated because of ice and missing gage heights Dec. 6 to Mar. 9, Mar. 20–26, Apr. 20, May 8–11, July 24, 25, and Aug. 21; based on weather records, observer's notes, and flow of Salmon River. Braced figures show mean discharge for period indicated.

Monthly discharge of Yankee Fork of Salmon River near Clayton, Idaho, for the year ending September 30, 1927

[Drainage area, 195 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	49	31	42.0	0.215	0.25	2,580
November	75	14	45.7	.234	.26	2,720
December	57	16	34.4	.176	.20	2,120
January	----------	----------	35.0	.179	.21	2,150
February	----------	----------	30.0	1.54	.16	1,670
March	64	----------	41.5	.213	.25	2,550
April	594	34	140	.718	.80	8,330
May	1,780	207	618	3.17	3.66	38,000
June	2,420	508	1,530	7.85	8.76	91,000
July	800	154	358	1.84	2.12	22,000
August	154	87	113	.579	.67	6,950
September	99	70	82.2	.422	.47	4,890
The year	2,420	14	256.0	1.31	17.81	185,000

BIG BOULDER CREEK NEAR CLAYTON, IDAHO

LOCATION.—In NE. ¼ sec. 15, T. 9 N., R. 17 E., below power plant of Livingston Mines Corporation, half a mile above junction with East Fork of Salmon River, and 11 miles southwest of Clayton, Custer County.

DRAINAGE AREA.—27 square miles (measured on topographic map and Land Office plats).

RECORDS AVAILABLE.—May 15, 1926, to September 30, 1927.

EQUIPMENT.—Vertical staff on left bank 30 feet below tailrace of power plant. Discharge measurements made by wading.

CHANNEL AND CONTROL.—Bed composed of gravel and boulders. One channel at all stages. Control is well-defined riffle immediately below gage; not permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 2.04 feet morning of June 26 (discharge, 206 second-feet); minimum estimated discharge, 6 second-feet, January 1 to February 19.

1926–1927: Maximum stage and discharge occurred on June 26, 1927; minimum measured discharge, 5.9 second-feet, September 23, 1926.

DIVERSIONS AND REGULATION.—Livingston Mines Corporation diverts water for power purposes about three-quarters of a mile upstream, but water is returned to stream 30 feet above gage; flow past gage practically unaffected by power diversion above.

ACCURACY.—Stage-discharge relation changed May 14–17 and on June 26; not seriously affected by ice. Three rating curves fairly well defined by 15 discharge measurements, of which 11 made during the current year were used October 1 to May 13, May 18 to June 25, and June 27 to September 30, respectively. Gage read to hundredths twice daily except December 12 to February 19, when gage was not read. Daily discharge determined by applying mean daily gage height to rating table, except for period of missing gage heights, for which it was estimated, based on power plant operator's report of flow through power plant; shifting-control method used May 14–17 and June 26. Records fair except those for November 16 to May 13, which are poor owing to missing and unreliable gage heights.

COOPERATION.—Gage-height record furnished by Livingston Mines Corporation.

Daily discharge, in second-feet, of Big Boulder Creek near Clayton, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept
1	8	7	9			7	8	10	24	82	39	19
2	7	8	9			7	8	9	28	79	37	19
3	8	8	8			7	8	9	30	84	37	19
4	8	8	9			7	8	9	30	80	37	18
5	8	7	8			7	8	9	44	67	34	17
6	8	7	8			8	8	9	61	66	32	17
7	9	7	8			7	8	8	97	72	32	17
8	8	7	8			7	8	8	121	70	32	17
9	8	8	8			8	8	8	93	67	32	17
10	7	9	8		6	8	8	8	112	73	32	17
11	8	8	8			7	8	8	116	78	32	19
12	8	8				8	8	8	134	82	32	18
13	8	8				8	8	8	130	73	32	19
14	8	8				7	8	22	132	67	32	17
15	8	9				7	8	34	130	67	32	15
16	8	9		6		8	8	51	128	67	26	15
17	8	9				8	8	76	126	60	25	15
18	8	9				7	8	54	109	61	25	15
19	8	9				8	8	45	110	64	29	11
20	7	9			8	8	8	38	114	63	28	11
21	9	9	7		8	7	8	35	114	59	25	11
22	7	9			8	7	8	28	105	59	25	11
23	7	9			8	7	8	26	126	59	24	11
24	8	9			8	8	8	30	139	67	24	15
25	8	9			8	8	9	33	165	67	23	15
26	8	9			8	7	9	37	202	64	22	12
27	7	9			8	7	9	37	151	63	22	11
28	9	9			7	8	10	32	98	60	22	15
29	8	9			-------	8	10	26	82	59	22	15
30	7	9			-------	8	10	26	82	59	22	15
31	7	-------			-------	8	-------	25	-------	50	21	------

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

Monthly discharge at Big Boulder Creek near Clayton, Idaho, for the year endir September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	9	7	7.8	48
November	9	7	8.4	50
December			7.5	46
January			6.0	37
February			6.6	37
March	8	7	7.5	46
April	10	8	8.3	49
May	76	8	24.7	1,5
June	202	24	104	6,19
July	84	50	67.4	4,14
August	39	21	28.7	1,76
September	19	11	15.4	91
The year	202		24.4	17,70

BEAR VALLEY CREEK NEAR CAPE HORN, IDAHO

LOCATION.—About sec. 31, T. 13 N., R. 10 E. (unsurveyed), Valley County, 250 feet below mouth of Fir Creek, 5 miles above confluence with Middle Fork of Salmon River, 7 miles northwest of Cape Horn, Custer County, and 27 miles northwest of Stanley.

DRAINAGE AREA.—180 square miles (measured on Forest Service map).

RECORDS AVAILABLE.—September 6, 1921, to September 30, 1927.

EQUIPMENT.—Stevens continuous water-stage recorder on right bank. Discharge measurements are made from cable 50 feet above gage or by wading.

CHANNEL AND CONTROL.—Bed composed of gravel and boulders. Banks high. One channel at all stages. Control not well defined; subject to slight moss growth.

EXTREMES OF DISCHARGE.—Maximum stage during year, determined from high-water marks in gage well, 5.1 feet about June 8 (discharge, determined from extension of rating curve about 2,950 second-feet); minimum stage, 1.22 feet at 4–9 a. m. October 2 (discharge, 76 second-feet).

1921–1927: Maximum stage and discharge recorded, that of June 8, 1927; minimum stage recorded, 1.03 feet August 1, 2, 5, and 6, 1926 (discharge, 44 second-feet). Lower discharge probably occurred during period of no record.

DIVERSIONS AND REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent except as affected by ice, observations discontinued during winter. Rating curve based on eight discharge measurements, five of which were made during current year, and preceding curves well defined between 60 and 1,800 second-feet, above which it is extended. Operation of water-stage recorder satisfactory except June 8–18, when discharge was estimated by comparison with flow of Deadwood River and from high-water mark occurring June 8. Daily discharge ascertained by applying to rating table mean daily gage height determined from inspection of recorder graph except as noted above. Records good below 1,800 second-feet; others fair.

Daily discharge, in second-feet, of Bear Valley Creek near Cape Horn, Idaho, for the year ending September 30, 1927

Day	Oct.	June	July	Aug.	Sept.	Day	Oct.	June	July	Aug.	Sept.
1	78		1,260	249	144	16	82		467	218	158
2	82		1,180	249	164	17	82	2,350	439	196	147
3	92		1,140	241	150	18			411	186	138
4	90		1,100	226	147	19		2,300	384	183	133
5	84		1,020	214	147	20		2,250	364	180	128
6	80		915	207	138	21		2,140	354	170	128
7	82		873	196	136	22		2,140	334	161	128
8	84	2,800	831	190	136	23		2,100	320	156	125
9	82		790	183	144	24		2,040	311	153	133
10	84	2,700	729	180	200	25		1,940	354	150	144
11	90		670	180	196	26		2,200	320	147	133
12	88		625	196	186	27		2,200	292	144	128
13	86		581	254	230	28		1,700	270	141	266
14	82	2,550	538	245	200	29		1,520	262	138	279
15	82		502	262	173	30		1,390	254	136	245
						31			254	136	

Monthly discharge of Bear Valley Creek near Cape Horn, Idaho, for the year ending September 30, 1927

[Drainage area, 180 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October 1–17	92	78	84.1	0.467	0.30	2,840
June 8–30	2,800	1,390	2,260	12.6	10.78	103,000
July	1,260	254	585	3.25	3.75	36,000
August	262	136	189	1.05	1.21	11,600
September	279	125	163	.906	1.01	9,700

GRANDE RONDE RIVER AT LA GRANDE, OREG.

LOCATION.—In SW. ¼ sec. 31, T. 2 S., R. 38 E., one-eighth mile below State highway bridge, one-fourth mile above county bridge, and half a mile northwest of La Grande, Union County.

RECORDS AVAILABLE.—February 16, 1918, to September 2, 1920; November 22, 1920, to June 30, 1923; and October 1, 1925, to September 30, 1927.

EQUIPMENT.—Inclined and vertical staff gage on left bank. Discharge measurements made from county bridge below gage or by wading.

CHANNEL AND CONTROL.—Control is a well-defined coarse gravel riffle; practically permanent. Riffle is narrow at low stages, widening to full width of river at medium stages.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 4.20 feet April 27 (discharge, 2,460 second-feet); minimum stage, 0.50 foot August 28 (discharge, 19 second-feet).

1918–1923, 1925–1927: Maximum discharge recorded, 4,750 second-feet, April 22, 1922; minimum discharge, 4 second-feet September 14 and 16–20, 1922.

DIVERSIONS AND REGULATION.—None above station.

ACCURACY.—Stage-discharge relation permanent, except as affected by ice December 15–19, 25–31, January 1, 2, and 18–29. Rating curve well defined below 2,600 second-feet by four discharge measurements made in 1927 and six made in 1928 and ranging from 55 to 2,520 second-feet. Staff gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records good except those for ice-affected periods, which are fair.

COOPERATION.—Records furnished by State engineer of Oregon.

Daily discharge, in second-feet, of Grande Ronde River at La Grande, Oreg., for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29	29	408	105	142	490	1,100	1,680	690	222	45	33
2	29	30	435		226	690	1,060	1,280	655	204	45	32
3	30	29	550	154	725	760	1,100	1,190	620	185	41	36
4	30	29	490	240	585	880	920	1,140	620	222	39	33
5	30	29	380	310	435	760	840	1,010	690	166	35	41
6	30	35	330	380	408	690	920	920	725	166	33	37
7	30	52	280	355	380	585	1,100	920	840	145	30	43
8	30	54	256	256	305	920	1,100	840	1,480	116	30	52
9	30	40	185	222	280	550	1,010	760	1,580	121	30	48
10	30	40	240	205	272	435	840	800	1,480	109	30	47
11	30	37	280	280	185	435	690	880	1,380	104	29	54
12	30	37	355	248	223	490	620	920	1,140	80	29	66
13	30	37	242	226	198	1,010	655	1,010	1,010	89	30	84
14	30	38	104	233	157	1,190	800	1,190	840	89	30	86
15	30	40		280	205	920	1,060	1,480	760	82	30	79
16	30	66	197	280	205	620	1,190	1,480	655	80	30	68
17	35	142		205	260	690	1,010	1,380	620	80	30	66
18	33	66			182	550	920	1,100	620	75	29	57
19	33	60			520	435	760	1,010	490	66	26	51
20	32	66	142		585	435	550	760	435	63	28	47
21	30	68	172		1,530	520	620	725	380	57	25	45
22	30	111	129		1,010	920	655	690	355	57	25	45
23	30	142	132		760	1,100	920	690	330	56	24	45
24	30	188	116	153	550	1,190	1,380	690	408	54	23	43
25	30	264			550	965	1,900	725	305	51	23	47
26	33	240			585	920	2,340	760	320	47	23	45
27	39	205	101		550	860	2,460	760	490	45	24	45
28	39	185			435	800	2,230	760	295	43	19	60
29	35	320			-------	1,010	2,010	725	280	43	26	107
30	33	435		126	-------	1,100	1,900	655	240	43	30	154
31	29	-------		132	-------	1,380	-------	620	-------	40	31	-------

NOTE.—Stage-discharge relation affected by ice Dec. 15–19, Dec. 25 to Jan. 2, and Jan. 18–29; discharge estimated from gage-height record, observer's notes, discharge measurement Jan. 24, and weather records. Because of no gage-height record, discharge interpolated Oct. 24, Mar. 27, and July 1–2.

