



C. A. BOTTOLFSEN
GOVERNOR

STATE OF IDAHO
DEPARTMENT OF RECLAMATION

~~JAMES SPOFFORD~~, COMMISSIONER
James Spofford

BOISE

~~DEPUTY COMMISSIONER~~
DEPUTY COMMISSIONER

January 12, 1943

Honorable C. A. Bottolfsen
Governor of Idaho
Boise, Idaho

Dear Governor:

Herewith is transmitted the annual report of Lynn Crandall, Watermaster and Special Deputy Commissioner of Reclamation for Water District No. 36, for the year of 1942. The report summarizes the operations connected with the distribution of the waters of Snake River to the lands within this water district, which comprises over one million acres and extends from the headwaters of the river to the lands served by water diverted from the Milner Dam.

The report discloses that snow conditions at the end of March, 1942 held a water content which was about eighty per cent of the average for the past seven years. This average was raised from five to ten per cent by heavy precipitation in May.

No apparent difficulties were experienced in water distribution during the year and the sixty main canals delivered 5,994,438 acre feet of water in serving 937,317 acres or 6.4 acre feet per acre, which was an increase of about three per cent over the deliveries for 1941.

At the close of the irrigation season on September 30, 1942, there still remained a carry-over of 940,000 acre feet of water in the reservoirs. This storage has consistently built up to an aggregate of 1,470,000 acre feet on January 9, 1943, and the depth of water in snow cover on the watershed was far above normal, indicating prospects for an abundant water supply during the 1943 irrigation season.

The distribution of water in District No. 36 during 1942 was carried on in the usual efficient manner, which deserves the support of the water users, the Committee of Nine and this Department.

Respectfully submitted,

James Spofford
JAMES SPOFFORD
Commissioner of Reclamation



STATE OF IDAHO
DEPARTMENT OF RECLAMATION
LYNN CRANDALL, WATERMASTER
IDAHO FALLS, IDAHO

WATER DISTRICT NO. 36

A. BOTTOLFSEN, GOVERNOR
JES SPOFFORD, COMMISSIONER

January 6, 1943.

Mr. James Spofford
Commissioner of Reclamation
State of Idaho
Boise, Idaho

Dear Sir:

I am transmitting herewith the annual report covering the operation of Water District No. 36 during 1942. The work in this District was continued during that year as a cooperative enterprise between the U. S. Geological Survey, State of Idaho, and the Snake River water users. The first two parties contributed an amount of money that would normally have been spent on stream gaging work in the District and the balance of the expenses, directly chargeable to water distribution, were paid by the water users.

There were no unusual difficulties experienced in water distribution during the year. The supply of irrigation water was ample and 940,000 acre-ft. still remained in the reservoirs at the close of the season on September 30, 1942.

The advice and cooperation of your Department and of the Committee of Nine have been greatly appreciated. Thanks are also due to the U. S. Bureau of Reclamation and its employees, to the canal companies, deputy watermasters, hydrographers, river riders, etc., and particularly to W. V. Iorns and Charlotte M. Elg for their capable assistance in the preparation of this report.

Very truly yours,

LYNN CRANDALL

Watermaster.

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INTRODUCTION

At the annual watermaster election of District No. 36 held on March 2, 1942, at Idaho Falls, 52 canals with 34,136 sec.-ft. of decreed rights were represented. Lynn Grandall was elected as watermaster for the ensuing year and the following were selected as members of the Committee of Nine:

F. A. Miller, Chairman; E. H. Neal, Vice-Chairman, E. A. Brookman, John E. Kelley, Eph Ricks, Hyrum Severson, N. V. Sharp, R. E. Shepherd, and A. E. Stanger.

Advisory members: S. R. Marean for Bureau of Reclamation, and F. C. Gillette for Teton Basin; John Lee, Secretary.

The schedule of stored water transmission losses in effect for several years past was again approved for 1942 as follows: $2\frac{1}{2}\%$ Moran to Heise; 4.4% Heise to Lorenzo; 0.5% Lorenzo to Shelley; 6% Shelley to Blackfoot; 4% Henrys Lake to Island Park; 2% Island Park to Warm River; 0.5% Warm River to Ashton.

The budget adopted at the meeting authorized expenditures of \$23,817.50 during the year beginning April 1, 1942, and the apportionment of a year's costs at the close of the 1942 irrigation season among all users in proportion to the amount of water diverted during the 1942 irrigation season. For this purpose the irrigation season was to be considered as beginning on April 15 in the lower valley, May 1 in the upper valley, and May 15 in the headwater areas, Teton Basin, Island Park, and Swan Valley.

At the time of the annual water meeting early in March, the snow fall on the upper watershed was about 90% of normal. Due to deficient March precipitation this decreased to about 80% by April 1st. With

normal April precipitation and very heavy May precipitation, the actual run-off of Snake River at the Heise station for the year ending September 30, 1942, was 89% of normal compared to only 76% during the preceding year.

There was no shortage of water supply during 1942 under any canals that could be supplied with stored water, as a considerable surplus of storage was available for rent to canals needing same. At the close of the 1942 season all reservoirs held more water than they did a year previous, and the aggregate holdover of 940,580 acre-ft. was the greatest since 1938.

American Falls Reservoir filled on April 16, 1942, and remained above its rated capacity of 1,700,000 acre-ft. until June 7.

In addition to filling American Falls Reservoir there were about 499,000 acre-ft. wasted past Milner in excess of Idaho Power Company rights, largely due to the heavy May precipitation that increased the river flow and reduced irrigation demand.

Jackson Lake filled on June 24 by reason of retaining natural flow there belonging to prior rights below American Falls. After deducting such credits the Jackson Lake water available for allotment to the Jackson Lake rights amounted to 811,160 acre-ft.

Island Park and Grassy Lake Reservoirs filled to capacity while water was still being spilled to waste past Milner. Henrys Lake reached its highest level of 66,860 acre-ft. on July 16-17, of which 55,770 acre-ft. were allotted to Henrys Lake rights.

Total storage diversions during 1942 amounted to 1,894,003 acre-ft. not including 28,727 acre-ft. of primary stored water carried past Milner by the Idaho Power Company for use at downstream power plants.

Regulation began on June 3 but it was July 14 before the river dropped to where there was no natural flow to be carried past Blackfoot to fill the earliest lower valley priority of October 11, 1900. The river continued to drop at a fairly steady rate until September 10 when 80% of the May 11, 1889 rights were being filled. General rains in the upper valley September 12-13 reduced the demand and increased the stream flow so that some of the 1905 rights were restored. Upper valley canals resumed irrigation at an increased rate about September 26 and on this account it was then necessary to cut off the 1891 rights until the end of September when storage deliveries were terminated and regulation discontinued.

The Bureau of Reclamation completed its field examination of the Palisade Reservoir and damsite, consisting of surveys of the area to be flooded, diamond drill explorations, and search for materials suitable for the embankment and concrete aggregate. The Bureau is still continuing its study of possible methods of water conservation on the River so as to provide a greater and more certain water supply for the proposed Reservoir.

PERSONNEL

The persons engaged in water distribution during 1942 were as follows:

Lynn Crandall	Watermaster & Deputy Comm. of Reclamation.
W. V. Iorns	Assoc. Engineer & Deputy Watermaster.
Melvin Luke	Deputy Watermaster & Hydrographer at St. Anthony.
I. V. Goslin	Hydrographer.
F. W. Tolles	Hydrographer.
Charlotte M. Elg	Clerk.
Oleen Dummer	Deputy Watermaster & Hydrographer, Teton Basin.
D. W. Archibald	Deputy Watermaster, Henrys Fork.
J. Bohi	Deputy Watermaster, Lower Teton River.
Walter C. Lenz	Deputy Watermaster, Upper Fall River.
D. R. Crystal	Deputy Watermaster, Heise Division.
H. M. Bramwell	Deputy Watermaster, Rigby Division.

Paul Koller	Deputy Watermaster, Idaho Falls Division.
Eugene Liljenquist	Deputy Watermaster, Blackfoot Division.
G. S. Gilham	Deputy Watermaster, Milner Dam.
F. S. Thomas	Deputy Watermaster, Swan Valley Division
S. R. Marean	Supt. Minidoka Project, Bureau of Reclamation.
A. W. Heath	Supt. Am. Falls Res., " " "
Glenn Simmons	Supt. Jackson Lake, " " "
S. Geo. Pilcher	Supt. Island Park Res., " " "
E. A. Harris and J. J. Taylor	Supt. Grassy Lake, " " "

Gage readers: H. T. Young, Mrs. Levi Stone, Seth Hansen, Mrs. Irvin Siepert, James Fugal, J. F. Johnson, D. R. Anthony, J. A. Clough, T. E. Culley, A. J. Ayers, D. O. Rawson, S. P. Sorensen, and V. R. Pugmire.

SNOW SURVEYS

Records of the snow measurements on the Jackson Lake watershed as made by the Bureau of Reclamation from 1919 to date are given in the following table.

Table showing average snow depth and water content in inches on Jackson Lake watershed
(Observations made 14-21st of each month)

Year	January		February		March		April	
	Snow	Water	Snow	Water	Snow	Water	Snow	Water
1919	36	8.1	45	12.0	52	16.8	49	18.4
1920	49	9.6	54	13.8	74	21.5	70	23.0
1921			63	17.9	65	20.6	56	21.3
1922	54	14.2	72	18.2	73	22.0	64	23.4
1923	43	11.3	51	15.6	64	20.7	54	23.0
1924	44	10.8	47	13.5	51	15.8	48	17.7
1925	50	12.8	66	24.0	75	25.9	50	21.9
1926	32	9.0	52	14.0	49	16.6	40	15.6
1927	66	18.5	75	27.0	82	33.0	85	36.0
1928	58	18.0	59	20.4	69	23.8	80	31.5
1929	37	8.8	60	16.5	61	20.2	62	22.0
1930	36	8.3	49	13.5	53	16.8	27	11.7
1931	25	5.2	30	6.2	35	8.4	27	8.9
1932	47	12.1	64	20.0	69	24.0	61	25.0
1933	46	10.8	67	18.8	67	21.6	62	24.0
1934	36	8.5	35	12.9	40	15.3	33	15.7
1935	51	12.2	46	14.3	52	17.9	60	23.8
1936	61	13.8	77	23.1	82	29.9	75	32.0
1937	39	8.4	60	16.2	60	19.7	61	24.3
1938	42	11.3	61	18.9	65	22.5	67	27.7
1939	46	11.6	69	20.4	74	24.0	42	19.1

Year	January		February		March		April	
	Snow	water	Snow	Water	Snow	Water	Snow	Water
1940	28	6.3	43	11.3	55	18.5	40	17.6
1941	43	11.2	53	15.3	49	15.8	34	13.5
1942	35	9.6	50	14.5	53	16.6	35	14.1
Average, inches	44	10.9	56	16.6	61	20.3	53	21.3

The above table is the average of results at Moran, Moran Canyon, Arizona Station, Huckleberry Divide, Snake River Station, Coulter Creek, Lewis Lake Divide, Aster Creek, and Glade Creek.

The water content on the Jackson Lake watershed as a percent of average was as follows: January 88%, February 87%, March 82%, April 66%. Part of the low content in April was due to melting that evidently occurred between the March and April surveys. The heavy precipitation, far above normal, that occurred during the snow melting month of May doubtless was mainly responsible for the annual run-off at Moran for 1942 being 87% of normal, or about 5% greater than the March snow survey percentage.

The results of snow measurements by the Bureau of Reclamation on the Buffalo River watershed are shown in the following table. Buffalo River, which enters Snake River about six miles below Moran, drains a region of high elevation and is one of the last of the Snake River tributaries to reach its peak flow each year.

Table showing average snow depths and water content in inches on Buffalo River watershed

Year	Feb. 1-6		Mar. 23-29	
	Snow	Water	Snow	Water
1924	40	11.2		
1925	48	13.6		
1926	42	11.5		
1927	43	11.9		
1928	44	12.4		
1929	38	10.2		
1930	41	10.5		

Year	Feb. 1-6		Mar. 23-29	
	Snow	Water	Snow	Water
1931	17	4.0		
1932	35	9.1		
1933	34	10.0		
1934	27	7.8		
1935	40	11.0		
1936	46	11.9	61	21.0
1937	33	8.4	45	13.8
1938	50	13.0	62	19.4
1939	45	12.2	52	17.3
1940	29	6.3	40	12.0
1941	36	9.3	46	14.6
1942	38	9.4	48	13.4
Average inches	38	10.2	51	15.8

The foregoing figures are the average of results obtained at Turpin Meadows, Four-Mile Meadows, Black Rock, and Twogwotee Pass.

The 1942 snow survey on the Buffalo River watershed showed 92% of normal in February and 85% late in March.

Beginning with 1936 snow surveys have been made available by the Irrigation Division, Soil Conservation Service, Department of Agriculture in cooperation with the Forest Service, Bureau of Reclamation, National Park Service and State of Idaho. Results of such measurements at the principal stations on the upper Snake River drainage are as follows:

Station	Depth in Inches									
	Last of Dec.		Last of Jan.		Last of Feb.		Last of Mar.		Last of April	
	Snow	Water	Snow	Water	Snow	Water	Snow	Water	Snow	Water
Island Park (Henry's Fk.)										
1936 Season	21	4.2	41	11.0	54	15.6	50	16.0		
1937 "	25	3.0	44	9.0	51	14.6	48	14.5	33	12.0
1938 "	26	5.9	37	8.2	48	11.9	64	19.5	18	7.6
1939 "	24	4.9	48	10.1	53	14.4	33	11.2		
1940 "	10	1.0	27	5.1	41	10.8	35	11.7		
1941 "	28	4.1	38	8.4	40	10.3	32	9.6		
1942 "	29	4.9	42	9.7	47	12.5	41	13.1		
Average	23	4.0	40	8.8	48	12.9	43	13.7		

Station	Last of Dec.		Last of Jan.		Last of Feb.		Last of Mar.		Last of April	
	Snow	Water	Snow	Water	Snow	Water	Snow	Water	Snow	Water
<u>Big Springs (Henrys Fk.)</u>										
1936 Season	24	5.5	54	15.6	65	21.8	70	23.3		
1937 "	26	3.4	52	10.5	63	17.6	59	20.2	41	17.3
1938 "	28	6.4	40	9.6	53	14.7	72	23.3	32	12.0
1939 "	31	7.8	48	11.4	60	18.3	50	17.8		
1940 "	11	1.1	27	6.1	46	11.9	41	14.0		
1941 "	34	6.0	46	11.2	47	13.0	45	14.2		
1942 "	30	5.1	47	10.4	55	15.4	48	16.0		
Average	26	5.1	45	10.7	56	16.1	55	18.4		

Valley View Ranch (Henrys Fk.)

1936 Season	22	5.0	-	-	-	-	58	19.8		
1937 "	23	3.1	-	-	-	-	47	13.8	31	12.2
1938 "	-	-	-	-	-	-	62	20.0	30	12.5
1939 "	22	3.8	-	-	-	-	40	12.2		
1940 "	8	0.7	21	4.0	33	7.8	31	10.1		
1941 "	30	2.9	-	-	-	-	32	9.3		
1942 "	21	4.0	-	-	-	-	38	10.9		
Average	21	3.5	-	-	-	-	44	13.7		

Grassy Lake (Fall R.)

1940 Season	34	13.3	50	21.5	78	32.6	66	33.0		
1941 "	61	18.2	72	23.7	75	27.5	64	23.9	56	28.6
1942 "	-	-	52	16.9	71	23.6	66	23.9	45	20.8
Average	48	15.8	58	20.7	75	27.9	65	26.9	50	24.7

Bechler Ranger Sta. (Fall R.)

1936 Season	40	9.6	71	20.6	87	29.1	87	31.0		
1937 "	26	4.5	59	13.1	72	22.3	68	24.8		
1938 "	32	8.2	52	14.0	59	18.9	91	29.4		
1939 "	39	10.0	69	17.2	85	25.1	57	24.4	18	8.3
1940 "	31	6.0	43	12.8	56	18.0	63	25.0	31	15.8
1941 "	42	9.4	58	15.3	59	18.8	46	16.4		
1942 "	30	6.9	46	12.4	62	18.3	57	20.2	25	9.7
Average	34	7.8	57	15.1	69	21.5	67	24.5	25	11.3

Teton Pass (Teton R.)

1936 Season	28	7.4	74	19.6	100	32.0	116	37.0		
1937 "	-	-	41	11.4	62	20.0	72	24.2		
1938 "	33	9.0	-	-	69	25.4	97	34.6		
1939 "	49	13.2	55	16.0	78	26.4	77	28.6		
1940 "	14	1.0	48	11.0	61	16.6	63	22.2		
1941 "	41	9.2	51	11.8	57	15.2	56	18.4		
1942 "	33	7.8	45	14.0	58	18.8	63	21.4		
Average	33	7.9	52	13.9	69	22.1	78	26.6		

Station	Last of Dec.		Last of Jan.		Last of Feb.		Last of Mar.		Last of Apr.	
	Snow	Water	Snow	Water	Snow	Water	Snow	Water	Snow	Water
<u>State Line (Teton R.)</u>										
1936 Season	21	4.0	49	11.4	66	21.0	75	28.0		
1937 "	-	-	32	8.1	45	12.6	42	15.0		
1938 "	15	2.0	-	-	41	12.9	56	20.1		
1939 "	31	6.1	34	7.1	46	12.1	35	12.8		
1940 "	6	0.4	31	5.2	36	8.6	27	10.1		
1941 "	30	5.0	36	7.3	42	10.1	30	9.7		
1942 "	24	4.0	33	9.1	39	12.0	39	12.4		
Average	21	3.6	36	8.0	45	12.7	43	15.5		

East Rim (Hoback R.)

1936 Season	10	1.7	-	-	-	-	62	22.6		
1937 "	17	2.8	-	-	-	-	38	12.2	35	12.9
1938 "	19	4.0	-	-	-	-	45	13.2	20	6.6
1939 "	23	4.9	-	-	-	-	33	7.2	-	-
1940 "	-	-	-	-	-	-	25	7.0	24	6.0
1941 "	-	-	-	-	34	10.4	32	11.0	-	-
1942 "	-	-	-	-	32	7.0	32	7.9	-	-
Average	-	-	-	-	-	-	38	11.6	-	-

Bryan Flat (Hoback R.)

1936 Season	11	1.7	32	7.1	-	-	50	19.5		
1937 "	14	2.3	19	4.9	33	8.1	30	10.2	14	5.6
1938 "	13	2.8	21	5.5	26	6.7	39	11.4	0	0
1939 "	17	3.9	30	6.6	31	8.4	24	8.0		
1940 "	4	0.3	20	4.6	19	6.5	16	4.3		
1941 "	24	5.3	26	5.8	33	9.5	23	9.0		
1942 "	19	3.2	23	5.2	29	5.4	28	7.4		
Average	15	2.8	24	5.7	28	7.4	30	10.0		

Yellowjacket (Gros Ventre R.)

1936 Season	8	1.0	20	2.9	-	10.0	38	11.3		
1937 "	9	1.2	13	2.3	22	4.3	20	6.4	10	2.9
1938 "	12	2.8	16	3.2	21	4.2	31	7.5	0	0
1939 "	16	2.6	20	3.9	26	5.2	19	5.1		
1941 "	-	-	19	3.3	-	-	23	5.1		
1942 "	-	-	-	-	-	-	21	4.3		
Average	11	1.9	18	3.1	23	5.9	25	6.6		

Grover Park Divide (Salt River)

1936 Season	-	-	46	12.6	46	15.8	69	19.6		
1937 "	23	4.1	24	4.5	36	10.8	36	11.4		
1938 "	16	4.2	25	5.6	25	7.9	42	12.4		
1939 "	-	-	23	6.4	36	9.4	20	7.6		
1940 "	-	-	26	6.6	31	9.9	25	9.8		
1941 "	27	4.6	30	7.0	31	9.1	21	8.0		
1942 "	-	-	26	5.2	31	8.5	28	8.8		
Average	22	4.3	29	6.8	34	10.2	34	11.1		

Station	Last of Dec.		Last of Jan.		Last of Feb.		Last of Mar.	
	Snow	Water	Snow	Water	Snow	Water	Snow	Water

CCC Camp FF12 (Salt River)

1936 Season	-	-	35	10.7	53	17.1	65	22.7
1937 "	17	3.5	22	4.4	36	9.2	35	12.3
1938 "	18	4.4	30	6.7	32	8.4	43	13.2
1939 "	-	-	29	5.7	36	10.1	21	7.8
1940 "	-	-	26	5.9	27	8.8	22	8.4
1941 "	23	4.4	25	6.6	31	8.1	23	8.2
1942 "	-	-	24	4.5	29	6.8	26	7.2
Average	19	4.1	27	6.4	35	9.8	34	11.4

Afton Ranger Sta. (Salt River)

1936 Season	-	-	28	8.0	26	10.2	24	9.8
1937 "	11	2.4	13	2.4	19	4.5	7	2.9
1938 "	7	1.3	11	2.3	10	2.9	0	0
1939 "	-	-	23	3.7	25	6.2	0	0
1940 "	-	-	15	2.8	9	2.8	0	0
1941 "	14	2.5	16	4.0	15	4.6	0	0
1942 "	-	-	15	3.3	19	4.0	0	0
Average	11	2.1	17	3.8	18	5.0	4	1.8

Somsen's Ranch (Greys Lake)

1936 Season	-	-	-	-	51	16.5	64	20.7
1937 "	-	-	28	5.6	37	10.7	36	12.0
1938 "	-	-	25	5.4	29	7.6	40	12.6
1939 "	-	-	33	6.2	38	9.8	15	5.5
1940 "	-	-	24	5.0	26	7.8	19	6.9
1941 "	-	-	27	6.0	31	8.3	26	7.9
1942 "	-	-	29	6.8	33	9.1	33	9.5
Average	-	-	28	5.8	35	10.0	33	10.7

Deadman Ranch (Greys R.)