Monthly discharge of Grande Ronde River at La Grande, Oreg., during the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	39	29	31.3	1,920
November	435	29	104	6,190
December	550	----------	223	13,700
January	380	----------	199	12,200
February	1,530	142	445	24,700
March	1,380	435	784	48,200
April	2,460	550	1,160	69,000
May	1,680	620	953	58,600
June	1,580	240	691	41,100
July	222	40	96.8	5,950
August	45	19	29.7	1,830
September	154	32	56.5	3,360
The year	2,460	19	396	287,000

GRANDE RONDE RIVER AT RONDOWA, OREG.

LOCATION.—In NW. ¼ sec. 23, T. 3 N., R. 40 E., 500 feet below mouth of Wallowa River at flag station of Oregon-Washington Railroad & Navigation Co. at Rondowa, Union County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—October 1, 1926, to September 30, 1927.

EQUIPMENT.—Stevens continuous water-stage recorder on right bank. Discharge measurements made from cable 50 feet above gage.

CHANNEL AND CONTROL.—Bed composed of gravel. Channel straight. Right bank high, left bank may be overflowed; one channel at all stages. Well-defined broad, shallow riffle 100 feet below gage forms control; not subject to shift.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 6.58 feet June 9 (discharge, 11,600 second-feet); minimum stage, 1.11 feet October 1 and 2 (discharge, 455 second-feet).

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined below 7,000 second-feet by four discharge measurements made during current year and four subsequent to September 30, having a total range between 461 and 7,250 second-feet; curve extended above 7,000 second-feet. Operation of water-stage recorder satisfactory except for few short periods. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting recorder graph. Records good except those for estimated periods, which are fair.

Daily discharge, in second-feet, of Grande Ronde River at Rondowa, Oreg., for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	466	574	2,660	922	1,210	2,270	3,160	4,930	3,230	3,660	840	660
2	466	560	2,940	974	2,870	2,530	3,320	5,890	5,320		800	660
3	498	548	3,010	1,350	3,400	2,800	3,230	5,890	3,480		784	626
4	522	548	2,660	1,600	3,080	2,870	3,080	5,200	3,660		760	626
5	504	541	2,340	1,660	2,530	2,800	2,940	4,680	4,250		744	619
6	515	606	2,080	1,770	2,270	2,750	2,870	4,350	5,460		705	632
7	541	668	1,890	1,830	2,080	2,600	3,010	4,150	6,510		698	690
8	554	619	1,720		1,830	2,600	3,080	3,850	9,900		698	660
9	541	600	1,550		1,660	2,400	2,940	3,570	11,000		690	652
10	534	593	1,500		1,550	2,200	2,730	3,570	9,550		682	712
11	534	600	1,600		1,500	2,080	2,530	3,850	9,200		675	768
12	534	600	1,600		1,400	2,080	2,400	4,050	8,680	2,440	660	922
13	548	606	1,450	1,530	1,300	2,730	2,340	4,460	8,680			940
14	574	600	940		1,500	3,230	2,400	6,360	8,680			940
15	554	632	1,010		1,250	3,010	2,730	7,820	8,660			
16	567	856	1,250		1,250	2,730	2,870	9,200	6,990			
17	712	744	1,300		1,500	2,530	2,800	9,900	6,360			
18	675	720	1,350	1,450	2,340	2,340	2,660	7,650	6,040			
19	626	712	1,300	1,400	2,600	2,200	2,530	6,360	6,040			
20	606	752	1,250	1,120	4,250	2,140	2,340	5,330	5,740			
21	593	864	1,210	848	5,060	2,200	2,200	4,570	5,740		660	
22	574	999	1,150	982	4,800	2,460	2,200	4,250	5,740	1,230		1,200
23	560	1,140	1,030	1,160	3,750	2,730	2,400	3,950	5,740	1,170		
24	548	1,400	888	1,140	3,080	2,940	3,160	3,950	5,890	1,160		
25	548	1,600	948	1,250	2,730	2,870	5,060	3,850	5,460	1,120		
26	580	1,500	914	1,240	2,530	2,800	5,200	3,950	7,280	1,080		
27	682	1,400	897	1,300	2,400	2,730	4,050	3,850	6,360	1,050		
28	632	1,350	906	1,160	2,270	2,730	4,050	3,750	4,460	982		
29	600	1,960	931	1,160	-------	2,800	4,350	3,480	4,150	940		
30	586	2,340	940	1,160	-------	2,940	4,680	3,320	3,950	889		
31	586	-------	906	1,160	-------	3,230	-------	3,230	-------	856		1,450

Monthly discharge of Grande Ronde River at Rondowa, Oreg., during the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	712	466	566	34,800
November	2,340	541	908	54,000
December	3,010	888	1,490	91,600
January	1,830	848	1,350	83,000
February	5,060	1,210	2,420	134,000
March	3,230	2,080	2,620	161,000
April	5,200	2,200	3,110	185,000
May	9,900	3,230	4,940	304,000
June	11,000	3,230	6,350	378,000
July	3,660	856	2,030	125,000
August	840		686	42,200
September	1,450	619	986	58,700
The year	11,000	466	2,280	1,650,000

CATHERINE CREEK NEAR UNION, OREG.

LOCATION.—In SW. ¼ sec. 34, T. 4 S., R. 40 E., at Miles ranch, 5 miles southeast of Union, Union County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—February 21, 1918, to August 31, 1919, and October 1, 1925, to September 30, 1927. May 15, 1906, to May 18, 1907, at a station in sec. 3, T. 5 S., R. 40 E.; August 1, 1911, to December 31, 1912, and March 20 to September 14, 1915, at a station in SW. ¼ sec. 1, T. 5 S., R. 40 E., practically same discharge at all three stations.

EQUIPMENT.—Vertical staff on right bank. Discharge measurements made from bridge at gage or by wading.

CHANNEL AND CONTROL.—Bed composed of gravel and boulders; subject to shift during high stages.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 4.40 feet June 9 (discharge, 895 second-feet); minimum stage, 0.66 foot December 14 (discharge, 13 second-feet).

1906–7, 1911–12, 1915, 1918–19, 1925–1927: Maximum discharge recorded, 1,240 second-feet May 21, 1912; minimum discharge, 8 second-feet November 7, 1925 (gage height, 0.25 foot).

DIVERSIONS AND REGULATION.—Station above practically all irrigation. No regulation.

ACCURACY.—Stage-discharge relation changed April 27; affected by ice December 15–31 and January 22–29. Rating curve used prior to April 27 fairly well defined by six discharge measurements, of which the last three were made during the current year. Rating curve used subsequent to change fairly well defined below 700 second-feet by four discharge measurements made in May, June, July, and August and ranging from 33 to 605 second-feet. Staff gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records good.

COOPERATION.—Records furnished by State engineer of Oregon.

Daily discharge, in second-feet, of Catherine Creek near Union, Oreg., for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	25	112	44	46	61	120	584	260	278	45	34
2	21	25	157	44	48	61	128	482	278	260	42	35
3	39	25	178	46	52	63	120	414	295	260	41	41
4	28	25	157	46	90	65	112	363	346	260	40	38
5	27	25	128	50	67	65	112	346	363	245	40	40
6	25	27	105	63	67	67	105	312	448	260	47	40
7	25	34	96	67	65	70	120	312	550	215	38	41
8	25	44	85	65	65	72	120	295	860	201	38	40
9	25	34	65	48	54	65	120	295	895	187	37	55
10	25	34	77	54	54	63	112	312	790	162	37	57
11	25	34	75	56	44	61	120	312	720	168	37	66
12	27	34	72	55	44	54	120	346	618	129	37	66
13	27	32	50	54	44	61	120	414	652	124	35	57
14	27	32	13	54	54	72	128	584	686	120	35	55
15	27	34		54	54	77	147	720	618	115	35	53
16	28	44		54	54	77	168	755	550	115	35	52
17	28	44		56	44	77	157	790	550	108	35	52
18	28	34		56	54	75	137	652	516	97	35	50
19	28	34		54	54	72	128	550	482	81	34	48
20	28	44		48	56	70	99	482	482	76	34	45
21	27	61		15	56	65	120	448	482	73	34	41
22	27	65			58	67	157	346	448	71	34	40
23	25	96	28		65	67	157	346	448	64	34	38
24	25	112			61	72	178	346	448	61	34	40
25	24	128			63	72	428	329	380	59	34	41
26	28	112		40	63	80	720	329	550	57	34	41
27	50	93			63	77	755	312	414	57	34	45
28	28	82			63	85	755	312	329	55	34	57
29	28	93				90	720	312	295	53	33	91
30	25	108		44		102	618	295	295	52	34	97
31	27			44		120		278		48	34	

NOTE.—Stage-discharge relation affected by ice Dec. 15–31, Jan. 22–29; discharge estimated.

Monthly discharge of Catherine Creek near Union, Oreg., during the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	39	20	27.3	1,680
November	128	25	53.8	3,200
December	178	13	59.5	3,660
January	67	15	48.1	2,960
February	90	14	57.2	3,180
March	120	54	72.4	4,450
April	755	99	237.0	14,100
May	790	278	418.0	25,700
June	895	260	502.0	29,900
July	278	48	131.0	8,060
August	47	33	36.5	2,240
September	97	34	49.9	2,970
The year	895	13	141.0	102,000

WALLOWA RIVER ABOVE WALLOWA LAKE, NEAR JOSEPH, OREG.

LOCATION.—In NE. ¼ sec. 29, T. 3 S., R. 45 E., 600 feet below junction of East and West Forks of Wallowa River, 1 mile above Wallowa Lake, and 6 miles south of Joseph, Wallowa County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—February 22, 1924, to September 30, 1927.

EQUIPMENT.—Stevens water-stage recorder on right bank; moved 500 feet downstream June 21. Discharge measurements made from foot log 15 feet above gage or by wading.

CHANNEL AND CONTROL.—Bed composed of gravel and boulders; subject to shifts. Current swift and turbulent. Channel straight for short distance above and below; banks free of vegetation. Two or more channels on left bank during high water.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 2.65 feet at 9 a. m. and 6 p. m. June 26 (discharge, 1,250 second-feet, partly estimated); minimum stage, 0.64 foot March 19 to April 2 (discharge, 28 second-feet).

1924–1927: Maximum and minimum discharges recorded, those of June 26 and March 19 to April 2, 1927.

DIVERSIONS AND REGULATION.—Water diverted from East Fork to power house of Inland Power & Light Co. is discharged into West Fork above station. Little or no regulation.

ACCURACY.—Stage-discharge relation for gage at upper site permanent except as affected by ice or débris; for gage at lower site, changed June 26. Rating curve for upper gage well defined below 250 second-feet by 10 discharge measurements, of which three were made during current year. Rating curve for lower gage is well defined below 650 second-feet by six discharge measurements made during current year. Operation of water-stage recorder satisfactory except as stated in footnote to daily-discharge table. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting recorder graph, using shifting-control method April 24 to June 25 on basis of discharge measurements of May 21 and June 25. Records fair.

COOPERATION.—Records furnished by State engineer of Oregon.

Daily discharge, in second-feet, of Wallowa River above Wallowa Lake, near Joseph, Oreg., for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	33	44	84		38	36	28	146		512	202	93
2	34	43	89		39	35	28	124	222	573	198	96
3	36	44	77	40	38	35	29	118		630	190	91
4	34	45	66		39	35	31	107	239	630	186	91
5	34	45	66		38	33	32	90	395	532	182	84
6	34	53	63	39	38	31	32	84	510	532	178	88
7	35	51	60	37	38	31	32	70	640	573	178	82
8	35	45	57	37	41	31	32	69	485	615	164	77
9	34	43	54	37		32	32	69	462	608	158	77
10	34	40	54	38		33	31	70	351	552	151	79
11	35	41	54	37	37	31	31	80	347	526	151	82
12	34	43	49	37		30	32	87	375	467	144	91
13	35	42		37		32	32	107	375	461	138	86
14	36	41		36			33	188	395	448	123	82
15	36	43		37			33		418	411	123	77
16	39	45		36	33	30	33		418	388	120	73
17	47	44		39	33		33	199	440	406	120	69
18	46	43		38	33		33		440	448	120	68
19	44	41		38	33	28	33		418	461	123	66
20	43	51			38	28	36		462	430	126	64
21	41	52	45		44	28	35	210	486	400	123	62
22	39	53			42	28	35	179	587	371	114	62
23	38	53			41	28	37	182	587	377	107	62
24	36	89			39	28	39	179	559	360	105	88
25	43	72		38	37	28	62	176	566	371	102	79
26	46	62			37	28	105	176	1,100	371	98	74
27	48	58			36	28	152	182	750	350	96	79
28	49	53			36	28	158	188	566	303	89	112
29	47	66			-------	28	155		526	271	91	109
30	44	64			-------	28	152	206	526	240	91	109
31	44	-------			-------	28	-------		-------	227	86	------

NOTE.—Because of no gage-height record or because stage-discharge relation was affected by ice, mean discharge estimated or interpolated Oct. 27, Feb. 7, 17, and for periods included in braces.

Monthly discharge of Wallowa River above Wallowa Lake, near Joseph, Oreg., for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	49	33	39.1	2,400
November	89	40	50.3	2,990
December	89		52.5	3,230
January		36	38.0	2,340
February	44	33	37.5	2,080
March	36	28	30.3	1,860
April	158	28	52.2	3,110
May	210	69	15[illegible]	9,280
June	1,100		470	28,000
July	630	227	447	27,500
August	202	86	135	8,300
September	112	62	8[illegible]7	4,860
The year	1,100	28	132	96,000

EAST FORK OF WALLOWA RIVER NEAR JOSEPH, OREG.

LOCATION.—In SE. ¼ sec. 29, T. 3 S., R. 45 E., one-fourth mile above mouth, 1 mile below diversion dam of Wallowa Falls power plant, 1 mile above Wallowa Lake, and 6 miles south of Joseph, Wallowa County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—July 27, 1924, to September 30, 1927.

EQUIPMENT.—Vertical staff on right bank, 100 yards above bridge on road to power house. Also auxiliary inclined gage at diversion dam 1 mile above. Discharge measurements made from bridge 100 yards below gage, from plank across stream, or by wading.

CHANNEL AND CONTROL.—Channel curved above and below gage. Bed of coarse gravel and boulders; practically permanent. Steep gradient. Banks are not overflowed except in extremely high water. Control 10 feet below gage, well defined.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 2.20 feet at 1 p. m. June 26 (discharge, 203 second-feet); minimum stage, 0.62 foot at 1 p. m. January 31 and February 15 (discharge, 0.5 second-foot).

1924–1927: Maximum and minimum discharges recorded, those of June 26, January 31, and February 15, 1927.

DIVERSIONS AND REGULATION.—The penstock to Wallowa Falls power house diverts at dam 1 mile upstream. Operation of power plants affects flow, maximum effect being during low-water period; during extremely low-water periods in winter practically all flow at dam is diverted.

ACCURACY.—Stage-discharge relation affected by ice and changed June 8. Rating curve used October 1 to June 7 well defined below 100 second-feet by 12 discharge measurements, of which 4 were made during current year. Rating curve used June 8 to September 30, well defined below 70 second-feet by four discharge measurements made during current year; extended above. Staff gage read to hundredths twice daily except during winter and occasionally at other times when it was read once daily. Daily discharge ascertained by applying daily or mean daily gage height to rating table. Records fair.

Discharge over dam, length of crest of spillway being 21.6 feet, has been computed from weir tables for rectangular contracted weir, the application of which was checked by one discharge measurement, for the few days gage at dam was read. They indicate that inflow between dam and gaging station is 2 to 3 second-feet at low water and averages 17 per cent of flow at gaging station when flow at station is more than 15 second-feet.

Daily discharge, in second-feet, of East Fork of Wallowa River near Joseph, Oreg., for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.0	3.8	10	2.2	0.7	1.3	2.5	14	18	85	31	12
2	4.6	3.0	11	2.2	2.2	2.0	3.0	12	21	83	25	12
3	5.5	3.0	9.6	2.2	2.0	1.9	3.4	12	23	89	25	12
4	3.8	3.0	6.4	2.2	1.9	1.7	1.9	9.6	26	94	25	13
5	2.8	1.9	5.8	2.2	2.2	1.7	1.9	10	30	85	25	12
6	3.4	5.2	4.9	2.2	3.0	2.6	1.9	8.9	41	77	24	12
7	5.2	6.4	3.4	3.0	1.3	1.9	2.0	9.6	50	77	23	12
8	3.6	5.2	4.2	1.3	1.3	1.7	1.9	9.2	94	82	20	11
9	3.8	2.6	4.7	3.0	1.3	1.8	2.8	7.9	82	83	22	12
10	4.6	3.8	5.2	1.6	1.3	1.9	3.6	8.6	82	82	20	11
11	2.2	3.8		1.6	1.3	2.0	1.3	11	83	82	19	12
12	2.6	2.2		1.3	1.3	2.0	1.5	12	82	80	19	12
13	4.0	3.0		1.3	1.2	3.0	1.9	13	89	80	19	12
14	4.4	4.6		1.3	1.1	1.6	2.2	20	96	79	18	12
15	4.4	2.2		1.3	.5	1.5	2.6	30	103	79	19	12
16	4.9	4.2		1.9	.9	1.4	3.4	32	103	74	15	12
17	6.1	3.0		1.6	1.1	1.3	3.0	38	111	72	15	11
18	4.2	3.8		1.3	1.1	1.3	2.2	29	103	72	16	11
19	4.2	3.0		1.3	1.1	1.3	2.3	26	116	72	15	11
20	3.0	4.9			5.2	3.0	2.4	26	107	69	16	11
21	4.9	8.3	3.0		2.2	2.0	2.5	20	136	69	13	11
22	3.2	3.0			2.6	2.2	2.6	19	143	57	13	12
23	3.2	3.4			2.2	2.6	2.0	20	177	53	9.6	11
24	4.2	12			2.6	2.6	5.8	20	136	47	10	13
25	7.0	7.6		1.0	1.6	3.0	8.6	20	158	47	12	14
26	4.9	6.7			1.6	3.0	10	24	197	47	12	13
27	4.0	6.4			3.0	3.8	18	22		47	9.8	13
28	4.9	7.0			1.3	2.2	17	21	140	45	12	14
29	4.6	10			-------	2.0	15	19		45	12	14
30	4.6	7.0			-------	2.0	14	20		38	12	13
31	5.2	-------		.5	-------	2.0	-------	18	-------	38	12	-------

NOTE.—Because of ice or missing gage-height record, mean discharge estimated for periods included in braces and daily discharge and for Dec. 9, Jan. 1, 3, 17, Feb. 3, 9, 10, 13, Mar. 9, 10, 15, 16, 18, Apr. 1, 2, 9, 19, 20.

Monthly discharge of East Fork of Wallowa River near Joseph, Oreg., for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	7.0	2.2	4.26	262
November	12	1.9	4.80	286
December	11	-------	4.14	255
January	3.0	.5	1.50	92
February	5.2	.5	1.75	97
March	3.8	1.3	2.07	127
April	18	1.3	4.77	284
May	38	7.9	18.1	1,110
June	197	18	98.9	5,880
July	94	38	68.7	4,220
August	31	9.6	17.4	1,070
September	14	11	12.1	720
The year	197	.5	19.9	14,400

WALLOWA FALLS POWER PLANT TAILRACE NEAR JOSEPH, OREG.

LOCATION.—In SE. ¼ sec. 29, T. 3 S., R. 45 E., 150 feet below power house, a quarter of a mile above point where channel discharges into the West Fork of Wallowa River, and 6 miles above Joseph, Wallowa County.

RECORDS AVAILABLE.—August 27, 1924, to September, 30, 1927.

EQUIPMENT.—Vertical staff on right wing wall of weir 150 feet below power house. Discharge measurements made by wading or from plank.

CHANNEL AND CONTROL.—The control is a 5-foot Cippoletti weir made from 2-inch plank, beveled at top and set in concrete. The weir was bent 20 degrees out of plumb on June 27 by overflow from East Fork of Wallowa River.

EXTREMES OF DISCHARGE.—Maximum discharge through power plant recorded during year, 11 second-feet August 24 (gage height, 0.68 foot); minimum discharge recorded, 4.5 second-feet at 6 a. m. several days in April and May (gage height, 0.44 foot).

1924–1927: Maximum discharge recorded that of August 24, 1927; minimum discharge recorded, 3.5 second-feet August 31 and September 1, 1924 (gage height, 0.34 foot).

DIVERSIONS AND REGULATION.—Flow regulated by discharge through nozzle for impulse wheel in power house, but opening in nozzle is changed only about twice a day, minor variations in load being taken care of by deflection of nozzle.

ACCURACY.—Stage-discharge relation changed June 27 when weir was bent partly over by overflow from East Fork of Wallowa River. Rating curve used prior to change is fairly well defined by three discharge measurements made during year; rating curve used after, defined by only one discharge measurement made on July 24 and former well-defined curve. Staff gage generally read to hundredths twice daily but occasionally read only once daily. Daily discharge ascertained by applying daily or mean daily gage height to rating table; but when gage was not read or read only in morning, discharge was estimated. Records fair.

Water is diverted at dam on East Fork of Wallowa River into a conduit 16 or 18 inches in diameter and carried 1 mile to power house. After leaving power house the water follows a tortuous channel for a quarter of a mile and discharges into West Fork. Elevation of crest dam above nozzle at power house is 1,160 feet.