1936 Season	-	-	36	9.6	58	19.1	77	24.8
1937 "	15	2.5	24	5.1	37	9.3	32	9.4
1938 "	13	2.5	24	4.9	26	7.6	35	10.5
1939 "	28	4.1	36	6.6	36	9.4	T	T
1940 "	T	T	22	3.4	20	3.1	-	-
1941 "	29	5.9	29	8.0	31	10.7	20	8.0
1942 "	19	2.0	24	3.8	31	5.8	29	6.7
Average	17	2.8	28	5.9	34	9.3	32	9.9

Greys Boundary (Greys River)

1936 Season	-	-	38	9.3	46	15.0	50	18.9
1937 "	-	-	25	3.0	40	10.3	31	11.6
1938 "	16	3.9	29	6.9	29	8.6	32	12.4
1939 "	-	-	41	8.0	44	13.3	23	7.6
1940 "	-	-	29	7.2	28	9.5	14	6.1
1941 "	-	-	26	5.6	28	8.9	16	5.9
1942 "	24	4.1	26	5.9	36	8.1	31	8.9
Average	20	4.0	31	6.6	36	10.5	28	10.2

These snow surveys at the end of March indicated a water content ranging from 65% to 95%, with a mean of about 80%, of the average for the past 7 years. The heavy precipitation during May, however, added considerably to the run-off so that it actually proved to be from 5% to 10% greater than indicated by the snow supply on March 31.

REGULATION SCHEDULE

The following schedule shows the priorities being filled during 1942. On Teton river rights were cut to still earlier priorities from July 28 to September 13 due to the Teton river supply being inadequate to fill rights to as late a date as were being filled on the main river. There were also a few days about the middle of July when the supply in Henrys Fork and Fall River was insufficient to fill rights to the same priority dates in effect on Snake River.

When the rights were cut to priorities earlier than Oct. 11, 1900, the schedule applies only to canals above Blackfoot as at such times no natural flow from the upper valley is delivered past the lowest canal heading near Blackfoot. With the river dry at Blackfoot the downstream inflow is sufficient to produce a flow at Neeley in excess of 2500 sec.-ft. which is delivered to the Oct. 11, 1900, rights at Milner. Actual normal flow being delivered daily to lower valley canals is shown on Plates 12-13.

1942 REGULATION SCHEDULE

June 3	Mar. 30, 1921 rights partly filled.
" 5	Filled part of May 20, 1912 right.
" 9	Filled 1916 rights.
" 11	Partly filled Mar. 30, 1921 right.
" 17	Partly filled May 24, 1913 right.
" 25	Cut off rights later than 1905
" 29	Partly filled May 24, 1913 right.

July 2	Cut off rights later than Aug. 6, 1908.
" 3	Cut off rights later than Oct. 6, 1905.
" 13	Cut off rights later than Oct. 11, 1900
" 14	Cut off 1897 rights.
" 15	Cut off June 1, 1895 rights.
" 20	Filled 90% Feb. 6, 1895 right.
" 21	Filled 40% Feb. 6, 1895 right.
" 22	Cut off all 1895 rights.
" 23	Filled 25% Aug. 18, 1894 right.
" 24	Cut off June 1, 1892 rights.
" 25	Cut off all 1892 rights.
" 26	Filled 50% Dec. 14, 1891 right.
" 27	Filled 25% Dec. 14, 1891 right.
" 28	Cut off Dec. 14, 1891 rights.
" 29	Cut off June 1, 1891 rights.
" 31	Filled 50% Jan. 24, 1891 right.
Aug. 1	Filled 25% Jan. 24, 1891 right.
" 4	Cut off all 1891 rights.
" 5	Cut off Oct. 16, 1890 rights.
" 8	Filled 50% July 12, 1890 right.
" 9	Filled 50% June 10, 1890 right.
" 10	Cut off June 10, 1890 right.
" 19	Filled 50% June 10, 1890 right.
" 22	Cut off June 10, 1890 right.
" 25	Cut off June 1, 1890 rights.
" 27	Cut off all 1890 rights.
" 31	Filled 25% July 10, 1889 right.
Sept. 2	Cut off July 10, 1889 right.
" 4	Filled 50% June 1, 1889 right.
" 9	Filled 25% June 1, 1889 right.
" 10	Filled 80% May 11, 1889 right.
" 12	Restored all 1889 rights.
" 13	Restored 1891 rights.
" 14	Restored June 16, 1900 rights.
" 16	Partly filled Oct. 7, 1905 rights.
" 25	Cut off rights later than Feb. 6, 1895.
" 26	Cut off 1891 rights.
" 30	Discontinued regulation.

After regulation was discontinued on Sept. 30, 1942, and storage deliveries ceased from Jackson Lake, the natural flow was sufficient to fill needs for stock water, fall irrigation, etc. The demand for labor to harvest the crops at that time was so great that very little irrigation water was applied after Oct. 1, except to water beets preparatory to digging. Jackson Lake gates were closed on Oct. 6, 1942, and storage began for the 1943 season. Storage at Grassy Lake began on Oct. 7, 1942, at Henrys Lake on Sept. 23, and at Island Park on Nov. 15, 1942.

WATER SUPPLY

Run-off at several measuring stations in various parts of the District during the year ending Sept. 30, 1942, was as follows:

<u>Station</u>	1942 run-off (acre-ft.)	Average run-off (acre-ft.)	Years of record	1942 per- cent of average
Snake R. at Moran	886,800	1,023,000	39	87
Snake R. at Heise	4,314,000	4,849,000	32	89
Snake R. at Neeley	4,252,000	5,684,000	46	75
Hen. Fk. at Warm R.	667,200	712,000	28	94
Hen. Fk. nr. Rexburg	1,145,000	1,376,000	34	83
Fall R. nr. Squirrel	480,100	532,000	29	90
Teton R. nr. St. Anthony	553,900	523,000	15	107

The run-off at Moran and Heise has been corrected for Jackson Lake holdovers, at Neeley for Am. Falls holdovers, at Warm River for Henrys Lake and Island Park holdovers, at Rexburg for Henrys Lake, Island Park, and Grassy Lake holdovers, at Squirrel for Grassy Lake holdovers, and at St. Anthony for Cross-Cut Canal discharge into Teton R.

The run-off at these stations was about 12% greater than during 1941, and was in excess of normal on Teton River. Ordinarily no serious damage from water shortage is suffered on Snake River under existing conditions in any year when the run-off at Heise is in excess of 75% of normal. Some canals may be short of storage at times but are usually able to rent what additional water is needed except in the very dry years. In most years a rainy spell occurs in the upper valley sometime during August or September, greatly reducing the demand and averting what in some years would have been a water shortage.

In the present contract for lease of the Government owned space of 433,593 acre-ft. in American Falls Reservoir, the Government has reserved the right to withhold up to 100,000 acre-ft. of such space by giving notice on or before January 1st of any year of its intention to withhold such water for the ensuing season. If the Government exercises

this right it will be possible for the United States to dispose of such withheld water in whole or part by rental to those canals and individuals who are chronically short of water and who, at times in the past, have been unable to find sufficient water offered for rent. While this is a vital matter to the particular individuals or canals who now own no storage rights or rights of inadequate amount, the quantity of water ordinarily required to fill these needs is relatively small, not over 1% or 2% of the annual irrigation diversions in District 36. Many of these users are located on the headwater areas and did not buy storage water when American Falls Reservoir was built because their use of water was not strictly regulated at that time. Recent years of sub-normal run-off and development of crops requiring more late water have also been contributing factors to a greater demand for storage.

Water that spilled to waste past Milner in excess of Idaho Power Company rights during the year ending Sept. 30, 1942, amounted to 499,000 acre-ft. Of this, 43,000 acre-ft. were wasted during Oct.-Nov. 1941 as a result of draining Lake Walcott to install a new power unit, 110,000 acre-ft. were wasted during Jan. 1 to April 15, principally on account of fear of ice damage at American Falls dam, and 346,000 acre-ft. were spilled after American Falls reservoir filled on April 16.

The peak flow at Heise occurred on June 10 and amounted to 19,100 sec.-ft. About 7,000 sec.-ft. were being stored in Jackson Lake at that time and except for such storage the Heise peak would have been 26,000 sec.-ft.

The important part played by stored water on Snake River is evidenced by the diversion and use of 1,922,730 acre-ft. of storage

during the irrigation season of 1942.

Run-off at the Moran and Neeley stations for past years of records is shown on Plates 4 and 5.

The net result of the available supply and use is given by the combined reservoir holdovers at the close of each irrigation season. Such holdovers on Sept. 30 for several years past are shown in the following table:

Holdovers on Sept. 30, in Acre-feet.

	<u>1942</u>	<u>1941</u>	<u>1940</u>	<u>1939</u>	<u>1938</u>
American Falls	410,360	319,800	264,380	252,050	684,720
Jackson Lake	321,330	226,110	166,350	313,170	398,710
Lake Walcott	93,550	18,850	-900	76,770	79,480
Henrys Lake	43,810	38,900	36,500	49,200	25,100
Island Park	60,620	39,230	17,050	52,700	0
Grassy Lake	10,910	8,170	520	0	0
Total	940,580	651,060	483,900	743,890	1,188,010

In studying the foregoing holdovers it must be remembered that some companies have followed the practice of keeping all unused storage as holdover water, while others have been unable to find anyone who would rent them all they needed at times. During August of 1940 for example, there was a demand for more storage than was offered for rent, yet the irrigation season closed that year with nearly 1/2 million acre-ft. left in the reservoirs. This practice of hoarding water for holdover is largely the result of sad experience during the dry cycle from 1931 to 1935, although rains late in the season often result in holdover storage that would otherwise have been used.

TRANSFERS AND EXCHANGES

The following permanent transfers were authorized by the State Dept. of Reclamation during the year:

- Transfer No. 635 - Garden Water Co., 9.4 sec.-ft. of June 1, 1896 priority from Darby Creek transferred from Garden Water Co. Canal to Cherry Grove Canal.
- Transfer No. 636 - Island Irrigation Co., 4.0 sec.-ft. of June 1, 1891 priority transferred from Island Canal, 2.0 sec.-ft. of same being transferred to Great Western Canal and 2.0 sec.-ft. being abandoned to Snake River to compensate other users for less return flow from the new place of use.
- Transfer No. 637 - Federal Farm Mortgage Corp., 2.53 sec.-ft. Aug. 13, 1888, 0.76 sec.-ft. June 1, 1889, 0.35 sec.-ft. June 1, 1900, and 0.92 sec.-ft. June 1, 1905, transferred from Rudy Canal to Great Western Canal.
- Transfer No. 641 - A. & H. T. Moss, 0.8 sec.-ft. June 1, 1885 transferred from Steele Canal to Farmers Friend Canal.

At the year end three other transfers were pending, involving the right of stockholders in incorporated canal companies to transfer their share of the Company's water rights out of the canal over the protest of the Company directors and other stockholders.

During the latter part of the summer there were a few temporary transfers between nearby ditches where landowners had rights in both ditches.

After the 1898 rights were cut there were a few instances where canals that had lost part of their rights shut dry and received credit for 90% of their valid rights at such times by trading same to other upper valley canals as storage. Due to better water supply in 1942 than for several years past water so accumulated amounted to less than 4,000 acre-ft., as nearly all the canals had a sufficient supply of storage to run continuously.

LITIGATION

The Federal Farm Mortgage Corporation, in an uncontested suit against Lynn Crandall, Watermaster, and E. V. Berg, Commissioner of Reclamation, was awarded a decree in the Idaho District Court for 5.6 sec.-ft. of April 1, 1894 priority for diversion through the Pratt Ditch from Teton Creek. The land is in Idaho but the ditch diverts in Wyoming and waters land in Wyoming as well as the Idaho land. The land owned by the Plaintiff has been supplied with water for many years through the Pratt Ditch and held a ditch right in that Ditch, but the Idaho land was not described in the Wyoming water filing for the Pratt ditch as the State Engineer of Wyoming refused to accept water filings to be used on Idaho lands. Under the Wyoming Federal Court decree of February 6, 1941, dividing the waters of Teton Creek between Wyoming and Idaho users the land in question appeared to be entitled to no water at all as it held no adjudicated right of record in either state. Being unable to acquire a water right in Wyoming the landowner was obliged to have its right adjudicated in Idaho:

Burton L. Gardner, in a suit against the Watermaster in the District Court, under the Summary decree statute, was awarded a right of 1.8 sec.-ft. of June 1, 1903 priority for use on lands adjoining the Lowder Slough near Ririe. This land, according to the testimony, has been irrigated since 1903 by a ditch picking up seepage and waste water from Lowder Slough but being located in the brush at some distance from any road it was overlooked at the time of the Rexburg decree and was not discovered by the watermaster until 1941.

The case of C. E. Carrington and Eleanore Patterson vs. Lynn Crandall and waterusers on Mahogany Creek in Teton County was tried

during November 1942. This is a controversy over distribution of water and the ownership of water rights on Mahogany Creek and is only of local interest. Decree had not been rendered at the time of writing this report.

A summary decree was awarded Royal J. Sorensen for 25.73 sec.-ft. of October 3, 1904 priority of the waters of Henrys Fork in an uncontested action against the watermaster. This water has been used on the former Cartier ranch for the irrigation of pasture and wild hay meadow lands along Henrys Fork for several miles below the bridge due west of Rexburg, but the owner, through oversight, was never made a party to the Rexburg decree.

CANAL DELIVERIES

Daily diversions from the main river between Heise and Blackfoot are shown on Plates 6 to 10 inclusive. Three of the canals are equipped with recording gages and the rest with staff gages. The canals were visited daily by the river riders from June 25 to Sept. 30. Readings prior to June 25 were made by the Canal Company employees supplemented by visits about once a week by District 36 hydrographers.

The collection of discharge records on these canals was continued after October 1, 1942, by the U. S. Bureau of Reclamation as part of its study of possible water conservation on the river.

Records of diversions by canals below American Falls for the entire year are shown on Plates 33 to 43 inclusive. Complete records are not kept of diversions by the many small ditches on the headwater areas. Part season records of diversions by the larger canals in Teton Basin and Swan Valley are shown on Plate 23.

The following tabulation shows the seasonal diversions and

irrigated acreage under the canals diverting from Snake River between Heise and Milner. Similar records for canals on Henrys Fork and tributaries are shown separately in the chapter covering distribution on Henrys Fork.

The figures on irrigated acreages in this table were furnished, in most instances, by the Secretary or Manager of the various canal companies. In a few cases where no information was supplied by the companies the figures were estimated by the watermaster from such information as was available.

The small irrigated areas in the Swan Valley section, spring creeks near Menan and spring creeks near Springfield, aggregating about 15,000 acres, are not included in this tabulation.

Diversions during 1942 Irrigation Season
(Snake River Canals in downstream order from Heise)

Canal	Irr. season Diversions (acre-ft.)	Area under canal (acres)	Area irrigated, 1942 (acres)	Diversions acre-ft. per acre
Riley	4,450	380	800	5.6
Anderson & Eagle Rock	218,000 (a)	31,597	31,597	6.9
Farmers Friend	87,000	10,300	10,100	8.6
Enterprise	32,600	5,000	5,000 (c)	6.5
Nelson	325	80	50	6.5
Mattson-Arnsberger	2,240	850	500	4.5
Ross & Rand	782	150	140	5.6
Butler Island	12,200	1,400	1,100	11.1
Steele	1,900	300	250	7.6
Harrison	101,000	12,000	12,000	8.4
Cheney	1,640	240	160	10.3
Rudy & Boomer	48,600	5,500	4,680	10.4
Kite & Nord	1,320	235	175	7.5
Burgess	193,000	21,000	20,000	9.6
Clark & Edwards	21,000	1,900	1,700	12.4
Lowder & Jennings	9,320	1,200	900	10.3
East Labelle	29,600	2,200	2,200	13.5
Sunnydell	27,200	3,660	3,600	7.6
Lenroot	29,300	3,800	3,800	7.7
Reid	36,500	5,500	5,200	7.0
Texas Feeder	62,000	8,500	7,000	8.9
Nelson-Corey	2,480	640	440	5.6

Canal	Irr. season Diversions (acre-ft.)	Area under canal (acres)	Area irri- gated, 1942 (acres)	Diversions acre-ft. per acre
Hill-Pettinger	853	210	160	5.3
Rigby	45,300	4,000	4,000	11.3
Dilts	6,190	640	560	11.0
Island	33,600	3,500	3,000	11.2
W. Labelle & Long Isl.	117,000	9,000	8,500	13.8
Parks & Lewisville	84,400	6,500	6,000	14.0
North Rigby	14,000	1,400	1,200	11.7
White	1,340	126	120	11.1
Ellis	772	120	100	7.7
Bramwell	1,760	400	200	8.8
Butte & Market Lake	65,700	18,000	17,000	3.9
Osgood	26,100	7,000	5,900	4.4
Bear Isl. & Smith	490	240	160	3.1
Idaho	252,000 (a)	35,482	35,482	7.1
Kennedy	10,400	2,230	1,950	5.3
Gt. Western & Porter	174,000	27,000	25,000	7.0
Coy & Kellar	206	60	60	3.4
Woodville	17,900	3,000	3,000	6.0
Snake River Valley Reservation	137,000 (a) 182,430 (b)	25,000 60,000	21,000 33,880	6.5 5.4
Blackfoot	78,300	14,000	12,000	6.5
New Lava Side	32,800	6,000	5,500	6.0
Peoples	116,000	20,000	18,500	6.3
Aberdeen	297,000	61,500	61,000	4.9
Corbett	38,400	7,927	5,000	7.7
Nielsen-Hansen	2,640	500	450	5.9
Riverside	26,000	5,000	5,000	5.2
Danskin	48,200	6,000	6,000	8.0
Trego	14,000	1,700	1,400	10.0
Wearyrick	12,600	1,600	1,500	8.4
Watson	31,300	4,880	4,800	6.5
Parsons	6,390	800	800	8.0
North Minidoka	415,800	63,739	54,000	7.7
South Minidoka	293,500	55,200	52,000	5.6
N. S. Canal Co.	1,023,000	161,560	161,560	6.3
Twin Falls Canal	993,500	202,610	202,610	4.9
Milner Low Lift	45,010	9,033	9,033	5.0
Gooding	426,100	79,033	57,500	7.4
Total	5,994,438	1,021,922	937,317	6.4

- (a) Received some additional water from Willow and Sand Creeks.
 (b) 82,000 from Snake R., balance from Blackfoot R. and Sand Creek.
 (c) About 1,900 acres of this supplied through Anderson & Eagle Rock Canals after July 20.

The irrigation season is taken as May to Sept. inclusive for upper valley canals and Apr. 15 to Sept. 30 for lower valley canals.

Total diversions were about 3% greater than in 1941. The increase is probably due to heavy water demands during June, July, and August when marked deficiencies in precipitation occurred.

Of the total diversions 53% were by lower valley canals and 57% by the canals from Heise to Blackfoot.

Lower valley canals used 1,366,417 acre-ft. of storage or 43% of their total diversions. Main river upper valley canals used 404,458 acre-ft. of storage or 14% of their total diversions. The effective value of the stored water was even greater than these percentages would indicate as it was used to mature the crops.

The Idaho Power Co. drew 28,727 acre-ft. of its primary storage past Milner during Aug.-Sept. 1942. So much water was spilled past Milner at intervals from Oct. 1, 1941 to June 1, 1942, that any distinction between Power Co. water and spill during that period would have to be arbitrary.

The following tabulation shows the amount of water used by months in various sections of the District during the past 10 years.