Daily discharge, in second-feet, of Wallowa Falls power plant tailrace near Joseph, Oreg., for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.9	7.4	6.9	6.1	6.9	5.4	5.9	5.4	6.1		8.4	7.5
2	7.4	8.4	6.9	5.6	6.9	6.4	5.9	6.4	6.1		7.5	7.5
3	5.6	8.4	6.6	6.4	6.4	5.9	4.7	6.1	6.4		8.0	7.1
4	7.1	7.4	6.4	6.4	6.4	6.4	5.9	5.4	5.9		8.0	6.2
5	6.9	8.4	5.6	6.9	6.4	5.9	5.9	5.2	5.9		7.1	7.8
6	6.9	8.4	7.9	6.6	5.9	5.4	5.4	5.4	5.9		8.4	7.3
7	6.9	5.9	6.9	6.9	6.4	5.6	5.9	5.9	5.6		7.1	6.8
8	6.9	7.9	6.9	6.9	6.4	5.4	5.9	5.4	5.9		7.5	6.4
9	6.9	8.4	6.9	6.4	6.4	5.6	5.9	5.4	5.9		7.8	6.6
0	5.6	7.9	6.6	7.4	6.6	5.6	5.2	5.6	5.9		8.0	7.5
11	6.6	6.9	6.6	6.9	6.1	5.2	5.6	5.6	5.6		8.0	6.6
12	7.1	8.4	5.6	6.9	6.4	5.6	5.9	5.2	5.4	7.0	8.0	6.8
13	6.1	8.4	6.9	6.9	5.4	5.4	5.4	5.6	5.6		7.1	6.8
14	5.4	5.9	7.6	7.4	6.4	5.4	5.4	5.4	5.9		7.1	6.8
15	5.6	5.9	6.6	6.6	6.4	5.9	5.6	5.0	5.9		8.0	
16	5.9	7.6	6.6	6.4	6.1	5.6	5.4	5.4	5.6		8.4	
17	5.4	6.4	6.9	7.6	6.4	5.6	5.2	5.2	5.9		7.8	
18	5.9	6.9	7.1	7.6	6.4	5.9	6.1	5.4	6.9		7.8	
19	6.4	7.9	6.1	7.4	6.1	5.9	5.9	5.2	5.4		7.8	
20	6.9	7.4	7.4	7.4	5.4	5.4	5.6	5.9	5.4		8.2	
21	6.1	5.6	6.9	7.6	6.1	5.6	5.6	5.4	6.4		7.1	
22	5.9	7.1	6.9	8.1	6.1	5.4	5.2	5.2	5.9		7.8	7.5
23	6.1	7.4	6.9	6.4	6.1	5.6	5.4	5.6	5.9		7.8	
24	5.4	7.4	6.9	7.4	6.1	5.4	5.4	5.4	6.4	6.6	9.9	
25	6.4	5.9	5.6	7.4	6.4	5.4	5.6	6.1	9.5	7.5	9.4	
26	6.4	6.4	5.4	6.9	6.1	5.2	5.9	5.4	7.9	8.0	8.4	
27	6.1	6.9	6.9	6.4	5.6	5.0	5.9	5.6		7.3	8.0	
28	6.4	5.4	6.6	6.4	6.9	5.6	5.9	5.4	7.0	7.1	6.8	
29	6.6	7.4	6.4	6.4	------	5.4	5.9	5.2		7.3	8.4	
30	6.6	6.9	6.4	6.9	------	5.9	5.9	5.2		7.3	7.5	
31	5.4	------	6.9	7.4	------	5.4	------	5.9	------	6.6	7.1	------

Monthly discharge of Wallawa Falls power plant tailrace near Joseph, Oreg., for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	7.4	5.4	6.32	389
November	8.4	5.4	7.22	430
December	7.9	5.4	6.67	410
January	8.1	5.6	6.90	424
February	6.9	5.4	6.26	348
March	6.4	5.0	5.59	344
April	6.1	4.7	5.65	336
May	6.4	5.0	5.50	338
June	9.5	5.4	6.24	371
July			7.05	433
August	9.9	6.8	7.88	485
September			7.26	432
The year	9.9	4.7	6.55	4,740

HURRICANE CREEK NEAR JOSEPH, OREG.

LOCATION.—In NE. ¼ sec. 3, T. 3 S., R. 44 E., 175 feet above intake of Moonshine ditch, 3½ miles southwest of Joseph, Wallowa County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—April 27 to September 3, 1915; April 23, 1924, to September 30, 1927.

EQUIPMENT.—Stevens 8-day water-stage recorder on left bank. Discharge measurements made from footbridge 100 feet below gage.

CHANNEL AND CONTROL.—Bed composed of gravel and boulders; subject to shift. Current swift and turbulent at high stages. Banks steep; one channel at all stages.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year from water-stage recorder, 2.62 feet at 6 a. m. June 26 (discharge, 680 second-feet); minimum stage, 0.36 foot at time of discharge measurement April 23 (discharge, 24 second-feet).

1915, 1924–1927: Maximum stage recorded, that of June 26, 1927; minimum stage, 0.34 foot 11 a. m. to 1 p. m. September 24, 1926 (discharge, 23 second-feet).

DIVERSIONS AND REGULATION.—None above station.

ACCURACY.—Stage-discharge relation changed June 26. Rating curve used prior to change is well defined below 200 second-feet by seven discharge measurements, of which two were made during current year. Curve used after change is well defined below 400 second-feet by four discharge measurements made during year and five made after September 30, 1927. Operation of water-stage recorder satisfactory except as stated in footnote to table of daily discharge. Daily discharge ascertained by applying to rating table mean daily gage height obtained from recorder graph by inspection. Records good except those for estimated periods, which are fair.

COOPERATION.—Records furnished by State engineer of Oregon.

Daily discharge, in second-feet, of Hurricane Creek near Joseph, Oreg., for the year ending September 30, 1927

Day	Oct.	Nov.	Apr.	May	June	July	Aug.	Sept.
1	26	32			119	354	123	62
2	26	32			128	392	129	58
3	30	31			148	396	123	55
4	29				172	354	118	55
5	28				228	304	108	54
6	27				321	318	108	54
7	29			72	442	339		52
8	30				570	350		52
9	29				485	343		52
10	28				416	304	96	52
				104				
11	29				384	276		50
12	27				396	258		50
13	35				442	265	85	50
14	35			135	465	252		49
15	34				465	238		49
16	44				465	232	78	49
17	50				485	238		49
18	42			138	505	252		49
19	40				485	238		48
20	39				442	228	70	48
21	37				485	209	69	48
22	37			142	505	197	64	48
23	36		24	138	528	190	62	48
24	35			140	528	187	60	49
25	35			140	505	194	58	50
26	49			140	612	181	58	50
27	47			138	465	175	58	54
28	39			132	354	154	58	69
29	36			125	354	142	58	65
30	34			119	358	137	57	65
31	33			115		132	58	

NOTE.—Gage-height record missing and discharge estimated or interpolated Nov. 1 and 2 and for periods included in braces.

Monthly discharge of Hurricane Creek near Joseph, Oreg., during the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	50	26	34 7	2,130
May 7-31			125	6,200
June	612	119	409	24,300
July	396	132	253	15,600
August	129	57	82.8	5,090
September	69	48	52.8	3,140

LOSTINE RIVER NEAR LOSTINE, OREG.

LOCATION.—In NW. ¼ sec. 34, T. 1 S., R. 43 E., 10 miles above mouth of stream and 3½ miles south of Lostine, Wallowa County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—August 24, 1912, to March 31, 1914; April 23 to September 25, 1915; July 21, 1925, to September 30, 1927.

EQUIPMENT.—Stevens 8-day water-stage recorder on right bank. Discharge measurements made from wagon bridge 100 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed composed of sand, gravel, and boulders; may shift slightly. Left bank high; right bank likely to be overflowed.

EXTREMES OF DISCHARGE.—Maximum stage during year, 6.60 feet at time of discharge measurement June 26 (discharge, 2,010 second-feet); minimum stage, 0.45 foot from 8 p. m. to midnight October 1 (discharge, 36 second-feet).

1912–1914, 1915, 1925–1927: Maximum discharge, 2,540 second-feet May 27, 1913; minimum stage, 0.17 foot at 10 p. m. August 29, 1926 (discharge, 18 second-feet).

DIVERSIONS AND REGULATION.—No diversions above station. Minam Lake Reservoir, 18 miles above station, regulates flow to a small extent.

ACCURACY.—Stage-discharge relation changed above 2.0 feet May 17. Rating curve used prior to change fairly well defined below 800 second-feet by seven discharge measurements including two made March 15 and May 16 of current year; rating curve used subsequent to change fairly well defined below 2,000 second-feet by seven measurments made during current year. Water-stage recorder operated satisfactorily except during winter and other short periods indicated in footnote to table of daily discharge. Daily discharge ascertained by applying to rating table mean daily gage height obtained from recorder graph by inspection. Records fair.

COOPERATION.—Records furnished by State engineer of Oregon.

Daily discharge, in second-feet, of Lostine River near Lostine, Oreg., for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	39	72	211		59	377	390	928	221	108
2	38	68	247		61	357	438	965	215	87
3	59	74	229		63	327	515	1,020	209	74
4	52		193		61	300	660	965	197	78
5	54		176		59	278	875	788	189	68
6	60		158		59	267	1,140	805	185	72
7	72		144		57	249	1,460	875	179	76
8	64	74	131		57	235	1,460	910	166	72
9	57		121		59	249	1,370	875	157	74
10	57		122		59	287	1,300	788	153	84
11	57		131		57	307	1,300	722	147	111
12	54		119		56	347	1,320	645	142	147
13	87	73	111		53	472	1,350	645	129	121
14	82	73			56	622	1,350	630	119	106
15	73	88		47	66	710	1,320	572	128	142
16	103	96			74	800	1,180	529	119	112
17	174	85			74	770	1,200	529	112	108
18	124	79			73	616	1,260	543	108	100
19	104	76		48	73	515	1,200	529	106	101
20	96	90			73	451	1,200	488	104	92
21		116			74	426	1,260	451	96	87
22		126		49	73	390	1,350	414	88	80
23	104	135		51	80	402	1,350	402	84	78
24		181		52	151	402	1,390	378	79	82
25		176		52	300	414	1,350	390	78	106
26	111	153		52	430	414	1,960	378	74	87
27	128	136		51	524	390	1,620	355	70	82
28	101	128		51	514	356	1,270	321	66	179
29	85	172		51	462	344	928	289	68	181
30	78	174		52	420	332	945	262	66	126
31	79			56		355		237	61	

NOTE.—Water-stage recorder not operating for periods shown by braces and June 12, 26–28; discharge interpolated.

Monthly discharge of Lostine River near Lostine, Oreg., during the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	174	38	84.1	5,170
November	181	68	101	6,010
December 1–13	247	111	161	4,150
March 15–31	56	47	50.1	1,690
April	524	53	143	8,510
May	800	235	412	25,300
June	1,960	390	1,190	70,800
July	1,020	237	601	37,000
August	221	61	126	7,750
September	181	68	101	6,010

BEAR CREEK NEAR WALLOWA, OREG.

LOCATION.—In NW. ¼ sec. 3, T. 1 S., R. 42 E. at bridge 5½ miles southwest of Wallowa, Wallowa County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—April 13 to September 16, 1915; April 22, 1924, to September 30, 1927.

EQUIPMENT.—Stevens continuous water-stage recorder on left bank just above bridge. Discharge measurements made from cable at gage or by wading.

CHANNEL AND CONTROL.—Bed composed of gravel and boulders; practically permanent. One channel at all stages.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 4.55 feet at 2.30 p. m. June 8 (discharge, 1,480 second-feet); minimum stage, 0.95 foot from 4 to 6 p. m. August 22 (discharge, 14 second-feet).

1915, 1924–1927: Maximum discharge, that of June 8, 1927; minimum discharge, 6 second-feet September 30, 1924, and August 14, 1926.

DIVERSIONS AND REGULATION.—None above station.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined between 5 and 600 second-feet by 16 discharge measurements, of which seven ranging between 26 and 976 second-feet were made during current year. Operation of water-stage recorder satisfactory except as stated in footnote to daily-discharge table. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting recorder graph. Records good except those for estimated periods, which are fair

COOPERATION.—Records furnished by State engineer of Oregon.

Daily discharge, in second-feet, of Bear Creek near Wallowa, Oreg., for the year ending September 30, 1927

Day	Oct.	Nov.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	39	------		436	272	361	45	
2	24	36	------		344	312	370	43	17
3	41	36	------		297	361	352	41	
4	38	------	------		258	450	282	37	
5	41	------	------		231	547	258	36	17
6	48	------	------	62	204	680	251	31	26
7	51	------	------		190	800	265	29	
8	47	------	------		175	1,240	255	28	
9	45	------	------		163	1,040	235	26	
10	46	------	------		168	800	198	26	
11	45	------	------				172	26	
12	42	------	------	63			152	25	45
13	53	------	------	63			148	25	
14	53	------	------	66			138	24	
15	51	------	59	86			126	24	
16	60	------	59	90	212	700	113	23	
17	94	------	60	88			107	21	
18	73	------	63	83			105	20	
19	63	------	63	79			100	20	41
20	57	------	63	79			93	19	36
21	54	------	60	68			79	16	35
22	49	------	59	72			72	17	32
23	47	------	64	86	255	620	66		32
24	45	------	68	150	294	655	64		44
25	43	------	68	405	324	630	64		45
26	50	------	68	605	336	770	61	17	40
27	56	------	64	740	324	580	57		44
28	50	------	61	630	297	414	53		99
29	45	------	61	542	268	396	47		116
30	42	------	61	487	255	383	46		107
31	39	------	61	------	251	------	45		------

NOTE.—Because of unsatisfactory operation of water-stage recorder, mean discharge for periods included in braces interpolated.

Monthly discharge of Bear Creek near Wallowa, Oreg., for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	94	23	48.9	3,010
March 15-31	68	59	62.5	2,110
April	740	----	172	10,200
May	436	163	246	15,100
June	1,240	272	645	38,400
July	370	45	153	9,410
August	45	16	24.4	1,500
September	116	----	44.1	2,620

CLEARWATER RIVER AT KAMIAH, IDAHO

LOCATION.—In sec. 1, T. 33 N., R. 3 E., at former toll bridge at Kamiah, Lewis County, 6 miles below mouth of South Fork of Clearwater River.

DRAINAGE AREA.—4,850 square miles (measured on General Land Office map).

RECORDS AVAILABLE.—August 20, 1910, to September 30, 1927.

EQUIPMENT.—Chain gage attached to downstream handrail of bridge; installed May 30, 1911. Discharge measurements made from bridge.

CHANNEL AND CONTROL.—Bed and control consists of heavy boulders and gravel. One channel at low water; two channels between gage heights about 5 and 8 feet, and one channel above gage height 8 feet. Control practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 15.0 feet on June 8 (discharge, 68,600 second-feet); minimum stage, 2.8 feet August 27 (discharge, 1,910 second-feet).

1910–1927: Maximum stage recorded, 16.1 feet May 26, 1913 (discharge, 76,600 second-feet); minimum stage occurred in December, 1919, when stage-discharge relation was affected by ice (discharge probably less than 500 second-feet).

DIVERSIONS AND REGULATION.—Several small ditches divert water for irrigation above station. No regulation.

ACCURACY.—Stage-discharge relation probably changed slightly on December 4; not affected by ice. Rating curve used prior to change is well defined below 60,000 second-feet, above which it is extended; subsequent to December 3 a curve was used based on shape of previous curve and five discharge measurements made during current year and ranging from 3,680 to 52,400 second-feet. Gage read to tenths once daily. Daily discharge determined by applying daily gage height to rating table. Records good.

COOPERATION.—Gage-height record furnished by United States Weather Bureau.

Daily discharge, in second-feet, of Clearwater River at Kamiah, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,050	3,730	10,300	3,730	3,240	4,730	6,550	35,900	38,000	18,100	3,240	2,050
2	2,050	3,730	14,400	4,510	5,200	4,510	6,550	30,300	38,000	17,100	3,240	2,770
3	2,050	3,400	16,200	6,260	5,200	4,730	6,550	25,600	38,000	16,200	3,400	2,770
4	3,560	3,240	16,200	5,710	5,200	4,960	7,160	23,200	40,200	16,200	2,920	2,620
5	2,920	3,910	13,500	5,450	5,200	5,200	7,160	20,000	44,000	14,400	2,770	2,470
6	2,920	4,730	11,500	5,450	4,960	5,200	7,480	18,100	53,000	13,500	2,770	2,330
7	3,080	6,260	11,100	6,850	4,510	4,960	7,480	16,600	59,800	13,100	2,470	2,190
8	3,730	5,200	10,300	5,980	4,300	4,960	8,140	14,800	68,600	12,300	2,330	2,190
9	3,400	4,510	9,180	3,730	3,910	4,960	8,140	14,800	65,000	11,900	2,330	2,050
10	3,240	3,730	7,480	3,910	3,560	4,730	7,480	15,700	58,900	11,500	2,330	2,190
11	3,080	3,730	8,140	4,730	3,560	4,510	6,850	16,600	58,000	10,700	2,330	3,080
12	3,080	3,560	8,480	4,730	3,400	4,510	6,550	21,100	51,200	9,180	2,330	3,730
13	3,080	3,910	6,550	4,510	3,240	4,300	6,260	26,300	52,100	8,480	2,920	3,560
14	4,960	5,200	5,450	4,300	3,080	5,450	6,550	31,000	50,400	8,140	2,920	4,100
15	4,300	4,510	4,510	4,100	3,400	5,710	7,810	41,000	50,400	7,480	2,920	3,910
16	3,910	4,730	6,550	4,960	3,400	5,450	8,480	53,000	47,200	6,850	3,240	3,240
17	4,100	4,730	6,850	4,730	3,910	5,200	7,810	64,200	46,400	6,550	3,080	2,920
18	7,160	4,300	6,850	4,730	3,910	5,200	7,160	53,000	44,800	6,260	3,080	2,620
19	4,960	3,240	6,260	4,510	4,100	4,730	6,550	41,800	43,200	5,980	2,470	2,620
20	4,510	3,730	5,450	4,510	4,100	4,510	6,260	35,200	38,000	5,710	2,330	2,330
21	4,300	3,730	4,510	3,240	6,850	4,730	5,980	29,600	37,300	5,450	2,330	2,330
22	3,560	3,910	4,960	2,050	7,810	5,450	6,550	27,600	37,300	5,450	2,190	2,330
23	3,080	6,260	4,510	2,470	6,850	5,200	6,550	24,400	36,600	4,960	2,190	2,330
24	3,400	6,550	4,100	3,730	5,710	5,450	8,830	23,800	38,800	4,510	2,190	2,470
25	3,730	8,140	3,730	3,560	5,200	5,450	15,300	27,000	34,500	4,100	2,050	2,920
26	3,730	9,910	4,510	3,560	4,960	5,200	27,000	30,300	32,400	3,910	2,050	3,080
27	5,980	8,140	4,300	3,910	5,200	4,960	37,300	34,200	30,300	3,730	1,910	2,620
28	4,960	7,810	4,300	3,730	4,730	4,960	46,400	38,000	25,000	3,560	2,050	2,620
29	4,300	8,480	4,100	3,560	-------	5,450	44,000	41,000	22,200	3,400	2,050	4,960
30	4,100	11,900	3,730	3,400	-------	5,450	35,900	41,000	19,500	3,240	2,050	5,710
31	3,730	-------	3,400	3,400	-------	5,710	--------	38,800	--------	3,240	2,050	------

NOTE.—Discharge interpolated May 27 because of missing gage height.

Monthly discharge of Clearwater River at Kamiah, Idaho, for the year ending September 30, 1927

[Drainage area, 4,850 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	7,160	2,050	3,770	0.777	0.90	232,000
November	11,900	3,240	5,300	1.09	1.22	315,000
December	16,200	3,400	7,460	1.54	1.78	459,000
January	6,850	2,050	4,320	.891	1.03	266,000
February	7,810	3,080	4,600	.948	.99	255,000
March	5,710	4,300	5,050	1.04	1.20	311,000
April	46,400	5,980	12,600	2.60	2.90	750,000
May	64,200	14,800	30,800	6.35	7.32	1,890,000
June	68,600	19,500	43,300	8.93	9.96	2,580,000
July	18,100	3,240	8,550	1.76	2.03	526,000
August	3,400	1,910	2,530	.522	.60	156,000
September	5,710	2,050	2,900	.598	.67	173,000
The year	68,600	1,910	10,900	2.25	30.60	7,910,000

CLEARWATER RIVER AT SPALDING, IDAHO

LOCATION.—In NE. ¼ sec. 22, T. 36 N., R. 4 W., at highway bridge just above Lapwai Creek, a quarter mile northeast of Spalding post office at Joseph Junction, Nez Perce County, and 12 miles above mouth of river.

RECORDS AVAILABLE.—March 16, 1926, to September 30, 1927.

DRAINAGE AREA.—9,570 square miles.

EQUIPMENT.—Vertical staff attached to concrete pier and abutment on right bank of highway bridge; installed September 1, 1926. Discharge measurements made from highway bridges at Spalding and Lewiston, and from cable six-tenths of a mile below gage. Measurements include flow of Lapwai Creek which enters between gage and control.

CHANNEL AND CONTROL.—Bed composed of boulders and gravel; permanent. One channel at all stages. Control formed by well-defined riffle 1 mile below gage.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 17.7 feet at 10.40 a. m. and 11.40 a. m. June 9 (discharge, 109,000 second-feet); minimum stage, 1.33 feet at 7.10 a. m. August 27 (discharge, 3,480 second-feet).

1926–27: Maximum stage and discharge recorded on June 9, 1927; minimum stage, 0.4 foot at 5 p. m. August 16 and 9 a. m. August 17, 1926 (discharge, 2,020 second-feet).

DIVERSIONS AND REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent; not affected by ice. Rating curve, well defined between 2,000 and 110,000 second-feet, based on 24 discharge measurements, of which 15, ranging in discharge from 4,610 to 107,000 second-feet, were made during the current year. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records excellent.

Daily discharge, in second-feet, of Clearwater River at Spalding, Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,670	6,680	28,100	7,500	7,500	13,000	17,500	62,100	62,100	28,100	5,910	3,870
2	3,670	6,420	39,600	8,070	12,300	14,200	17,500	57,300	60,500	25,800	5,910	5,660
3	3,670	6,160	42,400	14,600	18,500	14,600	19,400	47,400	62,100	25,800	5,910	5,180
4	5,660	5,910	39,600	12,300	17,100	15,000	18,500	43,100	63,000	24,600	5,910	4,500
5	5,660	5,660	31,100	15,000	15,400	15,000	17,100	37,600	70,500	24,100	5,420	4,280
6	4,950	5,660	25,800	14,600	13,000	14,600	16,600	34,300	78,300	22,500	5,180	4,500
7	4,500	9,580	22,500	14,600	11,600	14,200	18,500	32,400	86,300	21,400	4,950	4,070
8	5,910	10,200	19,900	13,800	10,900	13,800	19,400	29,900	102,000	20,400	4,720	4,070
9	6,680	8,070	17,500	11,900	9,900	13,000	18,900	28,700	107,000	18,900	4,500	4,070
10	5,910	7,500	15,800	10,900	8,960	11,900	17,100	29,900	94,100	17,500	4,500	3,870
11	5,420	6,950	16,600	10,200	8,660	11,600	16,200	33,700	90,300	16,200	4,280	5,420
12	5,660	7,220	18,000	10,600	8,360	11,200	15,000	39,600	82,800	14,600	4,280	8,960
13	5,910	8,360	13,400	10,600	8,070	13,000	14,600	44,500	81,900	13,800	4,720	6,950
14	8,070	9,270	10,200	9,580	7,780	17,500	15,000	54,200	75,700	13,000	5,180	9,270
15	8,360	9,900	9,580	9,580	8,070	17,100	17,500	68,800	73,900	12,600	4,720	8,070
16	7,220	10,200	11,900	11,900	8,360	14,600	19,400	84,700	65,400	11,900	5,420	6,680
17	8,360	9,580	13,800	11,900	9,270	14,200	18,000	100,000	63,800	11,200	4,950	5,910
18	11,600	8,660	13,000	11,200	11,200	13,400	16,600	85,600	62,100	10,600	4,500	5,180
19	9,270	8,070	11,900	10,900	14,200	12,600	15,400	71,300	60,500	9,900	4,280	4,950
20	8,070	7,780	11,200	9,900	14,200	12,300	13,800	59,700	54,200	9,580	4,500	4,720
21	7,500	7,220	10,600	7,780	32,400	12,300	13,000	51,900	51,100	9,270	4,280	4,280
22	6,950	8,660	10,200	5,180	29,300	14,200	13,000	46,700	51,100	8,660	4,070	4,280
23	6,420	11,900	9,580	6,420	23,500	14,200	14,600	43,800	49,600	8,070	3,870	4,070
24	6,160	15,400	8,960	8,960	18,900	14,600	18,500	41,000	52,700	7,780	3,670	4,070
25	5,910	23,500	8,360	9,270	15,800	14,600	29,900	45,200	48,200	7,500	3,670	5,420
26	6,680	26,900	8,660	8,660	15,000	13,400	54,200	51,100	46,000	7,500	3,670	5,420
27	10,900	21,400	8,360	8,070	14,200	13,400	69,600	54,200	43,800	7,220	3,670	4,720
28	10,600	18,900	8,070	8,070	13,000	13,000	85,600	57,300	38,300	6,680	3,870	4,720
29	8,660	19,900	7,780	8,070	-------	13,400	79,200	72,200	33,000	6,420	3,670	9,900
30	7,780	33,000	7,500	7,500	-------	14,200	64,600	72,200	30,500	6,160	3,670	11,200
31	7,220	-------	7,780	7,220	-------	16,200	-------	65,400	-------	5,910	3,670	-------