Diversions in Thousands of Acre-feet
Heise to Blackfoot

<u>Year</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Season</u>
1933	226	756	674	527	387	2570
1934	548	359	399	275	211	1792
1935	276	684	662	445	326	2393
1936	489	619	677	520	420	2725
1937	392	600	658	520	361	2531
1938	356	680	628	592	465	2721
1939	585	620	691	564	393	2853
1940	548	630	594	462	289	2523
1941	444	618	648	492	434	2636
1942	314	684	720	588	391	2697
Average excluding 1934	403	655	664	525	385	2632

Diversions in Thousands of Acre-feet
Henry's Fork and Tributaries
 (excluding headwater creeks)

<u>Year</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Season</u>
1933	162	267	176	143	91	839
1934	166	117	86	48	42	459
1935	187	236	170	104	79	776
1936	218	217	178	138	106	857
1937	200	223	163	126	84	796
1938	185	238	180	159	119	881
1939	228	225	206	167	117	943
1940	230	213	182	136	92	853
1941	209	216	183	146	93	847
1942	151	243	211	176	103	884
Average excluding 1934	197	231	183	144	103	858

1939-42 figures are after deduction for water spilled from Cross Cut Canal into Teton River.

Minidoka Project

<u>Year</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Season</u>
1933	70	129	165	171	164	110	809
1934	43	97	71	101	36	12	360
1935	33	101	147	172	154	107	714
1936	26	169	128	169	150	99	741
1937	18	145	130	176	156	96	721
1938	32	147	145	145	167	113	749
1939	77	164	130	165	159	97	792
1940	35	162	156	173	159	50	735
1941	20	152	125	169	148	90	704
1942	15	87	155	181	170	101	709
Average excluding 1934	36	139	142	169	158	96	740

North Side Canal Co. Project

1933	65	169	207	204	226	164	1035
1934	52	118	127	120	62	33	512
1935	15	151	194	212	161	100	833
1936	42	201	200	202	198	130	973
1937	40	176	185	228	218	126	973
1938	51	180	201	211	212	155	1010
1939	95	208	197	217	215	111	1043
1940	61	176	194	208	193	103	935
1941	67	186	172	206	194	110	935
1942	71	178	189	217	221	161	1037
Average excluding 1934	56	180	193	212	204	129	974

Twin Falls Project

<u>Year</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Season</u>
1933	85	197	201	218	223	162	1086
1934	129	167	154	175	191	124	940
1935	36	167	178	202	210	159	952
1936	54	209	195	219	219	142	1038
1937	57	191	179	217	216	144	1004
1938	55	186	187	198	215	167	1008
1939	126	208	195	215	221	150	1115
1940	70	191	201	220	220	126	1028
1941	101	194	174	209	214	138	1030
1942	82	175	177	212	216	149	1011
Average excluding 1934	74	191	188	212	217	148	1030

Gooding Project

1933	2	43	58	70	58	45	276
1934	31	59	58	65	59	40	312
1935	3	54	65	67	57	1	247
1936	2	66	73	83	69	39	332
1937	10	60	66	75	68	43	322
1938	3	39	61	76	74	63	316
1939	31	76	69	79	75	53	383
1940	18	71	82	91	83	57	402
1941	21	71	75	96	88	63	414
1942	18	77	78	96	90	67	426
Average excluding Sept. 1935	14	62	68	80	72	52	348

April diversions were below normal on the Minidoka project due to the canals not turning on as early as usual. On the other lower valley projects, however, they were above normal.

May diversions were below normal everywhere, except on the Gooding project, due to cold weather and abundant precipitation. June diversions were generally above normal except on the North Side and Twin Falls Projects, where a large acreage of beans may have affected the seasonal use of water. These beans require little water during June but make a heavy water demand during July and August.

July and August were characterized by a heavy demand for water in all parts of the District. The precipitation during those months in

the irrigated valley was negligible so the crops had to be irrigated continuously.

September water needs were about normal. The North Side and Gooding projects used more than usual that month, perhaps because they had substantial holdovers of storage and so didn't feel obligated to curtail their September use as much as in years of less abundant supply.

The total diversion for the season was somewhat below the past 10 year average on the Minidoka and Twin Falls projects. Elsewhere in the District the seasonal use was in excess of normal.

RIVER DATA

Segregation of stored and normal flow at the various river and canal stations is shown on Plates 12-13. The losses between river gaging stations as tabulated on these Plates were computed using the approved schedule of stored water transmission losses given on Page 1 of this report.

The standard procedure used in the past for segregation of stored water at the reservoir outlets and at the various measuring stations was continued during 1942. The methods are described in detail in the annual reports for 1940 and earlier years. During the periods July 15 to Sept. 14 and Sept. 26-30, when no natural flow was being carried past the lowest canal diversion near Blackfoot, the natural flow at Clough's was computed as 150 sec.-ft. plus inflow from Blackfoot River.

Prior to actual storage draft on the reservoirs the stored and normal flow quantities at the various river and canal stations as shown on Plates 12-13 were computed as if the exact amount of normal flow necessary to fill prior rights had been released daily from upstream reservoirs. The figures shown in these tabulations as minus storage

quantities represent the equivalent at the particular measuring station of natural flow adversely retained at upstream reservoirs, and is added to the actual flow at the station to get a computed normal flow which is used as the available supply for the normal flow deliveries. The daily segregation between normal flow and stored water diversions charged to the various canals is based on the computed normal flow that would have been in the river if no water was retained or diverted by junior upstream rights. In computing the seasonal totals of storage quantities at the various river measuring stations, the minus quantities are offset by the delivery of an equivalent aggregate amount of stored water later in the season.

Eleven sets of measurements of the spring creeks and wastewater channels flowing into American Falls Reservoir were made on the following dates: May 5-6, 22-23, June 8-9, 22-23, July 9-10, 17-18, 24-25, Aug. 5-6, 20-21, Sept. 17-18. Daily discharge of these springs does not vary much and was determined by interpolation between measurements. The unmeasured inflow was taken as about 1300 sec.-ft, which was increased somewhat during rainy periods. Approximately the same average result, except during floodwater periods on Portneuf River, would be obtained by using the Newell Formula, Unmeasured inflow = 840 sec.-ft. plus $1/3$ measured inflow. Records of the principal wastes from the Aberdeen-Springfield project were supplied by the Project Manager, Mr. E. H. Neal.

The computed inflow between Clough's and Neeley as determined by these methods of computation is shown on Plate 11. The inflow is added to the daily normal flow at Clough's to get the daily normal flow at Neeley, which is used as the basis for normal flow deliveries at the Minidoka and Milner dams.

The gain from Neeley to Milner is considered as stored water for convenience in tabulation. It is credited to the Minidoka Project on days when that Project is drawing stored water at a rate in excess of the gain.

There were about 10,800 acre-ft. of natural flow delivered to the Gooding Project June 3-4, 10-16, after storage draft on American Falls Reservoir began, in accordance with the instructions of the Commissioner of the U. S. Bureau of Reclamation dated April 6, 1936. These instructions provided a method of dividing any water available for the Mar. 30, 1921, priority between the American Falls Reservoir and the Gooding Project.

STORED WATER DELIVERIES

Allotments of Reservoir water were made as follows:

American Falls Allotment for 1942

No storage charges prior to June 2 as water was spilling past Milner to waste until then.

Reservoir contents June 2 - 1,716,890 acre-ft.

The excess of 16,890 acre-ft. over rated capacity was allotted pro rata to each owned and leased right.

Jackson Lake Allotment for 1942

No water was available for the Jackson Lake priority after the morning of June 28, at which time the Lake held 851,840 acre-ft.

Of this amount 40,680 acre-ft. represents the quantity measured at Jackson Lake, due American Falls Reservoir to replace water delivered therefrom to canals below Neeley to fill normal flow rights prior to the top right in Jackson Lake.

This leaves 811,160 acre-ft. for allotment to Jackson Lake rights. Bottom rights are 437,810 acre-ft. leaving 373,350 acre-ft. or 91.24% for top rights.

Jackson Lake filled on June 24, but spilled some water June 24-27, inclusive, that could have been retained under the Jackson Lake priority if the reservoir had not previously filled with stored normal flow. Such amounts June 24-27 are listed on Plate 12 as stored water at the Moran station and are used to offset an equivalent amount of stored normal (minus storage), prior to June 24, the allotment being made as of June 28 a.m.

1942 Storage Allotments in Acre-feet
Owned and leased space Jackson Lake and American Falls
(Downstream order from Heise)

Canal	J. Lake right	Am. Falls owned right	Am. Falls lease	Total Allotment
Poplar Irr. Dist.	1,200	801	374	2,375
Progressive Irr. Dist.	0	14,754	7,483	22,237
Farmers Friend	2,000	0	0	2,000
Enterprise Canal Co.	6,100	10,613	4,957	21,670
Harrison	5,000	12,113	6,144	23,257
Rudy	2,000	2,020	1,024	5,044
Burgess	5,120	7,570	4,371	17,061
Lowder	1,040	0	0	1,040
Sunnydell	4,000	0	0	4,000
Lenroot	3,000	4,549	2,307	9,856
Reid	0	3,032	1,416	4,448
Dilts	0	1,044	529	1,573
Enterprise Irr. Dist.	0	12,119	9,835	21,954
Butte & Market Lake	0	3,032	1,416	4,448
Osgood	0	16,010	8,122	24,132
Bear Island	0	227	106	333
Smith	0	80	41	121
Kennedy	355	0	0	355
Idaho	0	27,254	12,727	39,981
Martin	1,500	2,272	1,060	4,832
New Sweden	5,000	28,811	14,615	48,426
Woodville	0	9,089	4,242	13,331
Snake River Valley	15,000	27,918	13,037	55,955
Blackfoot	0	15,182	7,090	22,272

Canal	J. Lake right	Am. Falls owned right	Am. Falls lease	Total Allotment
Peoples	8,000	22,743	11,536	42,279
Aberdeen	42,685	41,743	56,571	140,999
Corbett	0	4,040	1,887	5,927
Trego	0	1,477	690	2,167
Minidoka Dist.	186,030	50,497	25,615	262,142
Burley Dist.	139,780	0	25,248	165,028
Milner Low Lift	0	34,452	16,089	50,541
Twin Falls Canal	88,670	152,687	20,199	261,556
No. Side Project	294,680	323,438	179,171	797,289
Gooding	0	403,974	0	403,974
Idaho Power Co.	0	45,447	0	45,447
Total	811,160	1,278,988	437,902	2,528,050

The foregoing figures do not include small amounts of American Falls Refill storage credited to four lower valley canals.

American Falls Refill 1942

Some water accumulated to the American Falls Reservoir right June 2-3, 9-15, amounting to 14,625 acre-ft. No water was available for its priority after June 15.

This refill water was divided among the various projects in proportion to their use of storage up to June 15 as follows:

Minidoka Project	1,523	acre-ft.
Gooding Project	12,074	"
North Side Project	420	"
Milner Low Lift	608	"
Total	14,625	"

Lake Walcott Allotment for 1942

Contents on June 2 were 100,370 acre-ft. which was credited to the Minidoka Project.

That Project was also credited with 35,800 acre-ft. gain Neeley to Milner on days it was drawing storage.

Water discharged into the river from the Market Lake Springs amounted to 1220 acre-ft. during the period of storage use. This was diverted through the Great Western and Kennedy Canals.

Daily storage diversions by main river canals are shown on Plate 14. Storage diversions by Henrys Fork Canals are shown on Plate 22. The slight leakage past Milner at times when the Idaho Power Co. was not drawing storage was not charged to any specific canals.

Under the terms of the new lease agreement of Government owned storage at American Falls, all participants in the lease who desire to rent any of their stored water, up to the amount of their lease, list it with the Bureau of Reclamation for sale. It is sold at 30¢ per acre-ft., one-half of the purchase price being retained by the Government and one-half being paid to the company selling the water to reimburse it for the actual cost of the lease water. During the 1942 season there were a total of 23,342 acre-ft. of water leased under this arrangement. The canals buying this water and the amount purchased by each are shown on Plate 14. Most of the sales were to small individual users, some of whom are in the Swan Valley section and some who have inadequate individual rights under various Snake River canals.

There were several of the canals that diverted part of their storage to lands owned by their stockholders under other ditches, as shown by the "Notes" on Plate 14, but there were no sales of storage by participants in the American Falls lease except those made through the Burley office of the Bureau of Reclamation.

No attempt was made to determine from the various companies owning both Jackson Lake and American Falls water how they wanted their storage use charged in 1942, so it is not possible at this time to compute the

American Falls water remaining in Jackson Lake on Sept. 30, 1942. If American Falls Reservoir fills in 1943, it will be unnecessary to do so; if it fails to fill the companies can then decide how they want their 1942 holdovers apportioned as between the two reservoirs.

There was a net total of 15,000 acre-ft. of Jackson Lake storage carried past Clough's during the season, in addition to repaying the normal flow temporarily stored in the upper Reservoirs or diverted as storage prior to July 14, and represented by minus storage quantities at Clough's on Plates 12-13.

A summary of Storage Allotments and Use for the season of 1942 in the entire District is as follows:

Storage Supply

Jackson Lake allotment	811,160	acre-ft.
American Falls allotment	1,716,890	" "
American Falls refill after allotment	14,625	" "
Lake Walcott allotment	100,370	" "
Neeley to Milner Gain	55,176	" "
Market Lake Springs	1,220	" "
Henry's Lake	55,772	" "
Island Park	132,710	" "
Grassy Lake	15,182	" "
Sheridan Cr. right of F. M. District	<u>1,356</u>	" "
Total	2,904,461	" "

The gain Neeley to Milner, Market Lake Springs and Sheridan Creek right are not reservoir storage rights but are classified as stored water for convenience in tabulation and distribution.

Storage Use

Delivered to Snake River Users	1,799,602	acre-ft.
Delivered to Henry's Fork Users	123,128	" "
Transmission losses	38,900	" "
American Falls Res. loss after June 15	5,219	" "
Reservoir holdovers Sept. 30	<u>940,580</u>	" "
Total	2,907,429	" "

The difference between the two totals is due to using Sept. 30 as the holdover and end of season date at all points in the District without allowing for time interval and to the fact that about 3,000 acre-ft. of the tabulated holdover at Henrys Lake is unavailable as it is dead storage and is deducted when making the allotments.

RIVER LOSSES AND GAINS

Losses and gains between river stations are shown by monthly averages in the following tabulations using time intervals shown on Plate 15.

Gain in Snake River, Moran to Heise Stations 1942

(Heise dates and 24-hr. sec.-ft. except as noted)

Station	May	June	July	Aug.	Sept.	Season
Moran	7,243	28,222	151,434	107,849	64,229	358,977
Heise	288,470	407,800	358,000	262,940	155,370	1,472,580
Riley Ditch	130	843	720	412	139	2,244
Heise & Riley	288,600	408,643	358,720	263,352	155,509	1,474,824
Total gain s.f.	281,357	330,421	207,286	155,503	91,280	1,115,847
Mean gain s.f.	9,076	12,681	6,687	5,016	3,043	7,293
Tot. gain ac.ft.	558,063	754,554	411,145	308,436	181,051	2,213,249

The total gain for the season was about 15% greater than during 1941. It was greater during June, July, and August, but less during May and September than the year previous.

Gain in Snake River, Heise to Shelley Stations 1942

(Heise dates and 24-hr. sec.-ft. except as noted)

Station	May	June	July	Aug.	Sept.	Season
Heise & Riley	288,600	408,643	358,720	263,352	155,509	1,474,824
Rexburg	87,060	78,520	30,288	28,063	33,593	257,524
Total Supply	375,660	487,163	389,008	291,415	189,102	1,732,348
Diversions	97,437	240,360	259,140	222,470	143,990	963,397
Shelley	280,490	266,730	158,760	92,110	76,380	874,470
Total use	377,927	507,090	417,900	314,580	220,370	1,837,867
Tot. gain s.f.	2,267	19,927	28,892	23,165	31,268	105,519
Mean gain s.f.	73	664	932	747	1,042	690
Tot. gain ac.ft.	4,497	39,525	57,306	45,947	62,020	209,295

The average daily gain in this section was 161 sec.-ft. greater than in 1941. There even was a slight gain in May instead of the usual loss during that month. The ground water levels in this area must have been higher in 1942 than any year since 1938, if the gain is taken as an indicator of such levels.

Loss or Gain in Snake River, Shelley to Clough Stations
1942

+ is gain, - is loss
(Shelley dates and 24-hr. sec.-ft. except as noted)

Station	May	June	July	Aug.	Sept.	Season
Shelley	278,350	269,120	160,930	92,910	77,180	878,490
Blackfoot R.	7,753	1,312	392	193	1,094	10,744
Total supply	286,103	270,432	161,322	93,103	78,274	889,234
Diversions	60,826	104,470	103,760	74,010	53,160	396,226
Clough	219,160	163,358	52,095	17,575	26,309	478,497
Total Use	279,986	267,828	155,855	91,585	79,469	874,723
Tot.diff. s.f.	- 6,117	- 2,604	- 5,467	- 1,518	+ 1,195	-14,511
Mean diff. s.f.	- 197	- 87	- 176	- 49	+ 40	- 95
Tot.diff. ac.ft.	-12,133	- 5,165	-10,843	- 3,010	+ 2,370	-28,781

The actual loss in this section is greater than the above figures by the amount of unmeasured waste into the river plus about 150 sec.-ft. of groundwater inflow that enters the river a short distance above the Clough station. The apparent gain during September is no doubt due to extra canal wastage during that month resulting from rains and reduced demand.

Loss or Gain in Snake River, Clough to Neeley Stations
1942

+ is gain, - is loss
(Neeley dates and 24-hr. sec.-ft. except as noted)

Station	May	June	July	Aug.	Sept.	Season
Clough	217,905	166,088	57,103	17,789	25,740	484,625
Inflow	99,515	83,752	82,106	80,883	81,060	427,316
Res. Draft	-3,401	50,837	226,248	254,949	124,224	652,857
Total Supply	314,019	300,677	365,457	353,621	231,024	1,564,798
Neeley	317,130	290,890	361,040	356,100	233,880	1,559,040
Tot.diff. s.f.	+ 3,111	- 9,787	- 4,417	+ 2,479	+ 2,856	- 5,758
Mean diff. s.f.	+ 100	- 326	- 142	+ 80	+ 95	- 38
Tot.diff. ac.ft.	+ 6,170	-19,412	- 8,761	+ 4,917	+ 5,665	-11,421

The gain during May was probably due to the cold rainy weather. May precipitation at American Falls was 2.69" which is 1.05" above normal, while the temperature was 4° below normal. This precipitation over the area of reservoir surface flooded in May would amount to about 12,000 acre-ft. There probably was also some undetected local inflow from rain on the area surrounding the reservoir.

The last water available for the American Falls Reservoir right was June 15. While there were 10,582 acre-ft. of bank storage gain during August and September, the loss from June 16 to July 31 was 15,801 acre-ft., leaving a net loss of 5,219 acre-ft. during the draw-down period June 15 to September 30. This is about 0.3% of the Reservoir capacity. Only in 1936 and 1938 during the past 10 years has American Falls Reservoir remained at as high levels during June to September as it did in 1942. The past records disclose greater losses and less bank storage return whenever the reservoir remains at higher than usual elevations during the summer months.

Loss in Snake River, Neeley to Minidoka Stations
1942

Station	(Minidoka dates and 24-hr. sec.-ft. except as noted)					Season
	May	June	July	Aug.	Sept.	
Neeley	316,630	292,580	360,150	356,330	236,370	1,562,060
Walcott draft	- 761	3,615	- 265	30	441	3,060
Total supply	315,869	296,195	359,885	356,360	236,811	1,565,120
N. Minidoka	32,520	44,730	51,570	47,420	27,628	203,868
S. Minidoka	11,486	33,399	39,730	38,390	23,215	146,220
Minidoka	269,820	213,110	261,540	263,550	183,800	1,191,820
Tot. acct. for	313,826	291,239	352,840	349,360	234,643	1,541,908
Tot. loss s.f.	2,043	4,956	7,045	7,000	2,168	23,212
Mean loss s.f.	66	165	227	226	72	152
Tot. loss ac.ft.	4,052	9,830	13,973	13,884	4,300	46,039

The loss in Lake Walcott for the 1942 season was about twice as great as in 1941 due to holding the Lake at higher levels and not making the usual September drawdown. It was desired to lower the lake level at American Falls Reservoir as much as possible to permit some repair work to be done on the dam in the fall of 1942, hence water for the Minidoka canals was drawn from that reservoir rather than Lake Walcott.

Gain in Snake River, Minidoka to Milner Stations
1942

Station	(Milner dates and 24-hr. sec.-ft. except as noted)					Season
	May	June	July	Aug.	Sept.	
Minidoka	270,120	216,060	260,635	263,755	186,775	1,197,345
P. A.	1,804	1,861	1,912	1,927	1,616	9,120
Milner Low Lift	3,703	4,170	5,069	5,159	3,980	22,081
Gooding	65,620	65,530	76,320	73,880	60,390	341,740
No. Milner	61,290	66,990	79,330	80,950	53,159	341,719
So. Milner	88,400	89,100	106,870	109,090	75,120	468,580
Milner	60,946	4,149	338	4,499	10,195	80,127
Tot. acct. for	281,763	231,800	269,839	275,505	204,460	1,263,367
Tot. gain s.f.	11,643	15,740	9,204	11,750	17,685	66,022
Mean gain s.f.	376	525	297	379	590	432
Tot. gain ac.ft.	23,093	31,220	18,256	23,306	35,078	130,953

The gain between the Minidoka to Milner dams for the entire season was about 30,000 acre-ft. greater than in 1941. This includes surface waste from the Minidoka Canals as well as groundwater inflow. No correction is made for changes in the level of Milner Lake which was about 0.5' lower on September 30 than it was on May 1. A substantial amount of the gain occurred during September when the canals were steadily reducing their use.

The total gain between Neeley and Milner for the period May to September amounted to 84,914 acre-ft., of which 55,176 acre-ft. occurred after the final American Falls Reservoir allotment on June 15. The gain on the days after June 15 that the Minidoka project was drawing stored

water in excess of the daily gain was allotted to that project as follows:

June 16-30	=	3,460	acre-ft.
July	=	4,150	" "
August	=	9,420	" "
September	=	<u>18,770</u>	" "
Total		35,800	" "

The remaining 19,376 acre-ft. of gain after June 15 occurring on days when the gain was in excess of storage being drawn by the Minidoka Project was not allotted. Most of this unallotted gain occurred after September 15, and as all canals below American Falls had substantial holdovers they did not need it, and it remained in American Falls Reservoir at the close of the season on September 30.

DISTRIBUTION ON HENRYS FORK

Mr. Melvin Luke again served as Deputy Watermaster on Henrys Fork, Lower Teton and Fall Rivers, with headquarters at St. Anthony. Water supply in this area was ample for those canals that could receive stored water, the only shortages being on tributary headwater creeks where the supply was limited by the stream flow.

Island Park Reservoir filled to spillway level on April 10, 1942, being the first of the District 36 reservoirs to fill. Grassy Lake filled on May 27, one day before its priority right was cut. This is the first time that it has filled to capacity. Henrys Lake reached a maximum storage of 66,862 acre-ft. on July 16-17, but part of this was accumulated normal flow due prior downstream rights. Due to the failure of Henrys Lake users to sign a contract with the Government and Fremont Madison Irrigation District authorizing holdover storage at Henrys Lake, the Henrys Lake users were obliged to draw their stored water from

Henry's Lake in 1942 instead of borrowing Island Park water as has been done for several years past. If the proposed contract had been in effect it would not have been necessary to release any storage from Henry's Lake in 1942.

A daily charge of 30 sec.-ft. for loss in Island Park Reservoir was made from May 28 to July 10, inclusive, during the regulation period prior to beginning of storage draft from that Reservoir. This was recovered for the reservoir owners by crediting the same daily quantity as stored water from Reservoir bank storage from July 30 to September 11, in addition to the water actually withdrawn from the Reservoir.

The Bureau of Reclamation approved the policy followed by the water-master since Island Park Reservoir was built of allowing the Fremont-Madison District to supply all requests for stored water rentals on Henry's Fork and tributaries as long as it had water available to rent. On this account the only American Falls Reservoir water allotted in the Henry's Fork territory was the Enterprise Irrigation District allotment of 21,954 acre-ft.

During the period of storage diversion on Henry's Fork, July 12 to September 13, the following amounts of water were delivered past the lowest canal heading on Henry's Fork to Snake River:

July 16-31	9,600	acre-ft.
August	21,000	" "
September 1-12	<u>14,000</u>	" "
Total	44,600	" "

This would have been available for exchange in the Henry's Fork area if Snake River water was available through rental or ownership to make the trade.

The 1942 draft on Grassy Lake amounted to about 4200 acre-ft. Of this amount 900 acre-ft. were needed to supply storage demands on Fall River and the balance was delivered past the Chester gaging station, below all Fall River diversions, to downstream canals on Henrys Fork.

Natural flow rights on Henrys Fork and Fall River were regulated according to the Snake River schedule given on page 10, except for a few days about the middle of July when a slight shortage existed as compared to the priorities being filled on Snake River.

Rights on Teton River were regulated according to the Snake River schedule except July 28 to September 13, when the Teton River was regulated as follows:

July 28	Cut to Oct. 1, 1889
Aug. 4	Cut to June 1, 1885
Aug. 9	Filled 75% June 1, 1885
Aug. 10	Filled 50% June 1, 1885
Aug. 13	Filled 25% June 1, 1885
Aug. 17	Cut off June 1, 1885
Aug. 25	Filled 25% June 1, 1885
Sept. 11	Cut off 1885 rights
Sept. 13	Restored all rights due to rain.

Stored water allotments for the Henrys Fork Reservoirs were made as follows:

Henrys Lake Allotment 1942

No storage accumulation for Henrys Lake priority after July 7.

Lake Contents July 7 66,376 acre-ft.

Subtract:

Stored normal flow due Am.
Falls Res. to replace water
delivered to prior rights
downstream

Est. dead storage & loss

7,604 ac.ft.
3,000 "
<u>10,604 "</u>

10,604 acre-feet

Available for allotment

55,772 acre-feet

Allotted as follows:

	Percent	Acre-feet
Last Chance & Dewey	15.3	8,533
St. Anthony Union	6.8	3,792
Salem Union	24.2	13,497
Egin	6.8	3,793
Independent	26.8	14,947
Consolidated Farmers	20.1	11,210
Total		55,772

Island Park Reservoir

This reservoir reached a maximum storage level on May 29 of 137,230 acre-ft. With its free overflow spillway this gradually dropped, due to decreasing inflow, to 132,710 acre-ft. on July 11, when storage draft began. The 132,710 acre-ft. contents on July 11 were allotted as the available storage supply in this Reservoir.

Grassy Lake Reservoir

This reservoir filled to its rated capacity, 15,182 acre-ft., on May 28, the last day for which any water was available for its priority.

Allotments and use of storage by the various canals are shown on Plate 22.

The total storage supply of the Fremont Madison District was:

Island Park Reservoir	132,710	acre-ft.
Grassy Lake	15,182	" "
Yield of Sheridan Cr. decree	1,356	" "
Total	149,248	" "

Disposal of this water was as follows:

Regular allotment from Island Park & Grassy Lake	109,435	acre-ft.
Allotment of Sheridan Creek decree	1,356	" "
Additional allotment to F. M. District canals	(a) 10,338	" "
Rentals	7,413	" "
Unallotted	20,706	" "
Total	149,248	" "

(a) 25% of regular allotment to such canals as exhausted their regular allotment.

The water rented by the Fremont-Madison District was on the basis of 60¢ per acre-ft., except 1,225 acre-ft. rented to Teton Basin Canals at 30¢ per acre-ft. to meet the American Falls rental price during the period that Teton River was being regulated according to the Snake River schedule of priorities.

The segregation of flow at the various measuring stations from Henrys Lake to Rexburg is shown on Plate 21. The net retention of Snake River water by Henrys Fork users, after supplying all adverse storage items at upstream reservoirs, appears on this Plate as a minus seasonal storage total at Rexburg. This total of 17,368 sec.-ft. is equal to 34,449 acre-ft. at Rexburg.

The Enterprise Canal diverted 17,802 acre-ft. of this as American Falls water, leaving 16,647 acre-ft. at Rexburg or 17,072 acre-ft. at Island Park due American Falls Reservoir if it fails to fill in 1943. This water retained on Henrys Fork was replaced by storage drawn from Jackson Lake which would otherwise have been delivered as storage past the Clough station on Snake River to American Falls Reservoir.

Henrys Lake users were not allowed to borrow water from Island Park Reservoir in 1942, hence there was no Island Park water in Henrys Lake at the close of the 1942 season. The loss in Henrys Lake during the period of storage draft July 17 to September 12 was 2,260 acre-ft.

The water used in Teton Basin during the period that Teton River was cut to earlier priorities than Snake River was all transferred to the June 1, 1885 rights on Lower Teton River as these were the only ones affected by such use.

Daily diversion from Henrys Fork at head of Cross Cut Canal are shown on Plates 17-20, and daily discharge of this canal below the

highway and below Fall River Canal diversions are given on Plate 22.

The following is a summary of the 1942 operation of this canal:

Totals in 24-hr. sec.-ft.

Month	Cross Cut at head	Fall R. Canal Inflow	North Diversion	Middle Diversion	Cross Cut below Highway	Cross Cut at End
May 1-29	2,966	-	-	-	-	-
July 14-31	4,090	271	1,954	-	0	0
August	9,010	275	3,175	1,656	751	618
Sept. 1-4	690	40	360	2,739	3,371	3,071
				344	26	20
Total					4,148	3,709

Water was delivered through this canal to Teton River from July 25 to September 1, inclusive. The loss for the period averaged 10.6%. The Fall River Canal used 25,000 acre-ft. of water through the Cross Cut Canal in 1942, of which 5,880 acre-ft. was drawn during May when there was plenty of water in Fall River.

The following tabulation is similar to that given on pages 18-19 for canals on the main Snake River:

Diversions and Irrigated Areas on Henrys Fork,
Fall River, and Lower Teton River, 1942

Canal	Diversions May to Sept (acre-ft.)	Area under canal (acres)	Area Irrigated (acres)	Diversions acre-ft. per acre
<u>Fall River Canals</u>				
Yellowstone	1,870	5,000	1,000	1.9
Harrigfeld	0	2,140	0	0
Marysville	28,100	15,000	12,800	2.2
Farmers Own	10,400	10,200	6,500	1.6
Almy	0	60	0	0
Enterprise	35,800	7,000	6,000	6.0
Bell	1,710	160	160	10.7
Fall River	88,500 (a)	8,000	8,000	11.0
McBee	678	300	90	7.5
Chester	10,400	2,000	1,325	7.8
Silkey	3,140	620	440	7.1
Cur	10,600	1,570	1,500	7.1
Total Fall River	191,198	52,050	37,815	5.0

(a) Includes 25,000 acre-ft. diverted through Cross Cut Canal.

Canal	Diversions May to Sept. (acre-ft.)	Area under canal (acres)	Area Irrigated (acres)	Diversions Acre-ft. per acre
<u>Henry's Fork Canals</u>				
Dewey	3,870	1,800	1,000	3.9
Last Chance	14,900	1,900	1,840	8.1
St. Anthony Union	124,500	10,000	10,000	12.4
Farmers Friend	24,800	2,900	2,900	8.5
Twin Groves	30,500	2,500	2,500	12.2
Salem Union	43,100	5,500	5,300	8.1
Egin	81,400	6,000	6,000	13.6
Union Feeder	19,700	2,000	2,000	9.8
Independent	67,100	7,000	7,000	9.6
Consol. Farmers	51,500	8,000	6,000	8.6
Total Henry's Fork	461,370	47,600	44,540	10.3
<u>Lower Teton Canals</u>				
Siddoway	1,930	500	500	3.9
Wilford	27,500	1,800	1,800	15.3
Teton Irrigation	16,000	2,000	2,000	8.0
Good Luck	3,620	400	328	11.0
Pioneer	3,040	400	400	7.6
Stewart	3,340	366	366	9.1
Pincock-Byington	2,280	340	300	7.6
Pincock-Garner	4,030	580	440	9.2
Teton Island Feeder	85,500	10,500	10,400	8.2
North Salem	1,190	600	400	3.0
Roxana	(b) 2,340	720	720	3.2
Island Ward	8,010	3,300	3,000	2.7
Woodmanse-Johnson	4,500	1,250	1,000	4.5
City of Rexburg	9,870	1,290	1,100	9.0
Rexburg Irrig.	52,800	5,650	5,280	10.0
McCormick-Rowe	1,220	160	150	8.1
Saury Sommers	3,170	640	640	5.0
Total Teton River	230,340	30,496	28,824	8.0
Total Henry's Fork, Fall River, and Teton River.	882,908	130,146	111,179	8.0

(b) Also receives water through Consol. Farmers from Henry's Fork.

Total diversions were about 4.5% greater than in 1941, the increase all occurring on Fall River and Henry's Fork. Many of the Teton River

canals diverted less water in 1942 than in 1941. Stored water diverted by the canals on Henrys Fork and tributaries amounted to 123,128 acre-ft. or 14% of the total diversions.

Seasonal records are available on some of the larger canals diverting from tributaries of Fall and Teton Rivers as follows:

Canal	Diversions May to Sept. (acre-ft.)	Area under canal (acres)	Area Irrigated (acres)	Diversions Acre-ft. per Acre
Squirrel Creek	700	1,000	300	2.3
Conant Creek	4,500	1,500	1,000	4.5
Canyon Creek	4,230	6,300	2,500	1.7
String Canal	10,900	2,117	1,985	5.5
Trail Cr. Irrig. Co.	26,600	6,000	4,700	5.7
Fox Cr. Irrig. Co.	11,900	3,959	2,800	4.2
Grand Teton Canal	26,800	9,000	6,500	4.1

Most of these canals divert heavily during the flood water season but are quite short of water after mid-July.

Several trips were made into the Island Park section for regulation purposes at intervals of about every two weeks after the flood waters were over. Users in that area purchased 337 acre-feet of storage from the Fremont Madison District and were permitted to divert twice that amount, allowing for 50% return flow to the stream.

River gains and losses in Henrys Fork Basin

The following time intervals have been used in preparing the tabulations by river sections:

Lake to Island Park	20 hrs.
Island Park to Warm River	14 hrs.
Warm River to Ashton	5 hrs.
Ashton to St. Anthony	5 hrs.
St. Anthony to Rexburg	12 hrs.
Squirrel to Chester	8 hrs.

Gain in Henrys Fork, Lake to Island Park Stations, 1942

(Island Park dates and 24-hr. sec.-ft. except as noted)

<u>Station</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Season</u>
Lake	312	328	2,882	8,686	1,625	13,833
I. P. Res.release	-1,089	1,603	14,474	17,898	4,502	37,388
Total Supply	- 777	1,931	17,356	26,584	6,127	51,221
Island Park	27,610	25,808	30,901	39,170	19,304	142,793
Tot.gain s.f.	28,387	23,877	13,545	12,586	13,177	91,572
Mean gain s.f.	916	796	437	406	439	599
Tot.gain ac.-ft.	56,305	47,360	26,866	24,964	26,136	181,631

The gain or inflow in this section was 48,000 acre-ft. greater than in 1941, most of same occurring during the high water months of May and June. May precipitation at Island Park dam was 4.40" compared to 2.16" normal.

Gain in Henrys Fork, Island Park to Warm River Stations, 1942

(Warm River dates and 24-hr. sec.-ft. except as noted)

<u>Station</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Season</u>
Island Park	27,398	26,118	30,267	39,596	19,621	143,000
Warm River	44,050	40,190	41,931	49,400	30,291	205,862
Tot.gain s.f.	16,652	14,072	11,664	9,804	10,670	62,862
Mean gain s.f.	537	469	376	316	356	411
Tot.gain ac.ft.	33,029	27,912	23,135	19,446	21,164	124,686

The seasonal gain was about 12,000 acre-ft. greater than in 1941, of which 11,000 acre-ft. occurred during May and June.

Gain in Henrys Fork, Warm River to Ashton Stations, 1942

(Ashton dates and 24-hr. sec.-ft. except as noted)

<u>Station</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Season</u>
Warm River	43,972	40,309	41,734	49,558	30,391	205,964
Ashton	68,260	55,290	53,740	61,120	40,040	278,450
Total gain s.f.	24,288	14,981	12,006	11,562	9,649	72,486
Mean gain s.f.	783	499	387	373	322	474
Tot. gain ac.ft.	48,174	29,715	23,814	22,933	19,138	143,774

The gain in this section comes mostly from the inflow of Warm River and Robinson Creek. It was about 23,000 acre-ft. greater than in 1941, or an average daily increase of 77 sec.-ft.

Gain in Fall River, Squirrel to Chester Stations, 1942

(Chester dates and 24-hr. sec.-ft. except as noted)

Station	May	June	July	Aug.	Sept.	Season
Squirrel	39,723	59,750	24,112	13,790	13,272	150,647
Diversions	5,151	22,940	16,981	13,053	10,664	68,789
Chester	43,674	43,031	8,638	2,736	4,915	102,994
Tot. acct. for	48,825	65,971	25,619	15,789	15,579	171,783
Tot. gain s.f.	9,102	6,221	1,507	1,999	2,307	21,136
Mean gain s.f.	294	207	49	64	77	138
Tot. gain ac.-ft.	18,053	12,339	2,989	3,964	4,576	41,921

The seasonal gain was practically the same as in 1941.

Gain in Henrys Fork, Ashton to St. Anthony Stations, 1942

(St. Anthony dates and 24-hr. sec.-ft. except as noted)

Station	May	June	July	Aug.	Sept.	Season
Ashton	68,125	55,488	53,527	61,293	40,167	278,600
Chester	43,556	43,184	8,760	2,721	4,906	103,127
Tot. Supply	111,681	98,672	62,287	64,014	45,073	381,727
Diversions	30,611	31,958	31,342	31,293	13,396	138,600
St. Anthony	84,820	68,040	32,775	34,138	32,989	252,762
Tot. acct. for	115,431	99,998	64,117	65,431	46,385	391,362
Tot. gain s.f.	3,750	1,326	1,830	1,417	1,312	9,635
Mean gain s.f.	121	44	59	46	44	63
Tot. gain ac.-ft.	7,438	2,630	3,629	2,810	2,602	19,109

The average daily gain was 12 sec.-ft. greater than in 1941.

Gain in Henrys Fork and Teton River, St. Anthony to Rexburg stations, 1942

(St. Anthony dates and 24-hr. sec.-ft. except as noted)

St. Anthony	84,820	68,040	32,775	34,138	32,989	252,762
Teton R.	46,890	60,560	32,805	21,815	15,888	177,958
Tot. Supply	131,710	128,600	65,580	55,953	48,877	430,720
H.Fk, diversions	23,996	29,161	23,986	21,080	12,514	110,737
Teton diversions	16,309	34,821	29,282	22,087	13,726	116,225
Rexburg	87,575	77,710	30,078	27,974	33,687	257,024
Tot. acct. for	127,880	141,692	83,346	71,141	59,927	483,986
Tot. gain s.f.	- 3,830	13,092	17,766	15,188	11,050	53,266
Mean gain s.f.	- 123	436	573	490	368	348
Tot. gain ac.-ft.	- 7,596	25,967	35,238	30,125	21,917	105,651

The seasonal gain of 105,651 acre-ft. was the least since 1934 when it was 46,000 acre-ft. In May an actual loss occurred, as was

also the case in September 1934. Due to cold rainy weather May diversions were the lowest ever recorded, except May 1927, and it appears probable that the ground water levels south of St. Anthony were below river level on May 1, 1942. Many local residents in this area reported that their wells were dry in the spring of 1942 for the first time since drilled. They attributed the low levels to the fact that the Fall River canal froze up at the head during the preceding winter and the usual supply of winter water was not run in the canal. Teton river users diverted all the water in that stream from about July 24 to September 12; at other times some water was delivered from Teton River to Henrys Fork.

TETON BASIN

Mr. Oleen Dummer again served as deputy watermaster and hydrographer in the Teton Basin section. He worked from May 13 to Aug. 31. After September 1st the demand for water had decreased to a point where the local users divided it among themselves without trouble.

Storage rented by Teton Basin users was as follows:

Trail Cr. Irrig. Co.	2,855	acre-ft.		
String Canal Co.	997		"	
So. Leigh Creek	214		"	
No. Leigh & Spring Cr.	247		"	
Swamps	17		"	
 Total	 4,330		 "	 (Reservoir meast.)

There was no stored water sold on other tributaries in Teton Basin as their flow had dropped so low by the time their rights were cut that the water would not reach Teton River.

Of the total storage rented 1,225 acre-ft. less loss, were delivered to Snake River users for water used prior to July 28, and cost 30¢ per acre-ft. The balance of the storage cost 60¢ per acre-ft. and

was delivered, less loss, to users on lower Teton River through the Cross-Cut Canal. The storage was all rented from the Fremont-Madison Irrigation District. Daily use is shown on Plate 22.

The storage sold in Teton Basin was on the basis of delivering to lower users 1/2 of the quantity diverted by the upstream canals, on the theory that, considering channel losses and return flow, the lower users would get at least as much water this way as they would if the Teton Basin rights were cut off and the water allowed to flow down the stream channels. Allowing for 10% loss in the Cross-Cut Canal and 2.5% river loss below Island Park dam, the Teton Basin users were able to divert 1-3/4 acre-ft. for each acre-ft. of storage purchased in Island Park Reservoir.

The waters on Teton Creek were regulated jointly by T. Ross Wilson, Deputy Water Commissioner for Wyoming, and Mr. Dummer, representing the Idaho rights, in accordance with the following tabulation.