Monthly discharge of Clearwater River at Spalding, Idaho, for the year ending September 30, 1927

[Drainage area, 9,570 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	11,600	3,670	6,870	0.718	0 83	422,000
November	33,000	5,660	11,500	1.20	1.34	684,000
December	42,400	7,500	16,400	1.71	1.97	1,010,000
January	15,000	5,180	10,200	1.07	1.23	627,000
February	32,400	7,500	13,800	1.44	1.50	766,000
March	17,500	11,200	13,900	1.45	1.67	855,000
April	85,600	13,000	26,100	2.73	3 05	1,550,000
May	100,000	28,700	53,100	5.55	6 40	3,260,000
June	106,000	30,500	64,800	6.77	7.55	3,860,000
July	28,100	5,910	14,000	1.46	1.68	861,000
August	5,910	3,670	4,570	.478	.55	281,000
September	11,200	3,870	5,610	.586	.65	334,000
The year	106,000	3,670	20,000	2.09	28 42	14,500,000

CLEARWATER RIVER NEAR LEWISTON, IDAHO

LOCATION.—In NE. ¼ sec. 28, T. 36 N., R. 5 W., three-eighths mile below concrete diversion dam under construction by Inland Power & Light Co., 3 miles east of the Eighteenth Street highway bridge at Lewiston, Nez Perce County, and 4 miles above mouth of river.

RECORDS AVAILABLE.—August 23, 1910, to October 31, 1913; October 2, 1924, to September 30, 1927, when station was discontinued.

DRAINAGE AREA.—9,640 square miles.

EQUIPMENT.—Stevens continuous water-stage recorder on right bank at former Central Ferry site; installed October 2, 1924. Zero of present gage is at 733.33 feet above mean sea level when referred to United States Geological Survey bench marks at Lewiston as described in Bulletin 567. Discharge measurements made from highway bridge at Lewiston and at Spalding and from cable 8 miles upstream at Spalding.

CHANNEL AND CONTROL.—Bed composed of boulders and gravel. Two channels at extremely high stages. Control formed by well-defined gravel and boulder riffle; not permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, from water-stage recorder, 18.26 feet at 1 p. m. June 9 (discharge, 109,000 second-feet); minimum stage recorded, 3.46 feet at 2 to 7 p. m. August 29 (discharge, 3,340 second-feet).

1910–1913, 1924–1927: Maximum stage and discharge recorded on June 9, 1927; minimum stage, 2.4 feet August 14 and 16, 1926 (discharge, 2,030 second-feet).

Crest elevation during flood of June, 1894, was 20.8 feet, present gage datum (discharge, about 136,000 second-feet) as determined by J. C. Stevens who referred the high-water mark to the Central Ferry gage during investigations made in 1924.

DIVERSIONS AND REGULATION.—None.

ACCURACY.—Stage-discharge relation changed April 29, 30, and May 19, durin flood stages; not affected by ice. Rating curve used October 1 to April 2 well defined between 2,000 and 50,000 second-feet and extended above checked closely by four discharge measurements made during this period Two curves used thereafter based on 11 additional measurements mad during current year ranging in discharge from 4,610 to 107,000 second-feet Operation of water-stage recorder not entirely satisfactory. Daily discharg ascertained by applying to rating table mean daily gage height determine by inspection of recorder graph except as indicated in footnote to table c daily discharge. Records excellent.

COOPERATION.—Gage-height record furnished by Inland Power & Light Co.

Daily discharge, in second-feet, of Clearwater River near Lewiston, Idaho, for th year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep
1	3,670	6,900	29,200	7,500	7,500	13,000	17,200	61,600	64,200	28,100	5,980	3,7
2	3,670	6,610	39,100	8,070	12,300	14,200	17,200	57,300	63,200	25,800	5,980	5,5
2	3,670	6,180	43,200	14,200	18,500	14,200	18,800	48,000	63,200	25,800	6,210	5,1
4	5,660	5,890	41,600	13,900	17,100	15,000	18,200	43,300	64,200	24,600	6,210	4,5
5	5,660	5,610	32,900	14,200	15,400	14,600	17,200	37,900	68,300	24,100	5,750	4,4
6	4,950	5,750	27,100	14,200	13,000	14,600	16,300	34,200	75,800	22,500	5,410	4,2
7	4,500	9,050	22,700	14,200	11,600	14,200	17,200	32,100	88,400	21,400	5,300	4,0
8	6,320	10,700	19,800	13,500	10,900	13,900	19,300	30,000	102,000	18,400	5,080	4,0
9	6,900	8,420	17,200	12,000	9,900	13,100	18,200	28,600	107,000	18,000	4,760	4,0
10	5,890	7,500	15,400	10,900	8,960	12,400	16,800	29,300	95,600	17,000	4,340	3,9
11	5,470	7,050	15,400	10,200	8,660	11,700	15,900	32,100	89,600	15,100	4,340	5,0
12	5,750	7,350	17,200	10,600	8,360	11,400	15,000	39,400	83,700	14,700	4,440	8,9
13	5,890	8,420	13,500	10,600	8,070	12,800	14,200	44,800	80,300	13,900	4,720	6,9
14	8,110	9,370	10,700	9,580	7,780	17,200	14,600	53,800	75,800	13,100	5,180	9,2
15	8,420	9,690	9,370	9,580	8,070	16,800	16,800	66,200	72,500	12,800	4,720	8,0
16	7,350	10,000	11,000	11,900	8,360	14,600	19,300	81,000	68,300	12,000	5,420	6,6
17	8,420	10,000	13,100	11,900	9,270	13,900	17,200	98,000	66,300	11,700	4,950	5,9
18	11,400	8,730	13,100	11,200	11,200	13,500	16,300	89,800	63,200	10,800	4,500	5,1
19	9,690	8,260	12,400	10,900	14,200	13,100	15,000	71,500	61,200	10,800	4,280	4,9
	8,260	7,800	11,700	9,900	14,200	12,400	13,900	62,200	54,500	9,850	4,540	4,7
21	7,500	7,500	11,000	7,780	32,400	12,000	12,800	53,500	51,700	9,850	4,340	4,2
22	6,900	8,420	10,700	5,180	29,300	13,900	12,800	48,000	51,700	8,730	4,030	4,2
23	6,610	11,400	9,580	6,420	23,500	14,200	13,900	44,500	49,800	8,730	3,730	4,0
24	6,180	14,600	8,960	8,960	18,900	14,200	16,800	41,900	52,600	8,730	3,630	4,(
25	6,030	23,500	8,360	9,270	15,800	14,200	29,900	45,400	48,900	8,200	3,630	5,
26	6,760	28,500	8,660	8,660	15,000	13,500	54,200	50,800	46,200	7,680	3,540	5
27	10,400	20,400	8,360	8,070	14,200	13,100	69,600	54,500	44,500	7,300	3,540	-
28	10,700	18,200	8,070	8,070	13,000	13,100	85,000	58,300	41,100	6,930	3,830	4,
29	8,730	20,400	7,780	8,070	-------	13,500	80,400	70,400	33,000	6,690	3,540	9,
30	7,800	34,400	7,500	7,500	-------	13,900	68,000	73,600	30,500	6,450	3,440	11,
31	7,200	-------	7,780	7,220	-------	15,900	-------	67,300	-------	6,210	3,730	---

NOTE.—Gage-height record missing or in error Oct. 1–7, Nov. 25, Dec. 23–31, Jan. 1, 2, 10–31, Feb. Mar. 1, 2, Apr. 25–27, June 29, 30, July 1–7, Aug. 13–19, Sept. 12–30; discharge determined from reco Spalding station where the flow is practically the same. Discharge interpolated July 27.

Monthly discharge of Clearwater River near Lewiston, Idaho, for the year ending September 30, 1927

[Drainage area, 9,640 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	11,400	3,670	6,920	0.718	0.83	425,000
November	34,400	5,610	11,600	1.20	1.34	690,000
December	43,200	7,500	16,500	1.71	1.97	1,010,000
January	14,200	5,180	10,100	1.05	1.21	621,000
February	32,400	7,500	13,800	1.43	1.49	766,000
March	17,200	11,400	13,800	1.43	1.65	848,000
April	85,000	12,800	25,900	2.69	3.00	1,540,000
May	98,000	28,600	53,200	5.52	6.36	3,270,000
June	107,000	30,500	65,200	6.76	7.54	3,880,000
July	28,100	6,210	14,100	1.46	1.68	867,000
August	6,210	3,440	4,620	.479	.55	284,000
September	11,200	3,730	5,580	.579	.65	332,000
The year	107,000	3,440	20,100	2.09	28.27	14,500,000

SOUTH FORK OF CLEARWATER RIVER NEAR GRANGEVILLE, IDAHO

LOCATION.—In SE. ¼ NW. ¼ sec. 30, T. 30 N., R. 4 E. Boise meridian, 150 feet below power house of Inland Power & Light Co., 3 miles east of Mount Idaho, 6 miles southeast of Grangeville, Idaho County, and 19 miles above mouth.

DRAINAGE AREA.—865 square miles, revised (measured on Forest Service maps).

RECORDS AVAILABLE.—November 14, 1910, to July 31, 1911; October 9 to November 18, 1911; January 4, 1912, to September 30, 1916; and April 1, 1923, to September 30, 1927.

EQUIPMENT.—Vertical and inclined staff on right bank; installed January 8, 1924. Discharge measurements made from cable one-fourth mile below gage or by wading.

CHANNEL AND CONTROL.—Bed composed of large boulders; shifts at high stages. Gradient steep. Channel curved at gage. Left bank subject to overflow during extremely high water.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 9.35 feet June 1 (discharge, 7,560 second-feet); minimum stage, 30.2 feet at 7 a. m. August 30 and 31 (discharge, 171 second-feet).

1910–1916, 1923–1927: Maximum stage recorded, 9.7 feet May 30, 1912 (discharge, 9,830 second-feet); minimum discharge, 40 second-feet, September 24, 1924.

DIVERSIONS AND REGULATION.—Low-water flow diverted through power plant. All water diverted for power returned to river above gage. Operation of power plant causes regulation.

ACCURACY.—Stage-discharge relation permanent except as affected by ice December 15–19 and January 23 and 24. Rating curve well defined between 120 and 6,000 second-feet based on 14 discharge measurements made during 1926, 1927, and 1928, ranging from 170 to 4,800 second-feet, of which five were made during current year. Gage read to hundredths twice daily. Two readings daily may not be sufficient from which to determine mean daily stage during periods of considerable diurnal fluctuation. Daily discharge ascertained by applying mean daily gage height to rating table except for ice-affected periods. Records good between 300 and 6,000 second-feet; others fair.