Teton Creek Regulation 1942

Date	Total Available Flow Sec.-ft.	Sec.-ft. in Wyoming Canals after regulation				
		Woddel	Central	Brown, et al.	So. Side	Total
July 21	154.7	7.7	7.2	19.6	27	61.5
" 24	118.1	7.4	6.7	20.5	19.5	54.1
" 28	108.8	7.1	6.6	14.0	17.1	44.8
" 31	82.7	6.5	5.1	17.2	12.5	41.3
Aug. 4	65.4	5.2	4.0	13.6	9.9	32.7
" 7	57.9	4.5	3.6	12.0	8.8	28.9
" 11	51.4	4.0	3.2	10.7	7.8	25.7
" 14	42.6	3.3	2.6	8.9	6.5	21.3
" 18	38.0	3.0	2.3	7.9	5.8	19.0
" 21	33.7	2.6	2.1	7.0	5.1	16.8
" 25	32.0	2.5	2.0	6.7	4.9	16.1

Note: On the first three dates the flow was divided, one inch per acre to all Wyoming rights desiring same, and balance to Idaho. On other dates it was divided 50% to Wyoming and 50% to Idaho. For discharge of Grand Teton Canal in Idaho see Plate 23. Total available flow is sum of all canal diversions measured before regulation.

The discharge of streams and canals on which a number of measurements were made is shown on Plate 23. The results of some additional miscellaneous measurements are tabulated below:

Discharge in Sec.-ft. of
West Side Creeks in Teton Basin, 1942

<u>Creek</u>	<u>May 19</u>	<u>May 29</u>	<u>June 8</u>	<u>June 19</u>	<u>June 26</u>	<u>Aug. 13</u>
Packsaddle Creek	10.22		40.88		13.88	2.20
Dude Creek	1.34		0.65		0.40	0.20
Horseshoe Creek	26.10		31.50		13.97	4.08
Twin Creek (North, Middle, South)	8.01		7.34		3.24	0.50
Mahogany Creek	11.65		40.80	24.1	16.84	5.97
Paradise Creek	2.59		3.16		3.00	3.21
Bouquet Creek	1.64		1.44		2.08	1.31
Patterson Creek	5.74		5.27		3.69	1.48
Un-named Creek	0.45		.34		.20	.20
Grove Creek	0.60		.66		1.30	.90
Warm Springs	1.40		1.13		1.15	.64
Drake Springs	1.20		2.01		1.30	.94
John's Creek	4.79	5.97			2.74	1.17
Deep Creek	2.12	1.59			.14	.40
Pine Creek	34.69	24.6			2.23	.40
Warm Creek	10.75	13.6			22.15	8.41

Miscellaneous Darby Creek Diversions

<u>Date</u>	<u>Gage Ht. (feet)</u>	<u>Discharge (sec.-ft)</u>
<u>Cherry Grove Canal</u>		
June 2, 1942	3.52	0.4
	(Cherry Grove Cross cut 18.5 s.f.)	
June 18	4.82	31.1
July 2	5.02	38.7
July 15	4.10	8.9
<u>Cannon Canal</u>		
May 30	0.80	1.5
June 2	0.76	1.0
June 18	1.52	20.6
July 2	1.92	51.1
July 15	1.50	18.9
<u>Hill Canal</u>		
May 30, 1942	0.82	1.8
June 2	.80	1.8
June 18	1.50	27.7
July 2	1.78	43.8
July 15	1.26	14.0

<u>Date</u>	<u>Gage Ht.</u> <u>(feet)</u>	<u>Discharge</u> <u>(sec.-ft.)</u>
<u>Todd Canal</u>		
May 2	0.80	13.6
June 2	0.78	14.0
June 18	1.70	33.3
July 2	1.84	51.2
July 15	1.44	34.4

<u>Canal</u>	<u>Date</u>	<u>Discharge</u> <u>(sec.-ft.)</u>
South Leigh Cr. above Big Hogg Canal	Aug. 7, 1942	17.5
Little Hogg Canal in Mathews field	Aug. 16, 1942	3.4
South Leigh Cr. above Kilpack Canal	Aug. 16, 1942	4.4
Mathews ditch	Aug. 16, 1942	3.9
South Leigh Cr. above Kilpack Canal	Aug. 22, 1942	2.5
Big Hog Canal in Mathews field	Aug. 22, 1942	6.2

TRANSIT LOSS ON TRAIL CREEK

June 3, 1942

Supply:

- a. Trail Cr. above String Canal
b. Game Creek
c. Creek west of Game Cr.

165.1 sec.-ft.
81.85 "
3.46 "

250.41 "

Total Supply

Diversions:

- a. String Canal 13.6 sec.-ft.
b. Kimball Canal 11.4 "
c. Town Canal 34.8 "
d. Ricks-Kirsley Canal 14.0 "
e. Spencer Canal 34.0 "
f. Humball Canal 16.6 "
g. Edwards ditch .3 "
h. Tonks Canal 26.6 "
i. Job Porter's ditch 1.85 "
j. Davis Ditch .00 "
Total flow diverted

153.15 "

Amount reaching live water
(Trail Creek)

67.56 "

Total accounted for 220.71 "

Total Loss from String Canal to live water

29.70 sec.-ft.

Note: Water had been flowing through to live water all spring as farmers had been diverting water for culinary purposes only. Precipitation for May had been above normal.

TRANSIT LOSS ON TRAIL CREEK

August 24, 1942

Supply at Head	
a. Moose and Trail Creek	52.8 sec.-ft.
b. Game Creek	14.9 "
Total Supply	<u>67.7</u> "

Diversions:

Leaking through closed gates and through one opened gate	13.0 sec.-ft.
Supply less diversions	54.7 sec.-ft.
Reaching live water	<u>21.5</u> "
Transit Loss	33.2 "

It was estimated that if the water which was unavoidably as well as inadvertently diverted had gone down stream an additional 5 sec.-ft. would have been lost.

Total loss from String Canal to live water 38.2 sec.-ft.

TRANSIT LOSS ON FOX CREEK

June 11, 1942

Supply:		115.0 sec.-ft.
a. Fox Cr. above diversions		
b. Inflows.		
1. No. side - 1 mi. E. Highway	0.62	
2. No. side - 1 mi. E. Highway	0.30	
3. No. side - 1½ mi. E. Highway	7.73	
4. No. side - at Highway	0.60	
5. So. side - ½ mi. E. Highway	1.78	
6. No. side - ¼ mi. W. Highway	<u>5.41</u>	
Total inflow		<u>16.44</u> sec.-ft.
Total Supply		131.44 "

Diversions:

1. Canal - No. side, ½ Mi. E. Nichol's	47.19
2. Canal - So. side, SW Nichols	22.93
3. Shut off for repairs	15.70
4. Canal - So. side	17.05
5. Diversion - No. side, ¾ mi. E. highway	2.06
6. Diversion - So. side, ½ mi. E. highway	0.81
7. Diversion - So. side, ¼ mi. W. highway	<u>105.74</u> sec.-ft.
Total diverted	

Transit Loss on Fox Creek cont'd.

Reaching live water

a. South Branch	1.32	sec.-ft.
b. North Branch	9.20	"
Total	<u>10.52</u>	"

Transit loss on this test

15.18 sec.-ft.

Note: This test was made following the receding of higher water, which had been flowing through the channel for about one week. The test was made four days after a heavy rain.

TRANSIT LOSS ON DARBY CREEK

June 2, 1942

Supply

a. Darby Creek at Forest Bridge 75.3 sec.-ft.

Diversions:

a. Floyd Winger's ditch (est.)	0.50	sec.-ft.
b. Hill Canal	1.84	"
c. Todd Canal 14.0 less A. Bowles Powerplant 4.03	9.97	"
d. Cannon Canal	0.97	"
e. #1 Cherry Grove Canal	0.40	"
f. Cherry Grove upper Cross Cut	18.49	"
g. Stone's Diversion at highway	9.30	"
h. Stone's Diversion W. of house	<u>5.25</u>	"
Total Diverted	46.72	

Flowing into live water 0.95 sec.-ft.

Transit Loss in Darby Creek on above date 27.63 sec.-ft.

Note: These measurements were made after a recession of high water (due to cold weather) which had been running in the old creek bed for about 9 days.

TRANSIT LOSS ON TETON CREEK

June 1, 1942

Supply:

Teton Creek (below Grand Teton Canal) 116.1 sec.-ft.

Diversions:

Central Teton Canal	5.58	sec.-ft.
Price-Fairbanks Ditch	0.59	"
Cordon-Christensen Ditch	<u>1.02</u>	"
Total flow diverted	7.19	"

Transit Loss on Teton Creek, cont'd.

Teton Creek - at Pole line above highway S.E. of Driggs, above inflow of Spring Cr.

48.0 sec.-ft.

Total Supply accounted for

55.19 sec.-ft.

Transit Loss on June 1, 1942

60.91 sec.-ft.

Note: High water had been running through the channel for about eight days previous to this test. It had previously taken a stream of 120 to 200 sec.-ft. three days to flow from the State Line to live water.

TRANSIT LOSS ON TETON CREEK
from Grand Teton Canal diversion to Pole Line S. E. Driggs

June 20, 1942

Supply:

a. Teton Creek below G. T. Canal Div.	104.8 sec.-ft.
b. Inflow from Wodell Canal	2.10 "
Total	106.95 "

Diversions:

a. Central Teton Canal at Wyo. line	15.6 sec.-ft.
b. Price-Fairbanks Ditch	14.32 "
c. Cordon-Christensen Ditch (shut off)	--
Total	29.92 "

Teton Creek at Pole Line

61.75 "

Total accounted for

91.62 sec.-ft.

Transit Loss for June 20, 1942

15.28 sec.-ft.

July 8, 1942

Supply:

Teton Creek below G. T. Canal	85.4 sec.-ft.
Inflow from Price-Fairbanks Ditch	7.5 "
Total	92.9 "

Diversions:

1. Central Teton Canal	23.3 sec.-ft.
2. Price-Fairbanks Ditch	13.23 "

Teton Creek at Live water

57.4 "

Total accounted for

93.93 sec.-ft.

Gain from Wyoming Line to live water

1.03 sec.-ft.

Transit Loss on Teton Creek, cont'd.

July 28, 1942

40 sec.-ft. was turned down creek. On July 29 there were 37 sec.-ft. at Bridge below Grant Teton Canal. The flow had gone down the channel to 1/4 mile south of south edge of cemetery east of Priggs.

TRANSIT LOSS ON SOUTH LEIGH CREEK
from Wyo. line to State Highway

June 15, 1942

Supply:

So. Leigh Creek at Wyo. Line	167.1 sec.-ft.
Inflow from Spring by J. O. White barn	<u>.73</u> "
Total Supply	167.83 "

Diversions:

1. Little Ditch	30.85 sec.-ft.
2. Thomas Ditch	2.50 "
3. Burt Shaw Ditch	2.83 "
4. Ed Hansen Ditch	3.53 "
5. P. Hansen-Shaw Ditch	<u>7.81</u> "
Total diversions	47.52 "

Crossing highway:

a. Under Big Bridge	105.13 "
b. Through culvert No. of Bridge	<u>5.38</u> "
	110.51 "

Total accounted for

158.03 sec.-ft.

Transit Loss

9.80 sec.-ft.

TRANSIT LOSS ON MAHOGANY CREEK

June 19, 1942

Supply:

a. Mahogany Creek above all diversions	24.07 sec.-ft.
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Diversions:

1. O. J. Buxton, et al.	8.07 sec.-ft.
2. D. C. Buxton, et al.	5.35 "
3. Golden Wood, et al.	3.18 "
4. L. Buxton (Edwin Wood et al)	3.95 "
5. E. Carrington (last of Mahogany Cr.)	<u>1.10</u> "

Total accounted for

21.65 sec.-ft.

Transit loss on June 19, 1942

2.42 sec.-ft.

DISTRIBUTION IN SWAN VALLEY SECTION

Mr. F. S. Thomas of Irwin was appointed as Deputy Watermaster in this section. He worked from June 24 to September 10. Water-users rented 2501 acre-ft. of storage and were allowed to divert twice that quantity from the tributary creeks on the assumption that 50% of the water returned to the river during the irrigation season. The lands here are all underlain by porous gravel which permits fairly rapid drainage back to the river. Diversions are generally at the rate of from 1" to 2" per acre irrigated.

Discharge measurements of the Palisade Canal and several creeks in this area are shown on Plate 23.

PRECIPITATION IN INCHES

(Actual and normal for year ending Sept. 30, 1942)

Month	Snake R.		Moran, Wyo.		Afton, Wyo.		Bechler, Wyo.		Irwin, Ida.	
	Act.	Nor.	Act.	Nor.	Act.	Nor.	Act.	Nor.	Act.	Nor.
Oct. 1941	1.58	2.10	1.18	1.58	1.57	1.64	1.60	2.92	0.95	1.22
Nov.	1.99	2.04	1.98	1.69	2.58	1.88	1.82	2.95	1.47	1.00
Dec.	5.31	2.66	3.46	1.76	1.84	1.30	8.90	4.14	3.52	1.17
Jan. 1942	1.78	3.68	1.49	2.46	1.12	1.37	3.24	5.54	1.28	1.50
Feb.	2.89	2.98	2.16	2.20	1.08	1.23	6.65	3.67	.97	1.12
Mar.	1.53	3.61	1.22	2.56	.45	1.62	1.95	4.90	.83	1.32
Apr.	2.03	1.96	1.91	1.60	1.69	1.58	3.05	3.00	2.15	.86
May	4.48	2.40	3.44	1.98	2.92	2.12	5.55	3.42	3.77	1.66
June	1.54*	2.19	1.10	1.57	2.45	1.48	1.79	3.46	1.20	1.38
July	.90*	1.52	.66	1.12	.59	1.03	.32	2.32	.37	.93
Aug.	.59*	1.48	.53	1.34	.34	1.32	.30	1.31	.33	.98
Sept.	.57	1.78	.49	1.61	.52	1.52	1.28	1.68	.78	1.24
Year	25.24	28.40	19.62	21.47	17.15	18.09	36.45	39.31	17.62	14.38

* estimated

Precipitation in Inches (cont'd)

Month	Ashton		Idaho Falls		Pocatello		Twin Falls		Av. 9 stas.	
	Act.	Nor.	Act.	Nor.	Act.	Nor.	Act.	Nor.	Act.	Nor.
Oct. 1941	0.99	1.20	0.67	1.06	.47	1.16	0.66	0.90	1.07	1.53
Nov.	1.32	1.19	.70	.61	2.05	.89	.78	1.08	1.63	1.48
Dec.	2.83	1.56	1.61	.97	2.03	1.21	1.12	.89	3.40	1.74
Jan. 1942	1.14	1.82	.71	1.10	2.22	1.39	1.51	1.09	1.61	2.22
Feb.	1.65	1.29	.42	1.03	1.03	1.31	.87	.91	1.97	1.75
Mar.	.37	1.14	.34	.86	.30	1.31	.08	.98	.79	2.03
Apr.	.41	1.18	.46	.89	1.12	1.60	1.03	.98	1.54	1.52
May	2.57	1.97	.57	1.37	2.29	1.51	1.89	.99	3.05	1.94
June	.52	1.44	.53	1.10	.58	1.05	.13	.68	1.09	1.59
July	.12	.93	0	.61	.13	.85	.22	.37	.37	1.07
Aug.	.23	.70	.02	.61	.76	.64	0	.21	.34	.95
Sept.	.79	1.16	.93	.81	1.63	.74	.13	.55	.79	1.24
Year	12.94	15.58	6.96	11.02	14.61	13.66	8.42	9.63	17.65	19.06

The precipitation for the year was about 93% of normal. Pronounced monthly shortages occurred in October, March, and July to September, while December and May were the only months greatly above normal.

EXPENDITURES DURING YEAR ENDING DECEMBER 31, 1942Engineers & Hydrographers

Lynn Crandall	Salary 1 yr.	\$4999.92
W. V. Iorns	" "	3324.99
Melvin Luke	" 5 mos. @ \$190	950.00
Ival Goslin	" 4.47 mos. @ \$160	714.66
F. W. Tolles	" 3.30 mos. @ \$155	511.50
Oleen Dummer	" 3.62 mos. @ \$155	563.16
L. T. Burdick	" 8 days @ \$10	80.00

Clerks

Effie C. Jones	Salary 4.20 mos. @ \$140	603.69
Charlotte M. Elg	" 1 yr.	1680.00
Neva Iorns	" 16 da. @ \$120 mo.	64.00

River Riders

D. W. Archibald	82 days @ \$6.25 incl. mileage	512.50
D. R. Crystal	98 days @ \$5.75 " "	563.50
Paul Koller	35 days @ \$5.75 " "	201.25
Eugene Liljenquist	97 days @ \$5.25 " "	509.25
H. M. Bramwell	98 days @ \$5.75 " "	563.50
F. S. Thomas	77 days @ \$5.00 " "	395.00
Joe Bohi	59 days @ \$5.25 " "	309.75
Walter C. Lenz	2.40 mo. @ \$40 mo. " "	95.08

Miscellaneous

Transportation, 3,137 miles @ 4¢ a mile;	1936.06
40,236 miles @ 4½¢ a mile.	365.83
Telephone & Telegraph	1022.06
Supplies and equipment	644.57
Gage Readers	175.23
Construction and repairs	83.38
Bond premium and insurance	565.64
Miscellaneous	
Total	\$21,434.52

Expenditures from various funds

Stored and Normal Flow account	\$13,189.08
Storage Sales account	7.70
State of Idaho Stream Gaging fund	1,421.68
U. S. Geological Survey	<u>6,816.06</u>
Total	\$21,434.52

In addition to the foregoing, upper valley members of the Committee of Nine were paid \$37.00 for services at \$5 per day and expenses, which were pro-rated among upper valley canals.

Funds on hand January 1, 1943

District #36 Water distribution fund	\$9,518.08
State of Idaho Stream Gaging fund *	0
U. S. Geological Survey	<u>3,297.82</u>
Total	\$12,815.90

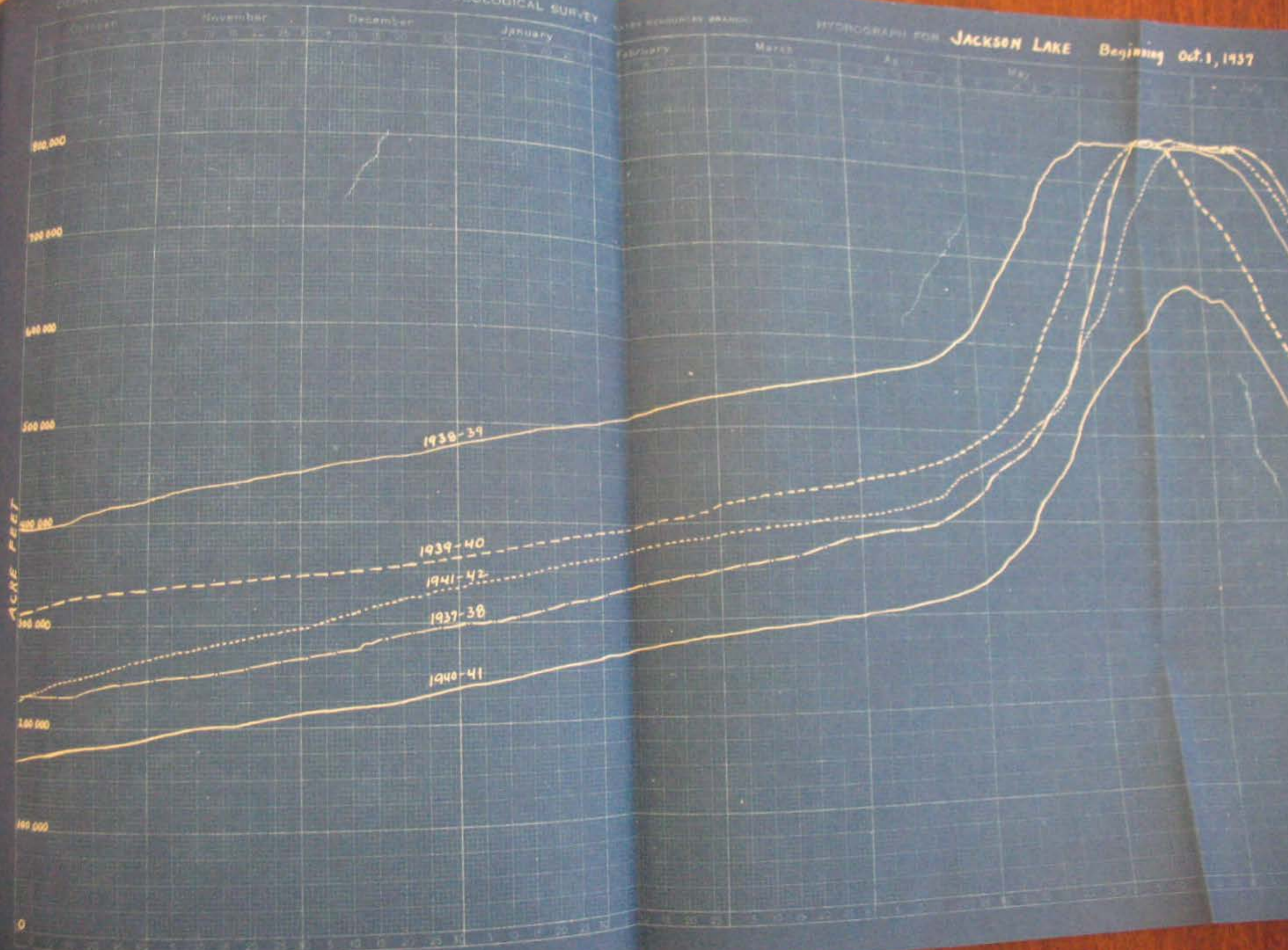
*Available funds will not be known until after action by Legislature.