COOPERATION.—Gage-height record furnished by Inland Power & Light Co.

Daily discharge, in second-feet, of South Fork of Clearwater River near Grangevil Idaho, for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Se
1	316	316	838	395	361	445	870	4,440	7,370	1,660	330	
2	284	284	935	420	420	445	870	3,690	7,370	1,480	325	
3	445	284	1,080	520	445	470	1,000	3,270	6,990	1,480	325	
4	548	284	1,080	548	445	520	870	3,000	6,810	1,400	343	
5	420	289	902	548	395	520	870	2,620	6,450	1,480	330	
6	302	325	838	575	420	520	1,000	2,500	6,450	1,310	312	
7	343	715	775	548	420	495	1,150	2,270	6,450	1,150	312	
8	361	548	715	495	370	520	1,230	2,160	6,630	1,150	268	
9	302	420	715	370	348	495	1,080	2,050	6,090	1,000	247	
10	298	361	685	395	330	420	1,000	2,160	5,580	935	247	
11	298	343	805	495	325	470	935	2,500	5,410	870	268	
12	284	420	745	495	343	470	870	2,870	5,080	870	325	
13	312	420	495	470	307	520	838	3,000	4,760	805	348	
14	361	420	312	445	334	630	1,000	3,550	4,440	805	343	
15	320	395	300	470	330	548	1,230	4,440	4,290	745	575	
16	312	445		470	325	548	1,150	5,240	3,990	685	395	
17	356	395		445	361	548	1,000	6,090	3,840	630	316	
18	361	420	575	445	370	548	1,000	5,080	3,550	630	325	
19	325	395		420	370	520	935	4,440	3,270	575	312	
20	298	370	495	370	370	470	805	3,990	3,130	575	343	
21	289	470	495	325	548	520	902	3,840	3,000	520	325	
22	276	602	470	312	520	602	1,000	3,990	2,870	470	268	
23	264	685	445	375	495	602	1,080	3,840	2,740	470	247	
24	272	745	395		470	658	1,570	3,840	3,000	420	239	
25	320	870	395	445	420	520	2,620	3,990	2,500	445	208	
26	348	805	370	470	445	602	4,140	4,760	2,500	420	255	
27	658	685	395	470	445	575	5,080	5,410	2,380	420	239	
28	370	630	395	420	420	630	5,750	5,920	2,050	395	208	
29	312	658	348	395	-------	602	5,240	6,450	1,850	366	189	
30	325	935	420	395	-------	685	4,440	7,180	1,750	334	200	
31	330	-------	420	348	-------	935	-------	7,180	-------	316	200	

NOTE.—Braced figures show estimated mean discharge, because of ice, for periods indicated.

Monthly discharge of South Fork of Clearwater River near Grangeville, Idaho, f the year ending September 30, 1927

[Drainage area, 865 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-fe
October	658	264	342	0.395	0.46	21,
November	935	284	498	.576	.64	29,
December	1,080	----------	590	.682	.79	36,
January	575	----------	441	.510	.59	27,
February	548	307	398	.460	.48	22,
March	935	420	550	.636	.73	33,
April	5,750	805	1,720	1.99	2.22	102,
May	7,180	2,050	4,060	4.69	5.41	250,
June	7,370	1,750	4,420	5.11	5.70	263,
July	1,660	316	800	.925	1.07	49,
August	575	189	296	.342	.39	18,
September	685	208	339	.392	.44	20,
The year	7,370	189	1,200	1.39	18.92	872,

NORTH FORK OF CLEARWATER RIVER NEAR AHSAHKA, IDAHO

LOCATION.—In SE. ¼ sec. 26, T. 37 N., R. 1 E., at Bruces Eddy, 1½ miles northeast of Ahsahka, Clearwater County, and 2 miles above junction with Clearwater River.

DRAINAGE AREA.—2,440 square miles (measured on Forest Service maps and base map of Idaho).

RECORDS AVAILABLE.—August 30, 1926, to September 30, 1927.

EQUIPMENT.—Inclined and vertical staff on left bank. Discharge measurements made from highway bridge 1½ miles below gage.

CHANNEL AND CONTROL.—Bed composed of gravel, boulders, and rock ledges. One channel at all stages. Low-water control formed by well-defined gravel and rock riffle 300 feet below gage; at high stages a series of similar ledges downstream forms control.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period, about 20.0 feet at 8.30 a. m. May 17 (discharge, 37,000 second-feet); minimum stage, 0.49 foot August 30, 1926 (discharge, 920 second-feet).

DIVERSIONS AND REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent except for slight ice effect during short periods in December and January. Rating curve well defined between 1,600 and 35,000 second-feet, based on 11 discharge measurements made in 1926 and 1927. Staff gage read to hundredths twice daily. Daily discharge determined by applying mean daily gage height to rating table except as indicated in footnote to table of daily discharge. Records good below 5,000 second-feet; others fair.

Daily discharge, in second-feet, of North Fork of Clearwater River near Ahsahka, Idaho, for the period August 30, 1926, to September 30, 1927

Day	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,200	1,280	2,520	6,250	3,200	2,620	3,830	7,020	25,500	20,600	9,260	2,430	1,580
2	1,900	1,280	2,250	5,260	3,100	4,390	4,630	7,500	23,100	21,500	8,930	2,430	1,660
3	1,280	1,420	2,080	7,170	6,100	6,500	4,880		20,800	22,600	8,600	2,430	1,820
4	990	2,250	2,080	12,000	5,260	5,400	4,750	5,400	19,600	24,600	8,120	2,430	1,500
5	1,060	1,740	1,900	9,590	5,260	3,400	4,750	7,020	14,400	25,300	7,800	2,430	1,500
6	1,130	1,580	2,080	7,640	5,260	3,830	5,000	7,480	13,400	28,000	7,640	2,340	1,500
7	1,130	1,740	4,160	5,260	5,130	3,510	4,750	7,640	12,900	32,300	7,170	2,340	1,580
8	1,130	2,710	3,510	4,880	5,000	3,620	5,000	7,640	13,100	34,600	6,860	2,250	1,740
9	1,130	2,340	2,900	5,000	4,750	3,450	4,880	7,480	12,700	34,400	6,700	2,080	1,580
10	1,060	1,990	2,710	6,700	4,050		4,510	7,480	16,400	30,800	6,400	2,080	1,580
11	1,130	1,990	2,430	7,020	3,830	3,400	4,510	6,400	17,400	29,500	5,960	1,990	2,520
12	1,200	2,080	2,430	7,480	3,620	3,300	5,000	6,100	18,500	28,200	5,810	1,900	3,400
13	1,130	2,430	3,100		3,940	3,100	4,880	6,400	21,900		5,530	1,900	3,510
14	990	3,400	4,280		3,720	2,900	5,530	6,700	23,100	24,000	5,000	1,900	3,200
15	990	1,990	3,400	5,000	4,050	3,100	5,810	7,020	28,000		4,750	1,900	3,000
16	1,200	1,820	3,830		5,530	3,100	5,670	7,020	31,800		4,510	1,820	2,900
17	1,420	3,620	3,510	5,400	5,810	3,300	5,260	7,320	35,700	18,000	4,390	1,820	
18	1,420	2,900	3,100	5,000	5,260	3,300	5,130	7,020	31,800		4,160	1,740	2,300
19	1,900	2,900	3,000	4,630	5,260	3,300	4,750		28,000	15,000	4,050	1,660	
20	1,900	2,620	2,800	4,510	5,000	3,620	4,510	6,000	23,600		3,830	1,740	
21	2,160	2,520	2,520	4,280		11,300	4,280		20,100		3,500	1,740	1,800
22	2,710	2,430	3,620	4,050	2,400	10,900	4,630		17,400			1,660	
23	2,900	2,340	4,390	3,720		9,590	4,750	6,700	15,800	13,000	3,200	1,660	
24	2,160	2,160	6,400	3,940	4,510	5,130	4,880	8,440	16,000			1,580	
25	1,580	2,080	11,800	3,720	3,620	4,630	5,000	20,800	16,200		2,900	1,580	2,160
26	1,500	2,160	13,600	3,620	3,300	4,280	5,260	25,500	18,100	13,100		1,580	2,250
27	1,580	4,050	12,000	3,400	3,200	4,280	5,000	28,000	18,300	12,700	2,760	1,580	2,340
28	1,990	3,300	10,900	3,000	3,100	4,050	4,750	33,100	19,900	11,800		1,580	2,800
29	1,350	2,710	9,590	3,000	3,200		4,750	28,000	20,600	10,800	2,600	1,500	4,510
30	1,280	2,620	7,020	3,100	3,200		5,000	26,800	21,000	9,920		1,500	3,720
31		2,710		3,200	3,720		6,700		20,100		2,430	1,500	

NOTE.—Discharge Aug. 30 and 31, 1926, was 920 and 2,160 second-feet, respectively. Discharge estimated because of ice and because of unreliable and missing gage heights Nov. 27, Dec. 13–16, Jan 21–23, Feb. 3, 9, 10, 21–23, Apr. 2, 3, 19–22, June 13–25, July 21–26, 28–30, Sept. 17–24, based on flow of other streams in Clearwater Basin. Braced figures show mean discharge for periods included.

Monthly discharge of North Fork of Clearwater River near Ahsahka, Idaho, for the period August 30, 1926, to September 30, 1927

[Drainage area, 2,440 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1926						
August 30-31	2,160	920	1,540	C.631	0.05	6,100
September	3,200	990	1,550	.635	.71	92,200
The period						98,300
1926-27						
October	4,050	1,280	2,360	.967	1.11	145,000
November	13,600	1,900	4,660	1.91	2.13	277,000
December	12,000	3,000	5,250	2.15	2.48	323,000
January	6,100		4,130	1.69	1.95	254,000
February		2,620	4,530	1.86	1.94	252,000
March	6,700	3,830	4,940	2.02	2.33	304,000
April	33,100		10,900	4.47	4.99	649,000
May	35,700	12,700	20,500	8.40	9.68	1,260,000
June	34,600	9,920	20,400	8.36	9.33	1,210,000
July	9,260		5,090	2.09	2.41	313,000
August	2,430	1,500	1,910	.783	.90	117,000
September	4,510	1,500	2,280	.934	1.04	136,000
The year	35,700	1,280	7,240	2.97	40.29	5,240,000

TUCANNON RIVER NEAR POMEROY, WASH.

LOCATION.—In sec. 13, T. 11 N., R. 40 E., at highway bridge at abandoned post office of Marengo, 9 miles southwest of Pomeroy, Columbia County, 14 miles above Petaha Creek, and 17½ miles north of Dayton.

DRAINAGE AREA.—109 square miles (measured on Umatilla National Forest map).

RECORDS AVAILABLE.—August 31, 1913, to June 30, 1915; March 1, 1924, to September 30, 1927.

EQUIPMENT.—Vertical staff in two sections on downstream corner of left abutment. Discharge measurements made from highway bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of gravel. Banks not subject to overflow. Control formed by boulder and gravel riffle 75 feet below gage; shifting at high water.

EXTREMES OF DISCHARGE.—Maximum discharge recorded during year, 602 second-feet April 28 (gage height, 5.38 feet); minimum stage, 4.15 feet October 1 (discharge, 59 second-feet).

1913–1915, 1924–1927: Maximum discharge, 642 second-feet at 8.30 a. m. February 5, 1925 (gage height, 5.35 feet); minimum stage recorded, 1.2 feet at 7.30 a. m. December 24, 1914 (discharge, 25 second-feet).

DIVERSION AND REGULATION.—Several small diversions for irrigation above station.