MAP SHOWING PRINCIPAL STREAMS AND GAGING STATIONS

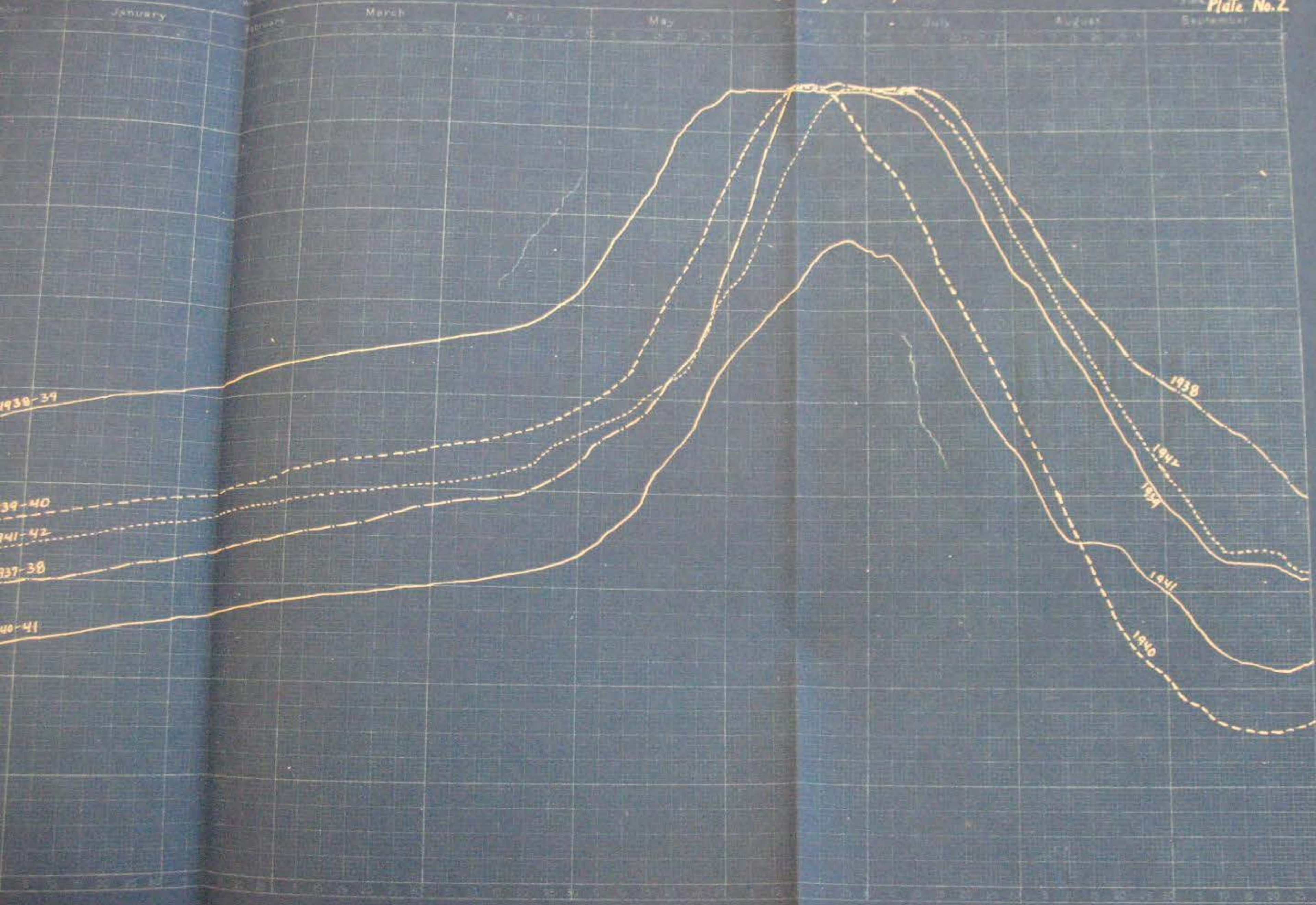


NO.	STATION
1	JACKSON LAKE AT MORAN
2	SNAKE RIVER AT MORAN
3	SNAKE RIVER NR. HEISE
4	SNAKE RIVER NR. SHELLEY
5	SNAKE RIVER NR. BLACKFOOT
6	AMERICAN FALLS RESER. AT AMERICAN FALLS
7	SNAKE RIVER AT NEELEY
8	LAKE WALCOTT NR. MINIDOKA
9	NO. SIDE CANAL NR. MINIDOKA
10	SO. SIDE CANAL NR. MINIDOKA
11	SNAKE RIVER NR. MINIDOKA
12	P.A. LATERAL NR. MILNER
13	GOODING CANAL AT MILNER
14	NO. SIDE CANAL AT MILNER
15	SO. SIDE CANAL AT MILNER
16	MILNER LOW LIFT CANAL AT MILNER
17	SNAKE RIVER AT MILNER
18	HENRYS LAKE NR. LAKE
19	HENRYS FORK NR. LAKE
20	ISLAND PARK RES. NR. ISLAND PARK
21	HENRYS FORK NR. ISLAND PARK
22	HENRYS FORK NR. WARM RIVER
23	HENRYS FORK NR. ASHTON
24	GRASSY LAKE NR. MORAN
25	FALL RIVER NR. SQUIRREL
26	FALL RIVER NR. CHESTER
27	HENRYS FORK AT ST. ANTHONY
28	TETON RIVER NR. TETONIA
29	TETON RIVER NR. ST. ANTHONY
30	HENRYS FORK NR. REXBURG
31	BLACKFOOT RIVER NR. BLACKFOOT





HYDROGRAPH FOR JACKSON LAKE Beginning Oct. 1, 1937



1938-39

39-40

41-42

37-38

40-41

1938

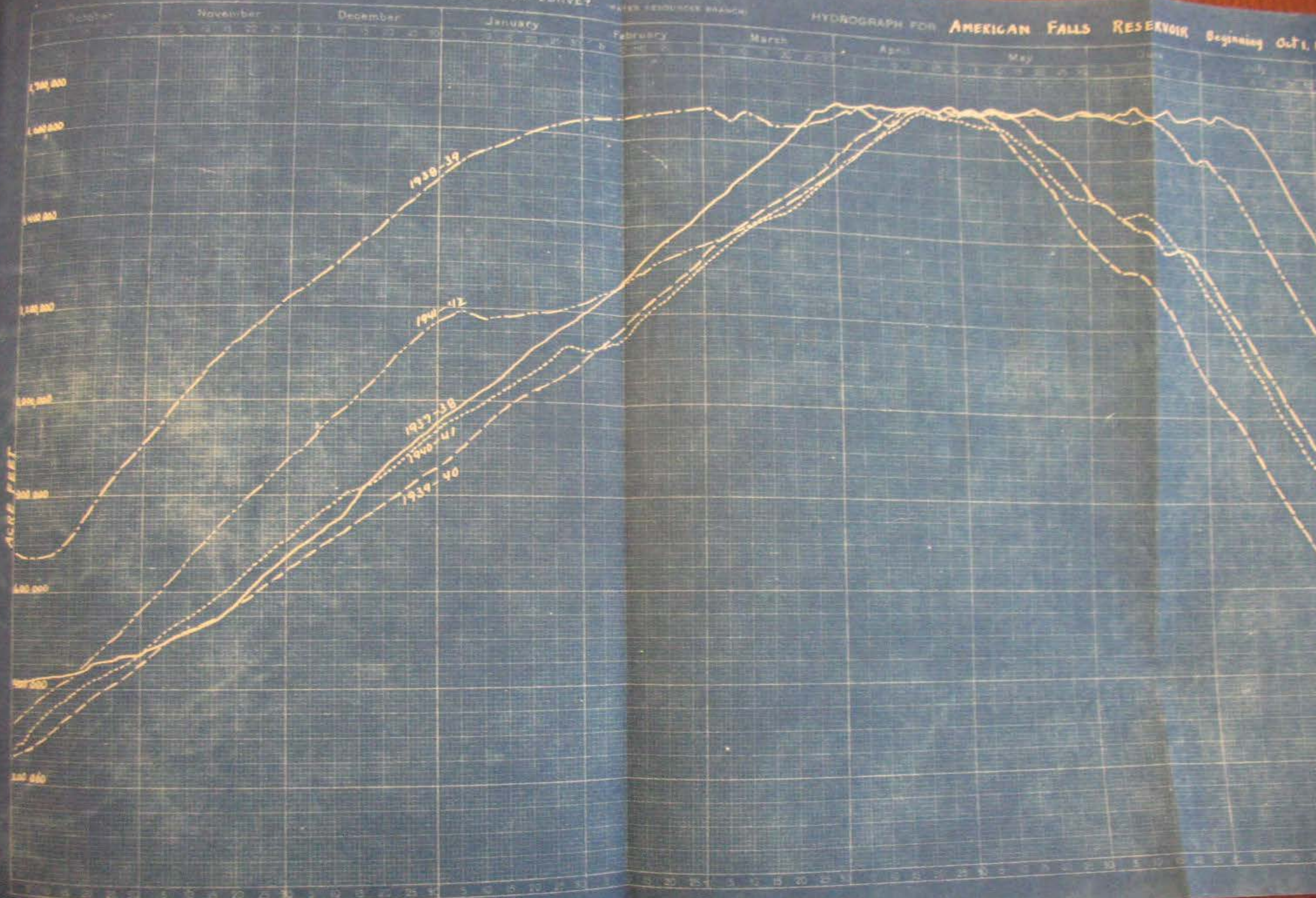
1939

1940

1941

1941

1940



Plotted by _____ Checked by _____ Date _____

HYDROGRAPH FOR AMERICAN FALLS RESERVOIR Beginning Oct 1, 1937

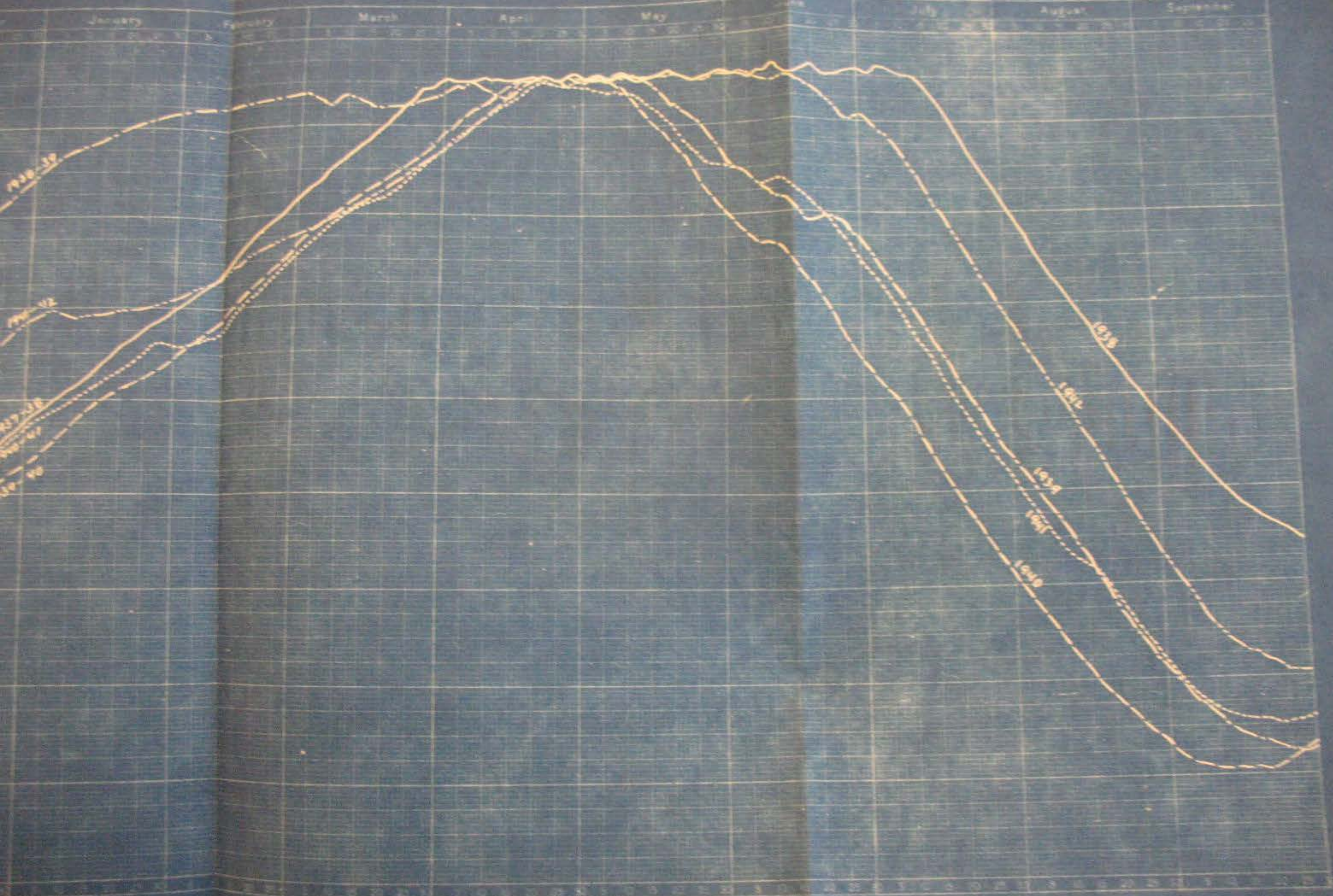
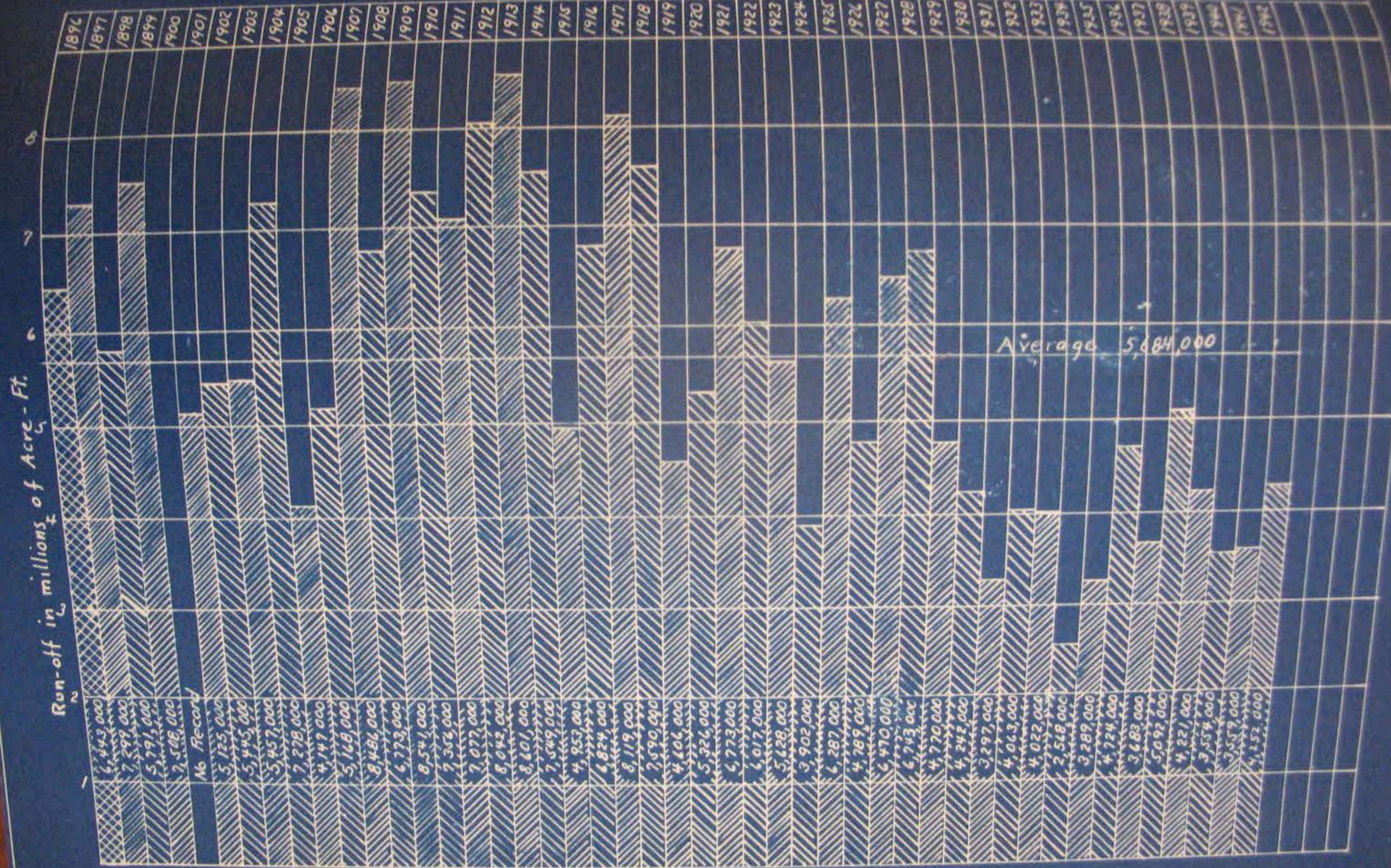


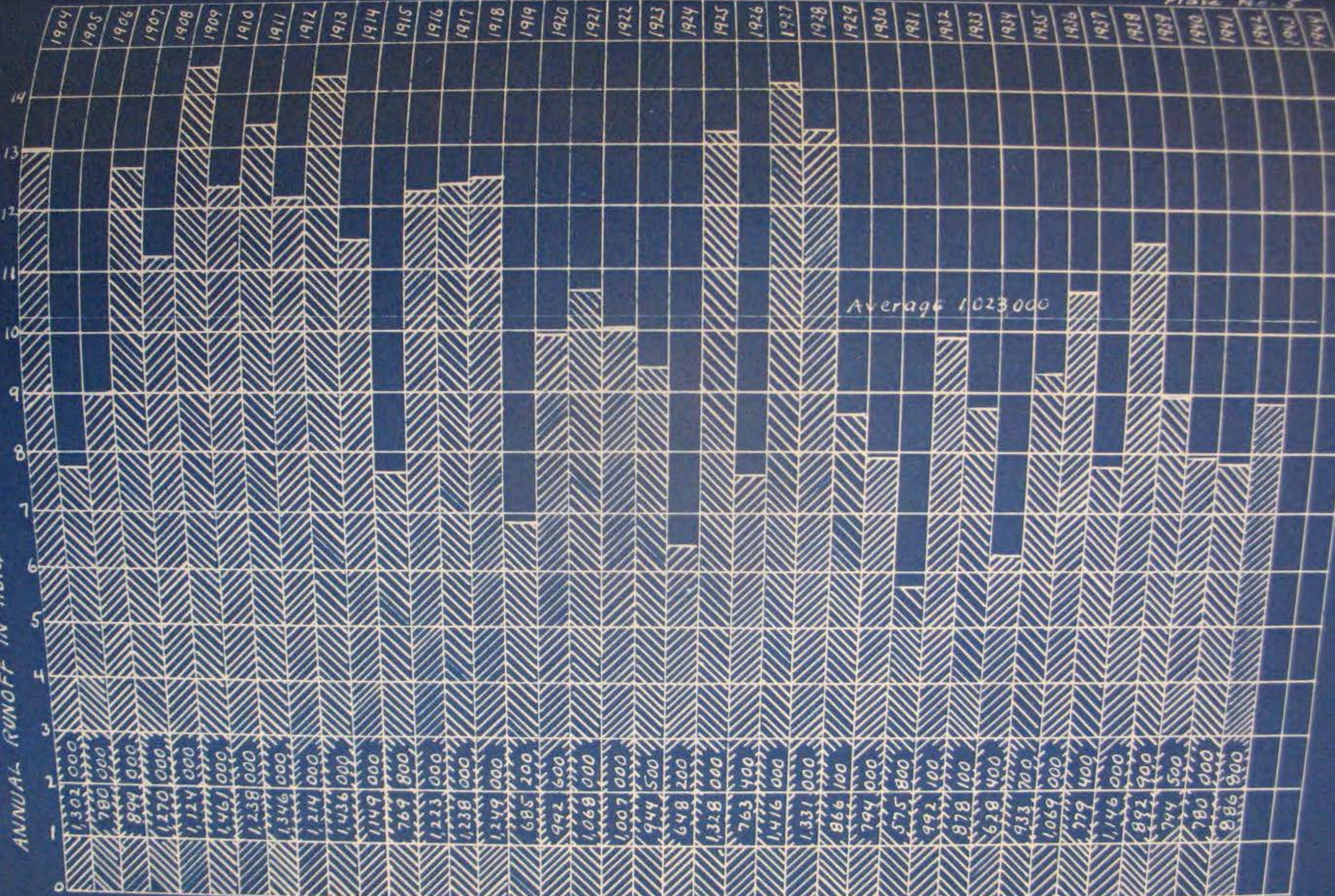
DIAGRAM SHOWING ANNUAL RUNOFF OF SHARPE RIVER AT MONTGOMERY FERRY (Montgomery Ferry prior to 1907)



Totals are for year ending Sept. 30 and are corrected for American Falls holdovers.