ACCURACY.—Stage-discharge relation changed on April 29 and gradually thereafter until June 30; affected by ice December 14–17 and January 18–26. Rating curve used October 1 to April 28, well defined below 400 second-feet; checked by two discharge measurements made in April of current year. Curve used July 1 to end of year fairly well defined by one discharge measurement, point of zero flow, and shape of previous curves. Gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table; shifting-control method, based upon results of three discharge measurements made during the period, used April 29 to June 30. Records good.

Daily discharge, in second-feet, of Tucannon River near Pomeroy, Wash., for the year ending September 30, 1927

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	59	67	385	92	152	218	214	444	258	134	75	62
2	61	67	450	98	218	218	214	385	271	129	71	62
3	67	67	385	124	258	218	204	352	305	129	71	62
4	65	65	315	177	267	222	193	315	305	132	71	71
5	62	65	258	200	258	225	190	276	315	124	71	73
6	62	71	225	207	236	218	184	249	341	115	71	81
7	67	81	200	207	200	200	170	249	418	115	69	92
8	67	87	177	190	184	200	170	229	514	113	67	87
9	65	81	152	174	167	193	167	225	530	108	67	81
10	64	77	143	161	152	184	193	222	482	103	65	92
11	64	77	143	137	146	167	193	236	437	101	64	108
12	62	77	137	129	137	158	177	254	398	96	64	103
13	67	79	137	124	124	167	170	295	363	94	65	103
14	67	79		118	124	200	167	358	341	92	65	121
15	65	118	115	118	167	184	187	458	320	89	65	108
16	67	110		118	152	167	190	566	300	92	64	96
17	77	98		118	137	184	190	548	280	92	62	92
18	71	98	115		137	184	193	466	267	89	62	87
19	67	98	118		143	177	161	430	240	85	62	85
20	67	98	118		190	174	161	358	236	81	62	81
21	65	98	124		490	200	155	305	218	79	62	81
22	64	103	118	105	490	200	149	290	207	77	62	77
23	64	124	110		450	218	155	290	193	75	62	79
24	64	158	103		341	258	193	290	190	75	61	79
25	64	211	105		305	258	320	300	180	73	61	79
26	77	207	98		258	249	437	310	193	73	61	77
27	87	200	96	124	236	249	557	300	184	71	61	96
28	89	184	92	137	218	225	602	285	164	71	61	96
29	77	236	87	124	------	211	539	262	152	71	69	103
30	73	358	87	115	------	207	514	249	143	71	69	115
31	71	------	87	115	------	218	------	254	------	71	62	------

Monthly discharge of Tucannon River near Pomeroy, Wash., for the year ending September 30, 1927

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	89	59	68.0	4,180
November	358	65	119	7,020
December	450	87	162	9,960
January	207	------	131	8,060
February	490	124	226	12,600
March	258	158	205	12,600
April	602	149	244	14,500
May	566	222	324	19,900
June	530	143	292	17,400
July	134	71	94.2	5,790
August	75	61	65.3	4,020
September	121	62	87.6	5,210
The year	602	59	167	121,000

MISCELLANEOUS DISCHARGE MEASUREMENTS

Discharge measurements of streams in the Snake River Basin at points other than regular gaging station, made during the year ending September 30, 1927, are listed in the following table:

Miscellaneous discharge measurements in Snake River drainage basin during the year ending September 30, 1927

Date	Stream	Tributary to or diverting from—	Locality	Gage height	Discharge
				Feet	*Sec.-ft.*
Oct. 9	Snake River	Columbia River	Robertson ranch near Blackfoot, Idaho.	3.94	998
Apr. 16	do	do	do	5.42	2,650
May 9	do	do	do	8.51	[a] 9,480
12	do	do	do	7.84	[a] 7,270
July 25	do	do	do	5.90	3,530
Aug. 4	do	do	do	5.42	2,740
18	do	do	do	6.58	4,770
19	do	do	do	6.49	4,690
21	do	do	do	6.39	4,380
23	do	do	do	6.44	4,510
25	do	do	do	5.94	3,600
Sept. 21	do	do	do	5.76	3,340
Aug. 9	do	do	N. ½ sec. 30, T. 9 S., R. 17 E., 5 miles northwest of Twin Falls, Idaho.		1,170
10	Aggregate surface inflow.	Snake River	Between Shelley and Blackfoot Bridge gaging stations, Idaho.		207
11	do	do	Between Blackfoot Bridge and Clough gaging stations, Idaho.		92.6
May 13	Bannock Jim Slough	do	100 yards below head, near Thornton, Idaho.	2.44	53.2
27	do	do	do	2.90	107
July 9	do	do	do	1.84	40.6
20	do	do	do	1.58	18.3
27	do	do	do		[b] 5.0
Aug. 8	do	do	do	1.26	3.43
June 3	Lowder Slough	do	300 yards below head, near Ririe, Idaho.	2.86	232
11	do	do	do	5.80	2,140
18	do	do	do	5.68	1,750
July 9	do	do	do	5.26	1,540
19	do	do	do	[c] 2.37	338
23	do	do	do	2.23	323
28	do	do	do	2.02	271
Aug. 8	do	do	do	1.12	97.7
16	do	do	do	1.67	199
27	do	do	do	1.32	128
July 21	Market Lake Springs	do	¾ mile above mouth, near Roberts, Idaho.	1.32	5.70
28	do	do	do	1.06	3.83
Aug. 2	do	do	do	1.04	3.73
13	do	do	do	1.08	3.52
24	do	do	do	1.22	3.55
Sept. 17	Big Springs	Henrys Fork	Big Springs, Idaho	.72	192
Mar. 22	Camas Creek	Mud Lake	NW. ¼ sec. 36, T. 7 N., R. 35 E., at highway bridge 5 miles southwest of Hamer, Idaho.		74.4
May 3	do	do	do		161
29	do	do	do		136
June 14	do	do	do		135
July 7	do	do	do		36.1
15	do	do	do		18.5
Aug. 19	do	do	do		[b] 25
Sept. 9	do	do	do		35.9
25	do	do	do		62.7

[a] Main channel only; flow through side channels not measured.
[b] Estimated.
[c] New datum.

Miscellaneous discharge measurements in Snake River drainage basin during the year ending September 30, 1927—Continued

Date	Stream	Tributary to or diverting from—	Locality	Gage height	Discharge
				Feet	*Sec.-ft.*
Mar. 22	Spring Creek	Mud Lake	At Jacketts ranch, sec. 28, T. 7 N., R. 35 E., 8 miles west of Hamer, Idaho.		18.0
May 3	do	do	do		14.3
26	do	do	do		12.9
July 7	do	do	do		8.9
Sept. 9	do	do	do		10.6
Mar. 22	Dead Line Lake outlet	Spring Creek	At Jacketts ranch, in S. ½ NE. ¼ sec. 27, T. 7 N., R. 35 E., 6 miles west of Hamer, Idaho.		15.4
June 15	Little Lost River	Snake River	Sec. 11, T. 6. N., R. 28 E., *125 feet below head of* Blaine County Investment Co.'s canal, 8 miles northwest of Howe, Idaho.		83.6
Mar. 28	Big Lost River	do	Sec. 4, T. 5 N., R. 26 E., at Grant Walburn ranch, 1 mile above Moore Canal diversion, 4 miles north of Moore, Idaho.	0.35	41.1
10	Blue Lakes outlet	do	SW. ¼ SW. ¼ sec. 28, T. 9 S., R. 17 E., 200 feet below highway bridge at Blue Lakes ranch, 4 miles north of Twin Falls, Idaho.		212
Apr. 22	Crooks Creek	Fish Creek	About sec. 11, T. 1 N., R. 22 E., 2 miles above Fish Creek Dam, 11 miles northwest of Carey, Idaho.	.40	3.3
June 8	do	do	do	.78	7.7
July 25	Ake No. 1 lateral	Mountain Home feeder canal.	Sec. 36, T. 2 S., R. 6 E., 5 miles north of Mountain Home, Idaho.		b.2
25	Ake No. 2 lateral	do	do		3.9
25	Ake No. 3 lateral	do	do		b.05
Nov. 14	Owyhee River	Snake River	W. ½ sec. 24, T. 44 N., R. 54 E., at former gaging station. 9 miles west of Gold Creek, Nev.	1.86	3.2
Aug. 23	North Fork of Boise River.	do	Sec. 20, T. 7 N., R. 10 E., 1 mile below Johnson Creek, 19 miles southeast of Lowman, Idaho.		79.0
10	do	do	Sec. 4, T. 4 N., R. 7 E., just above Middle Fork of Boise River, 13 miles southeast of Idaho City, Idaho.		230
Sept. 5	Middle Fork of Boise River.	Boise River	Sec. 36, T. 6 N., R. 11 E., at Monarch Mill below Quartz Gulch, 2 miles northeast of Atlanta, Idaho.		59.5
Aug. 10	do	do	Sec. 4, T. 4 N., R. 7 E., 50 feet above mouth, 13 miles southeast of Idaho City, Idaho.		318
Sept. 7	South Fork of Boise River.	do	About sec. 21, T. 4 N., R. 13 E., 4 miles above Big Smoky Creek, 18 miles east of Featherville, Idaho.		60.1
6	do	do	Sec. 11, T. 3 N., R. 10 E., above Feather River, 1 mile east of Featherville, Idaho.		229
6	do	do	Sec. 7, T. 1 N., R. 10 E., ¼ mile below bridge, 1½ miles south of Pine, Idaho.		260
7	Big Smoky Creek	South Fork of Boise River.	Sec. 10, T. 3 N., R. 13 E., at bridge ¼ mile below Little Smoky Creek, 19 miles *east of Featherville, Idaho.*		98.

b Estimated.

Miscellaneous discharge measurements in Snake River drainage basin during the year ending September 30, 1927—Continued

Date	Stream	Tributary to or diverting from—	Locality	Gage height	Discharge
				Feet	*Sec.-ft.*
Sept. 7	Little Smoky Creek	Big Smoky Creek	Sec. 11, T. 3 N., R. 13 E., 100 yards below Lick Creek, 1 mile above junction with Big Smoky Creek, 20 miles east of Featherville, Idaho.	-------	8.7
Oct. 8	Lake Fork of Payette River.	North Fork of Payette River.	NW. ¼ NW. ¼ sec. 13, T. 18 N., R. 3 E., 600 feet below reservoir, 3 miles east of McCall, Idaho.	1.34	188
30	North Side Canal of Emmett Irrigation District.	Diverts from Payette River.	Black Canyon Dam, sec. 22, T. 7 N., R. 1 W., 5½ miles northeast of Emmett, Idaho.	-------	Dry.
Apr. 27	do	do	do	.64	242
May 9	do	do	do	1.06	285
Oct. 9	South Side Canal of Emmett Irrigation District.	do	do	7.37	42.2
30	do	do	do	5.30	[b].2
May 9	do	do	do	8.33	65.5
June 23	do	do	do	8.90	90.6
July 29	do	do	do	8.98	89.1
May 2	Mesa Orchards Canal	Diverts from Middle Fork of Weiser River.	Sec. 14, T. 15 N., R. 1 W., 1,700 feet above end of flume, 1½ miles northeast of Mesa, Idaho.	.54	4.4
June 5	do	do	do	1.02	9.9
29	do	do	do	1.83	22.9
Aug. 5	do	do	do	.10	[b].2
Sept. 15	do	do	do	1.42	15.9
July 17	Elk Creek	Bear Valley Creek	In about sec. 35, T. 13 N., R. 8 E., ⅜ mile below mouth of Beaver Creek, 2½ miles west of Elk Creek ranger station and 14 miles west or Cape Horn, Idaho.	3.01	201
Aug. 9	do	do	do	2.18	74.7
July 16	Beaver Creek	Elk Creek	In about sec. 34, T. 13 N., R. 8 E., just below mouth of Bearskin Creek, 4 miles west of Elk Creek ranger station, 15 miles west of Cape Horn, Idaho.	2.84	50.8
Aug. 9	do	do	do	2.22	22.4

[b] Estimated.

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