DIAGRAM SHOWING TOTAL ANNUAL RUNOFF IN ACRE-FEET OF SNAKE RIVER AT MORAN, WYO.
 Plate No. 5

ANNUAL RUNOFF IN HUNDREDS OF THOUSANDS OF ACRE-FEET



Note: Runoff Totals are for water year ending Sept. 30 and are corrected for Jackson Lake holders

DAILY SUMMARY

DATE	JACKSON LAKE Contract A.C.F.			SNAKE R. AT MORAN			MORAN TO HEISE		DATE	HEISE + RILEY			STORAGE INFLOW HEISE TO SHELLEY			DIV. HEISE TO SHELLEY			SNAKE R. NR. SHELLEY			DIV. SHELLEY-BLACKFOOT		
	STOR.	NORM.	TOTAL	STORAGE LOSS	STORAGE DIV.	STOR.	NORM.	TOTAL		MARKET LAKE	HENRY'S FR. NEER NEEDING	STORAGE LOSS HEISE TO SHELLEY	STOR.	NORM.	TOTAL	DATE	STOR.	NORM.	TOTAL	STOR.	NORM.	TOTAL	STOR.	NORM.
Aug 31	424730	2860	680	3540	72	13	Sep 1	2775	3893	6668	6	-256	135	1273	4737	6100	Sep 3	1017	1473	2490	1659	637	2316	
Sep 1	419540	2480	680	3160	62	10	2	2408	3657	6065	6	-220	117	1298	4741	6089	3	774	1271	2050	1134	667	1821	
2	414140	2960	680	3640	74	10	3	2876	3329	6205	5	-143	140	1227	4806	6033	4	1371	684	2060	1164	610	1774	
3	407430	3680	680	4360	92	7	4	3581	3297	6878	5	-118	175	1269	4795	6864	5	2024	536	2560	1436	662	2098	
4	399830	4160	680	4840	104	7	5	4049	3332	7381	4	-110	197	1706	4358	6864	6	2040	420	2460	1618	683	2301	
5	391570	4220	670	4890	105	6	6	4104	3332	7441	4	-83	201	1705	4572	6277	7	2124	926	3050	1993	616	2609	
6	383150	4190	670	4860	105	4	7	4081	3330	7411	4	-89	199	1609	4544	6153	8	2188	422	3110	1915	637	2552	
7	374960	3920	670	4590	98	9	8	3822	3489	7281	4	-112	187	1579	4630	6209	9	1948	452	2900	1931	642	2573	
8	367460	3450	670	4120	86	10	9	3364	3455	6819	4	-116	164	1135	4627	5762	10	1453	837	2790	1896	614	2504	
9	360880	3320	670	3990	83	11	10	3237	3370	6607	4	-191	158	1271	4509	5780	11	1621	1029	2650	1912	591	2503	
10	353860	3240	670	3910	81	12	11	3159	3388	6547	4	-274	153	1076	4910	5986	12	1660	1550	3210	1537	703	2240	
11	347080	3110	800	3910	78	13	12	3032	3907	6939	4	-104	148	598	4372	4970	13	2186	2504	4690	994	586	1580	
12	341220	970	1200	2170	24	14	13	446	5725	6671	4	-35	46	290	3862	4152	14	575	4205	4780			1391	
13	340790			552		15	14			4503		-460	-2	31	3989	4020	15	-489	3779	3290			1506	
14	340570			458		16	15			3960						3917	16						1570	
15	340570			344		17	16			3670						3871	17						1540	
16	340360			274		18	17			3490						3915	18						1219	
17	340360			242		19	18			3360						3910	19						1114	
18	340570			242		20	19			3320						3836	20						1088	
19	340360			224		21	20			3320						3834	21						1160	
20	340570			206		22	21			3280						3606	22						1242	
21	340790			206		23	22			3260						3758	23						1296	
22	340790	-188	470	182	-5	24	23	-183	3413	3230			-8		3700	24	-175	1665	1490			1542		
23	341220	338	370	708	8	25	24	330	2880	3210			16		3822	25	314	1146	1460			1480		
24	339920	1830	370	2200	46	26	25	1784	1976	3760			87	101	3847	26	1596	-116	1480	550	547	1097		
25	335370	2910	370	3280	73	27	26	2837	2573	5410		-242	137	308	4175	27	2150	440	2590	848	573	1421		
26	329290	2740	370	3110	69	28	27	2671	3149	5820		-420	130	333	4160	28	1788	1482	3270	1167	674	1861		
27	324970	1610	370	1980	40	29	28	1570	3330	4900		-414	75	281	4081	29	800	1900	2700	1027	652	1674		
28	321970	700	370	1070	17	30	29	683	3817	4500		-411	31	244	4174	30	-3	2313	2310	1000	652	1652		
29	321540	-128	370	242	-3	30	30	-125	3725	3600		-406	-8	146	3911	4057	Oct 1	-669						
30	321330																							
Total	246463				6157	1170		239136			616	-17368	11601	118093				92690					84650	

IONS

1942

AT MIN/DORR		DATE	MILNER LAKE GAGE	GOODING			NORTH SIDE CANAL CO.				TWIN FALLS CAN. CO.			MILNER LOW LIFT			SNAKE R AT MILNER					
NORM.	TOTAL			STOR.	NORM.	TOTAL	R.R.	GOODING	MAIN	TOTAL	STOR.	NORM.	STOR.	NORM.	TOTAL	STOR.	NORM.	TOTAL	STOR.	NORM.	TOTAL	
2762	7850	5	10-64	1400	0	1400	63	910	2520	3493	3168	325	783	2457	3220	165	0	165	319	0	319	
2765	7900	6	10-64	1400	0	1400	63	910	2500	3473	3148	325	780	2440	3220	163	0	163	325	0	325	
2765	7960	7	10-76	1400	0	1400	63	920	2470	3453	3128	325	780	2440	3220	165	0	165	328	0	328	
2766	7960	8	10-82	1400	0	1400	63	910	2450	3423	3098	325	739	2441	3180	165	0	165	328	0	328	
2765	7880	9	10-74	1400	0	1400	63	900	2430	3393	3068	325	710	2440	3150	165	0	165	328	0	328	
2764	7930	10	10-91	1400	0	1400	63	900	2380	3343	3018	325	701	2439	3140	165	0	165	328	0	328	
2766	7740	11	10-92	1410	0	1410	63	900	2340	3303	2978	325	579	2441	3020	165	0	165	328	0	328	
2764	7440	12	10-82	1290	0	1290	63	900	2270	3233	2908	325	401	2439	2840	158	0	158	328	0	328	
2767	8170	13	10-98	1200	0	1200	63	920	2220	3203	2878	325	328	2442	2770	150	0	150	336	0	336	
2989	7070	14	10-93	1190	0	1190	63	910	2170	3143	2792	351	22	2638	2660	150	0	150	333	0	333	
2930	6720	15	10-89	1160	0	1160	63	900	2090	3053	2653	400	0	2530	2530	150	0	150	330	0	330	
2840	6480	16	10-71	1120	0	1120	63	910	1930	2903	2503	400	0	2440	2440	150	0	150	325	0	325	
2977	6140	17	10-36	1120	0	1120	63	890	1830	2783	2136	647	0	2330	2330	150	0	150	316	0	316	
3339	6010	18	10-56	1110	0	1110	61	890	1700	2651	1562	1089	0	2250	2250	132	0	132	319	0	319	
2613	5880	19	10-68	1080	0	1080	61	890	1630	2581	2148	433	0	2180	2180	125	0	125	325	0	325	
2666	5840	20	10-80	1070	0	1070	63	900	1580	2543	2027	516	0	2150	2150	126	0	126	333	0	333	
2725	5440	21	10-74	1020	0	1020	63	880	1530	2473	1758	715	0	2010	2010	116	0	116	330	0	330	
2658	5080	22	10-68	990	0	990	63	870	1490	2423	1545	828	0	1830	1830	110	0	110	353	0	353	
2674	4920	23	10-65	990	0	990	54	870	1290	2214	1330	884	0	1790	1790	116	0	116	377	0	377	
2652	4670	24	10-54	990	0	990	45	870	1010	1925	1003	922	0	1730	1730	87	0	87	377	0	377	
406	4510	25	10-56	970	0	970	45	870	900	1815	1109	706	0	1700	1700	76	0	76	377	0	377	
110	4620	26	10-76	950	0	950	45	880	760	1685	1285	400	0	1710	1710	76	0	76	377	0	377	
090	4400	27	10-72	950	0	950	45	870	500	1415	1015	400	0	1690	1690	75	0	75	380	0	380	
090	3860	28	10-62	940	0	940	0	870	343	1213	813	400	0	1690	1690	75	0	75	374	0	374	
100	3740	29	10-47	310	0	310	0	870	397	1267	867	400	0	1700	1700	75	0	75	368	0	368	
110	2790	30	10-32	0	0	0	0	520	289	809	409	400	0	1710	1710	70	0	70	368	0	368	
110	2450																					

158560

253799

65814

16893

15363

DAILY STORAGE DIVERSIONS

1942

24-HOUR SECOND FEET EXCEPT AS NOTED.

																																AUG																				
30	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
[Grid of numerical data representing daily storage diversions in second feet, organized by month and day.]																																																				

Handwritten data table on the left page of a ledger, containing columns numbered 1 through 25. The data includes numerical entries and a 'SEP' label at the top.

Handwritten data table on the right page of a ledger, containing columns numbered 26 through 36 and summary columns labeled NO., TOTAL SEC.-FT., TOTAL AC.-FT., JACKSON LAKE EQUIV. AC.-FT., and JACKSON LAKE RIGHT AC.-FT. The table concludes with a 'TOTAL' row.

NOTES

19	20	21	22	23	24	25	26	27	28	29	30	NO.	TOTAL SEC.-FT.	TOTAL AC.-FT.	JACKSON LAKE EQUIV. AC.-FT.	JACKSON LAKE RIGHT AC.-FT.	AM. FALLS RIGHT AC.-FT.	OTHER RIGHTS AC.-FT.	SEASONAL PURCHASES & EXCHANGE AC.-FT.	TOTAL RIGHTS AC.-FT.	
												1									
												2	1170	2320	2501	0	0	0	2501	2501	
												3								2325	
					6	9	5	3	0			4	1021	2025	2184	1200	1175	0	0	30277	
												5	12002	23810	25675	0	22237	0	8040	2110	
												6	987	1957	2110	2000	0	0	110	13603	
					51	54	52	46	40	0		7	5295	10502	11326	6100	15570	0	-8067	135	
												8	43	85	92	0	0	0	135	23333	
												9	9489	18821	20293	5000	18257	0	76	5449	
												10	2548	5053	5449	2000	3044	0	405	17	
												11	8	16	17	0	0	0	17	17041	
												12	7977	15821	17061	5120	11941	0	0	1040	
												13	120	238	257	1040	0	0	0	4895	
												14	2289	4540	4895	4000	0	0	895	9856	
					76	94	54	40	0			15	3709	7356	7932	3000	6856	0	0	4448	
												16	0	0	0	0	4448	0	0	175	
												17	82	162	175	0	0	0	208	208	
												18	77	193	208	0	0	0	0	1573	
					29	9	9	6	0			19	727	1442	1555	0	1573	0	0	0	
												20	-160	-317	-342	0	0	0	0	0	
												21	7431	14739	15890	0	4448	0	11406	15908	
					50	50	50	50	50	50		22	5964	11829	12755	0	24132	0	-193	23939	
												23	117	232	250	0	333	0	0	333	
												24	41	81	88	0	121	0	0	121	
												25	1248	2478	2669	355	0	1110	1204	2669	
												26	6569	13030	14050	0	39981	0	0	39981	
												27	2210	4384	4728	1500	3332	0	0	4832	
												28	23058	45735	49307	5000	43426	110	781	49317	
												29	24	48	52	0	0	0	52	52	
												30	3780	7497	8084	0	13331	0	-4241	9090	
					66	92	87	75	66			31	21660	42962	46327	15000	40955	0	0	55955	
												32	-243	-482	-520	0	0	0	0	0	
												33									
					101	308	333	281	244	146		34	118093	234238	252567	51315	255140	1220	11057	318752	
												35									
					149	310	334	249	183			36	1746	3463	3734	0	0	0	3734	3734	
												37	2971	5893	6354	0	22272	0	0	22272	
												38	291	578	623	0	0	0	623	623	
					212	212	220	145	181			39	20325	40313	43465	8000	34279	0	1186	43465	
					189	326	613	633	636			40	57761	114567	123550	42685	98314	0	0	140999	
												41	1301	2580	2782	0	5927	0	0	5927	
												42	388	770	830	0	2167	0	0	2167	
												43	-133	-264	-285	0	0	0	0	0	
												44									
					550	848	1167	1027	1000			45	84650	167900	181053	50685	162959	0	5543	219187	
												46									
					0	0	0	0	175			47	192828	382468		325810	102883	136170		564863	
					126	116	116	116	87	76		48	16843	35507			51149			51149	
												49	65814	130540		88670	172886		19101	242455	
												50	253744	503403		244680	503029			747709	
												51	158560	314499			416048			416048	
												52	14483	28727			45447			45447	
												53									
												TOTAL	54	406240	1799602		811160	1709561	137390	0	2658111

- ① From Market Springs.
- ② Rented through Bureau of Reclamation.
- ③ 588 rented through Bureau of Reclamation from Osgood for U.I. Sugar Co. lands.
- ④ 49 rented through Bureau of Reclamation, 804 to Progressive Irr. Dist. and 76 to Harrison for stockholders lands.
- ⑤ Transfer from Enterprise.
- ⑥ Transferred to Sugar Co. lands under New SW.
- ⑦ Sold through Bureau of Reclamation.
- ⑧ Lake Walcott 100370 on June 2, plus 35800.

28	29	30	NO.	TOTAL SEC.-FT.	TOTAL AC.-FT.	JACKSON LAKE EQUIV. AC.-FT.	JACKSON LAKE RIGHT AC.-FT.	AM. FALL RIGHT AC.-FT.	OTHER RIGHTS AC.-FT.	SEASONAL PURCHASES & EXCHANGE AC.-FT.	TOTAL RIGHTS AC.-FT.
			1							2501	2501
			2	1170	2320	2501	0	0	0	0	2325
			3							0	30277
5	3	0	4	1027	2025	2184	1200	1125	0	8040	2110
			5	12002	23810	25675	0	22277	0	110	13603
			6	987	1957	2110	2000	0	0	-8067	135
46	40	0	7	5295	10502	11326	6100	15570	0	76	23333
			8	43	85	92	0	0	0	405	17
			9	9489	18821	20293	5000	18257	0	17	17061
			10	2548	5053	5449	2000	3044	0	0	1040
			11	8	16	17	0	0	0	895	4895
			12	7477	15821	17061	5120	11441	0	0	9856
			13	120	238	257	1090	0	0	0	4448
			14	2289	4540	4895	4000	0	0	175	208
54	40	0	15	3709	7356	7932	3000	4856	0	208	1573
			16	0	0	0	0	4448	0	0	0
			17	82	162	175	0	0	0	11406	23939
			18	97	193	208	0	0	0	-193	333
9	6	0	19	727	1442	1555	0	1573	0	0	121
			20	-160	-317	-342	0	0	0	1204	2669
			21	7431	14739	15890	0	4448	0	0	39987
0	50	50	22	5964	11829	12755	0	24732	0	0	4832
			23	117	232	250	0	333	0	781	4937
			24	47	87	88	0	121	0	52	52
			25	1248	2478	2669	355	0	1110	1204	39987
			26	4569	13030	14050	0	39987	0	0	4832
			27	2210	4384	4728	1500	3332	0	0	4937
			28	23058	45735	49307	5000	43426	110	781	52
			29	24	48	52	0	0	0	52	9090
30	30	30	30	3780	7477	8084	0	13331	0	-4241	55955
75	46	31	31	21660	42962	46327	15000	40955	0	0	0
			32	-247	-482	-520	0	0	0	0	0
			33								
244	146	34	34	118093	234238	252567	57315	255160	1220	11057	318752
			35								
249	183	36	36	1746	3463	3734	0	0	0	3734	3734
			37	2971	5893	6354	0	22272	0	0	22272
			38	291	578	623	0	0	0	623	623
145	181	39	39	20325	40313	43465	8000	34279	0	1186	43465
633	436	40	40	57767	114567	123550	42685	98314	0	0	140999
			41	1307	2580	2782	0	5927	0	0	5927
			42	388	770	830	0	2167	0	0	2167
			43	-133	-264	-285	0	0	0	0	0
			44								
1027	1000	45	45	84650	167900	181053	50685	162959	0	5543	219187
			46								
501	180	47	47	192828	382468		325810	102883	136170		564863
25	70	48	48	16843	35507			51149			51149
			49	65814	130540		88670	172886			242455
867	404	50	50	253744	503403		244680	505024		-19101	747709
310	0	51	51	158560	314444			416048			416048
68	364	52	52	14483	28727			45447			45447
			53								
TOTAL	54	400	240	1799602		811160	1704561	137390	0	2658111	

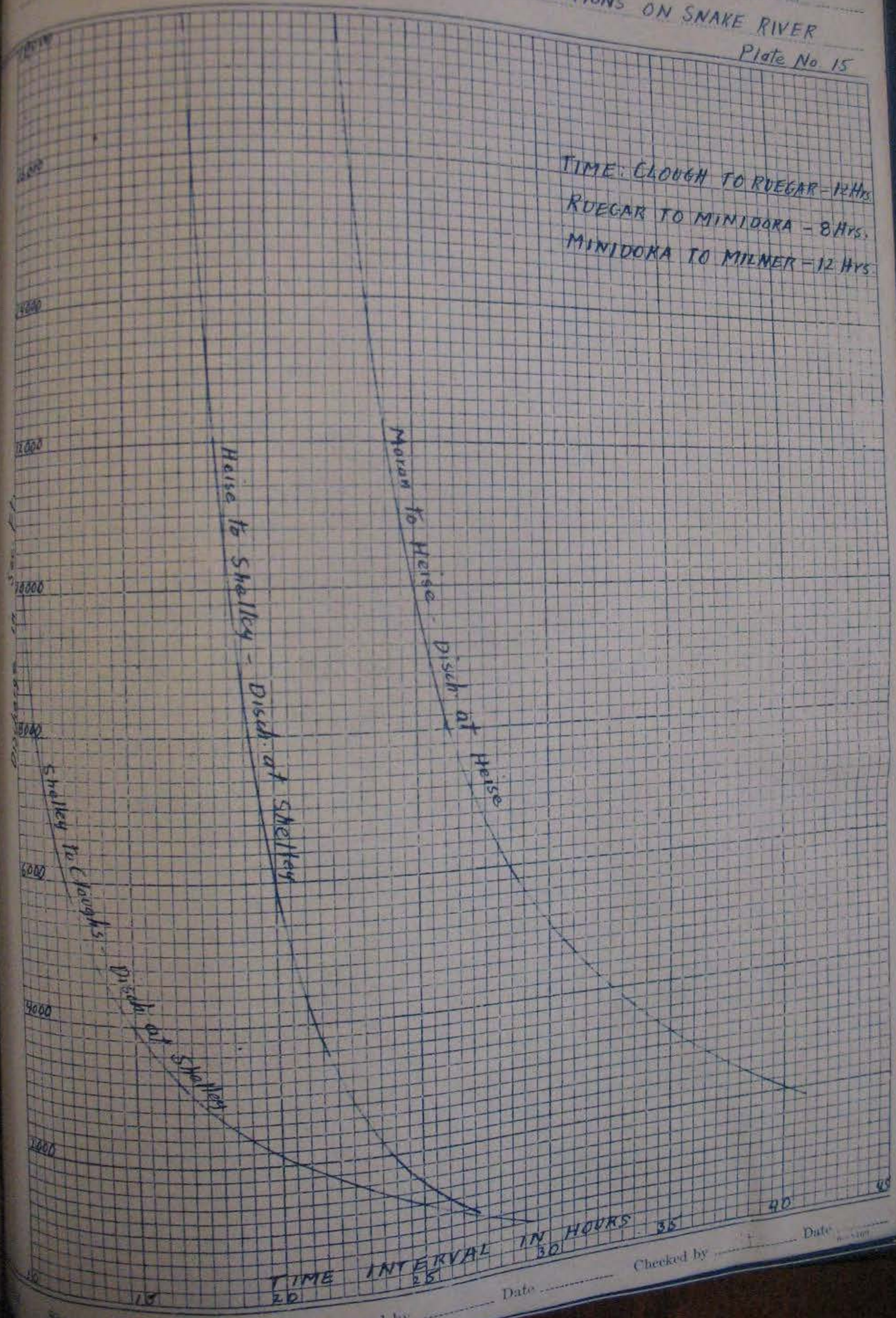
NOTES

- ① From Market Springs.
- ② Rented through Bureau of Reclamation.
- ③ 588 rented through Bureau of Reclamation & 193 transferred from Osgood for U.I. Sugar Co. lands.
- ④ 49 rented through Bureau of Reclamation, 8040 transferred to Progressive Irr. Dist. and 76 to Harrison for Enterprise Co. stockholders lands.
- ⑤ Transfer from Enterprise.
- ⑥ Transferred to Sugar Co. lands under New Sweden Canal.
- ⑦ Sold through Bureau of Reclamation.
- ⑧ Lake Walcott 100,370 on June 2, plus 55,800 gain Neely To Milner

TIME INTERVAL BETWEEN GAGING STATIONS ON SNAKE RIVER

Plate No 15

TIME: CLOUGH TO RUEGAR - 12 HRS.
 RUEGAR TO MINIDOKA - 8 HRS.
 MINIDOKA TO MILNER - 12 HRS.



TIME INTERVAL IN HOURS
 20 25 30 35 40 45
 Prepared by _____ Date _____
 Checked by _____ Date _____

DAILY DISCHARGE IN SEC.-FT. OF HENRYS FORK CANALS FOR JUNE 1942
FALL RIVER CANALS

Table with columns for NAME OF CANAL, days 1-30, and TOTAL. Rows include Yellowstone, Harrigfeld, Marysville, and various canals above Squirrel and Squirrel-Chester.

HENRYS FORK CANALS

Table with columns for NAME OF CANAL, days 24-30, and TOTAL. Rows include Dewey, Last Chance, Cross Out, St. Anthony Union, Farmers Friend, Twin Groves, and Salem Union.

TETON RIVER CANALS

Table with columns for NAME OF CANAL, days 10-18, and TOTAL. Rows include Siddway, Wilford, Teton Irrigation, Good Luck, Pioneer, Stewart, and many others.

TETON BASIN AND SWAN VALLEY

STREAM

TETON BASIN

24-HOUR SECOND

	MAY	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	JUN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20										
TRAIL CREEK ABOVE STRING CANAL																																																			
GAME CREEK AT MOUTH	68																																																		
STRING CANAL	27			68					68			127			222																																				
KIMBALL CANAL	9			24					22			84			153																																				
RICKS-KIRSLEY CANAL				9					10			14			16																																				
TOWN CANAL																20																																			
EDWARDS CANAL																30																																			
SPENCER CANAL																42																																			
HUMBLE CANAL																	18																																		
TONKS CANAL																	11																																		
FOX CREEK ABOVE DIVERSIONS																																																			
DARBY CREEK ABOVE DIVERSIONS	22											47				112																																			
GRAND TETON CANAL	37											84				287						87																													
TETON CREEK BELOW GRAND TETON CAN.				62			49					89			82							49			112																										
CENTRAL TETON CANAL				7			5					121			400							116			420																										
SOUTH LEIGH CR. AT STATE LINE																																																			
BIG HOGG CANAL									20			49				172																																			
LITTLE HOGG CANAL									15			18				26																																			
KILPACK CANAL									4.0			4.2				6.7																																			
NORTH LEIGH CR. AT FOREST BDRY.									1.9			2.0				8.2																																			
SPRING CR. AT HIGHWAY BRIDGE									4.0							187																																			
TETONIA CANAL																																																			
BADGER CR. 2 MI. EAST OF HONEYDALE SCH.																																																			
SWAN VALLEY																																																			
NORTH FORK INDIAN CREEK																																																			
SOUTH FORK INDIAN CREEK																																																			
PALISADE CANAL																																																			
PALISADE CR. BELOW PALISADE CANAL																																																			
RAINEY CREEK ABOVE DIVERSIONS																																																			

contents in acre-ft.
Daily streamflow recorded, of

JACKSON LAKE at MORAN, WYOMING

for the year ending September 30, 1942.

Plate No 2

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	227740	266230	296540	336020	363070	386260	405420	464910	627480	853380	681400	419540
2	229780	267070	297180	336880	363950	386920	405870	467200	633980	851580	671650	414140
3	231200	267900	298660	337970	365050	387580	406320	468800	640710	850820	661240	407430
4	232630	270630	302900	338620	366140	388250	407430	471100	650340	850050	651800	399830
5	234060	272090	303750	339270	367900	388910	408550	473620	662210	850050	644800	391570
6	235690	272930	305020	339920	368780	389580	409450	475910	673350	850050	637820	383150
7	237730	273770	306300	340790	370970	390020	410340	477740	686030	849790	629160	374760
8	239160	274610	307590	342310	371860	390680	411240	480030	700440	849790	619820	367460
9	240180	275650	308880	343400	372740	391570	412130	482780	716160	849530	610020	360880
10	241400	276280	309740	344700	373410	392460	413020	486470	730710	849020	601190	353860
11	242630	277120	310810	345560	374290	393120	413920	491550	744550	848510	592170	347080
12	244070	277960	311880	346430	374960	393790	415940	496860	754250	845440	583390	341220
13	245520	279000	312740	347300	375620	394460	418190	500090	763470	839590	574630	340790
14	246760	280260	314030	347950	376290	395360	419320	503550	771940	833740	565910	340570
15	248210	282150	315320	348600	377170	396030	420450	507710	780720	828400	557200	340570
16	249240	283190	316820	349260	377840	396700	421350	511900	791750	822800	547810	340360
17	250270	284240	317890	350360	378500	397150	422480	515150	801320	817230	539150	340360
18	251310	284870	319180	351230	378940	398040	424060	518170	809400	812180	530020	340570
19	252340	285510	321750	351890	379610	398710	426090	520960	816980	806120	520960	340360
20	253790	286360	323040	352550	380270	399380	428340	523750	825090	799040	512130	340570
21	254820	287000	324120	353210	380720	399830	431720	527700	831700	790240	504010	340790
22	256270	288270	325620	353640	381380	400280	436910	532360	836790	780720	496160	340790
23	257100	289120	326480	354300	382270	400950	443040	539620	842900	771440	488780	341220
24	258130	289960	327550	355180	382930	401620	446910	549680	847740	761720	480720	339920
25	259370	290810	328640	356060	383600	402290	450090	559550	853120	751760	472700	335370
26	260400	291660	329510	357370	384260	402740	452600	570390	851580	741340	464680	329290
27	261440	292510	330370	358470	385150	403180	455100	585050	852100	731200	456920	324970
28	262470	293780	331030	359130	385810	403630	457830	597620	851840	721560	448280	321970
29	263710	295050	332330	360220		404080	460550	605960	850820	710760	439630	321540
30	264760	295900	333410	361100		404530	462850	614320	852100	701180	431950	321330
31	265390		335150	361980		404970		621730		691400	424730	

MEAN												
ACRE- FEET												

YEAR OR PERIOD MEAN ACRE-
FEET

PERIOD ACRE-
FEET

Daily discharge, in second-feet, of

SNAKE RIVER at MORAN, WYOMING

for the year ending September 30, 1912
Plate No 25

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	20	20	17	18	19	20	21	20	3620	6020	3160
2	18	20	20	17	18	19	20	21	20	3770	6210	3640
3	18	20	20	17	18	19	20	21	21	3590	6020	4360
4	17	20	20	17	18	19	20	21	21	3380	4890	4840
5	17	19	19	17	18	19	20	21	21	3370	4210	4890
6	17	19	19	17	18	19	21	21	21	3370	4710	4860
7	17	19	18	17	18	19	21	21	27	3230	5800	4590
8	17	19	18	17	18	19	21	21	33	2950	5750	4120
9	17	20	18	17	18	19	22	21	32	2700	5550	3990
10	16	20	17	17	18	19	22	21	27	2510	5400	3910
11	16	20	17	17	18	19	22	20	20	3080	5340	3910
12	16	20	17	17	18	19	22	20	20	4540	5210	2170
13	17	20	17	17	18	19	22	19	18	4950	5150	552
14	17	20	17	17	18	19	22	19	18	4710	5080	458
15	17	20	17	17	18	19	21	18	18	4940	5310	344
16	17	20	17	17	18	19	21	18	18	4760	5450	274
17	18	21	18	17	18	19	21	18	18	4500	5400	242
18	18	21	18	17	18	19	21	18	18	4380	5340	242
19	18	21	18	17	18	19	21	18	18	5020	5370	224
20	18	21	18	17	18	19	21	18	19	5580	5050	206
21	18	21	18	17	18	19	21	18	18	6180	4500	206
22	18	21	17	17	18	19	22	18	394	6480	4500	182
23	18	20	17	17	18	19	22	18	1370	6040	4600	708
24	18	20	17	17	18	19	22	18	1850	6460	4950	2200
25	18	20	17	17	18	20	22	18	5360	6520	4780	3280
26	19	20	17	17	18	20	22	19	3680	6500	4750	3110
27	19	20	17	17	18	20	22	20	3400	6350	4710	1980
28	19	20	17	17	18	20	22	20	3560	6210	4970	1070
29	20	20	17	17	—	20	22	20	2370	6310	4830	242
30	20	20	17	17	—	20	22	20	1990	6190	4320	224
31	20	—	17	17	—	20	—	20	—	6010	3560	—

MEAN	17.8	20.1	17.8	17.0	18.0	19.2	21.3	19.5	814	4781	5087	2139
ACRE- FEET	1090	1190	1090	10.50	1000	1180	1270	1200	48440	294000	312800	127300

Daily discharge, in second-feet, of

SNAKE RIVER near HEISE, IDAHO

for the year ending September 30, 1922

Plate No. 26

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3340	2860	2460	2210	2340	2080	2170	5820	11400	10400	10300	6660
2	3510	2900	2510	2010	2340	2080	2250	5790	11100	12100	10100	6060
3	3450	2960	2720	1900	2340	2120	2370	5710	11700	13000	10200	6200
4	3360	3170	3430	1850	2320	2120	2610	5630	13200	13100	10100	6870
5	3340	3430	3230	1850	2300	2140	3320	5760	14600	12800	9180	7370
6	3400	3230	2880	1900	2260	2120	3490	5680	15100	13300	8260	7430
7	3380	3090	2700	1950	2240	2100	3540	5760	15400	13600	8400	7400
8	3320	2960	2690	1960	2250	2040	3890	6140	17100	13400	9250	7270
9	3260	2860	2580	2010	2240	2110	4310	6960	18300	12700	9180	6810
10	3210	2820	2560	2070	2210	2120	5230	8030	19100	11800	8980	6600
11	3150	2780	2600	2150	2150	2150	5900	8370	18100	10900	8740	6540
12	3130	2760	2650	2210	2180	2170	7370	8470	15800	10500	8740	6930
13	3170	2760	2600	2190	2120	2170	8710	8030	14200	11700	8540	6660
14	3320	2760	2600	2190	2120	2170	9460	7500	13200	11800	8370	4500
15	3230	2760	2600	2190	2020	2100	9500	7300	12900	11300	8300	3960
16	3170	2820	2610	2170	1980	2020	8370	7460	13800	11800	8400	3670
17	3150	2880	2630	2150	1860	2070	8130	7530	13100	11700	8470	3490
18	3110	2980	2610	2140	1790	2100	8470	7180	11800	11300	8430	3360
19	3090	2900	2610	2120	1790	2070	8540	7120	11900	10800	8370	3320
20	3070	2700	2560	2150	1790	2010	8770	7460	11800	10700	8330	3320
21	3070	2620	2560	2150	1840	2010	9950	7990	11100	10800	8200	3280
22	3070	2540	2560	2170	1940	2020	11200	9280	10400	11000	7590	3260
23	3040	2480	2500	2170	2010	2040	11500	11200	10300	11100	7460	3230
24	3000	2430	2460	2170	2050	2080	10100	14000	11600	10600	7430	3210
25	3000	2480	2500	2170	2070	2140	8810	14900	12500	10900	7860	3760
26	3070	2460	2500	2210	2080	2070	7960	16300	15400	11000	7820	5410
27	3020	2430	2260	2220	2080	2030	7270	18400	15300	11000	7790	5820
28	3040	2380	2250	2340	2080	2040	6780	17700	13700	10800	7500	4900
29	3020	2400	2380	2380	-----	2040	6400	15200	12900	10700	7690	4500
30	2980	2400	2510	2370	-----	2060	6090	13500	11000	10800	7720	3600
31	2920	-----	2510	2340	-----	2100	-----	12300	-----	10600	7240	-----

MEAN	3174	2767	2607	2131	2100	2087	6749	9305	13,590	1155	8482	5179
ACRE-Feet	195,200	164,600	160,300	131,000	116,600	128,300	401,600	572,200	808,900	710,100	521,500	308,200

YEAR OR PERIOD MEAN 5827
ACRE-Feet 4,218,500

Daily discharge, in second-feet, of

SNAKE RIVER NEAR SHELLEY, IDAHO

for the year ending September 30, 1912
Plate No. 27

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2180	2650	2650	1900	2520	2150	2610	7130	10300	6830	3780	2760
2	2150	2650	2630	1650	2550	2250	2810	6860	8840	5760	3750	2490
3	2210	2680	2810	1460	2600	2350	2940	6700	7700	6930	3680	2050
4	2320	2740	3050	1400	2600	2400	3090	6630	7260	7730	3570	2060
5	2370	3030	3830	1400	2600	2400	3350	6600	7970	7770	3420	2560
6	2560	3730	3780	1500	2600	2360	3920	6470	9290	7460	2920	2960
7	2720	3640	3370	1600	2600	2340	4000	6270	9860	7670	2440	3050
8	2760	3440	3400	1900	2600	2320	3970	6210	10300	7900	2470	3110
9	2790	3190	3170	2200	2580	2300	4200	6370	11800	7600	3170	2900
10	2770	3090	3210	2450	2560	2500	4550	7360	13300	6700	3400	2790
11	2700	3030	3150	2550	2500	2700	5350	8590	14500	5630	3190	2650
12	2630	2940	3210	2700	2400	2800	6270	9290	13900	4660	3250	3210
13	2610	2940	3330	2650	2400	2700	8040	9400	11700	4250	3210	4690
14	2580	2920	3230	2610	2300	2700	9120	8900	9680	5060	3230	4780
15	2560	2860	3130	2550	2100	2700	10200	8240	8350	5000	3070	3290
16	2540	2830	3150	2400	1900	2600	10300	8040	8210	4640	3110	2630
17	2510	2830	3110	2250	1700	2600	9260	8280	9220	4840	3150	2290
18	2460	2700	3130	2050	1500	2590	8980	8350	8660	4720	3000	2150
19	2390	2670	3110	2220	1500	2610	9320	7800	7230	4410	2900	2000
20	2400	2510	3090	2350	1500	2510	9650	7260	6860	3920	2770	1940
21	2350	2470	3030	2270	1700	2390	9970	7230	6730	3710	2740	1920
22	2310	2200	3030	2200	1900	2370	11300	7330	5950	3680	2680	2000
23	2310	2060	3010	2100	2200	2460	12900	8240	4720	3800	2460	1600
24	2290	2000	2900	2050	2300	2540	13400	10000	4040	3900	2390	1490
25	2210	1940	2540	2250	2250	2590	12200	12300	4900	3620	2350	1460
26	2180	2100	2160	2400	2200	2560	10900	12800	6630	3800	2670	1480
27	2270	2270	1760	2600	2200	2510	9900	13600	10700	3950	2860	2590
28	2290	2490	1760	2600	2200	2440	9180	15600	11200	3830	2850	3270
29	2440	2540	1900	2600	-----	2420	8560	15300	10200	3730	2720	2700
30	2560	2630	2050	2600	-----	2460	7900	13400	9120	3680	2860	2310
31	2590	-----	2180	2560	-----	2560	-----	11800	3750	2850	-----	-----

MEAN	2452	2726	2899	2194	2234	2490	7605	8979	8971	5191	2997	2573
ACRE- FEET	150800	162200	178200	134900	124100	153100	452500	552100	533800	319200	184300	153100

YEAR 1912
MEAN 4280
ACRE-FEET 3,098,300

Daily discharge, in second-feet, of

BLACKFOOT RIVER near BLACKFOOT, IDAHO

for the year ending September 30, 1912
Plate No. 28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	70	205	240	102	100	70	173	207	101	150	2	3
2	100	214	255	102	100	75	205	209	68	69	2	3
3	103	240	300	102	100	75	295	218	41	31	4	3
4	129	293	240	102	100	80	350	233	14	16	4	3
5	147	336	200	102	100	80	417	312	5	9	4	3
6	261	346	160	102	100	85	465	309	a 4	6	4	3
7	301	331	164	102	100	85	350	309	a 3	5	5	3
8	293	295	167	102	100	90	288	304	2	5	5	3
9	294	235	170	102	100	90	264	345	1	6	3	3
10	300	222	177	102	85	95	275	342	1	5	3	2
11	305	222	183	102	85	95	282	265	3	4	4	2
12	288	227	183	102	85	95	319	233	39	5	14	3
13	265	235	196	* 102	85	95	366	264	35	5	17	36
14	244	239	220	102	85	95	391	323	34	4	24	24
15	230	250	270	102	85	95	481	326	22	4	21	14
16	197	257	290	100	85	95	476	371	14	4	18	22
17	189	270	297	100	75	* 95	473	392	22	5	17	44
18	193	270	304	100	75	95	407	380	23	5	4	96
19	187	270	* 307	100	75	95	401	374	33	6	3	154
20	189	270	300	75	75	95	404	348	35	5	3	146
21	190	270	280	75	75	95	398	315	49	5	3	180
22	190	270	260	75	75	100	368	247	51	5	3	103
23	194	168	220	80	75	100	354	207	30	5	3	70
24	193	133	160	90	75	114	363	186	17	6	2	53
25	189	121	140	100	* 65	128	327	168	10	6	2	28
26	184	*121	120	100	65	127	276	125	17	3	4	26
27	185	121	102	100	65	127	269	106	45	2	5	23
28	189	123	102	100	65	127	243	90	186	3	3	17
29	200	155	102	100	--	127	205	80	213	3	3	14
30	207	220	102	100		126	216	76	194	3	2	10
31	201		102	100		150		89		2	2	

* Result of Current Meter Meast.

MEAN	207	231	204	97.6	84.1	99.9	337	250	43.7	12.6	6.2	36.5
ACRE- FEET	12,710	13,740	12,530	6,000	4,670	6,140	20,040	15,380	2,600	778	383	2170

U. S. GOVERNMENT PRINTING OFFICE 1912

YEAR
OR
PERIOD

MEAN 134
ACRE-FEET 97,141

Snake River at Clough Ranch near Blackfoot

Daily discharge, in second-feet, of

for the year ending September 30, 1922 Plate No. 29

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1140	2260	2900	1880	2320	2050	2580	6910	8410	4820	617	380
2	1180	2340	2900	1670	2160	1990	2660	6330	6710	2900	661	330
3	1260	2370	3070	1300	2290	2110	2870	6090	5080	2500	718	320
4	1390	2480	3190	902	2300	2160	3040	6070	4090	3760	591	285
5	1490	2620	3600	846	2330	2230	3260	5940	4000	4090	558	290
6	1740	3240	3920	838	2290	2220	3760	5830	5170	3760	400	455
7	2180	3460	3620	932	2400	2190	3960	5480	6090	3730	668	455
8	2340	3320	3320	1110	2370	2160	3870	5080	6420	3850	766	400
9	2390	2960	3030	1210	2340	2120	3960	5020	7010	3870	1030	438
10	2400	2840	3010	1560	2320	2160	4270	5340	8490	3240	1160	325
11	2370	2730	3320	2010	2300	2300	4580	6420	9960	2390	966	285
12	2330	2850	3360	2220	2180	2520	5380	7170	10400	1460	790	290
13	2290	2780	3370	2340	2160	2640	6660	7590	8880	846	878	1730
14	2200	2800	3390	2360	2180	2780	8010	7540	6870	742	577	3360
15	2160	2790	3320	2230	2130	2500	9190	7080	5320	1320	564	2610
16	2060	2800	3260	2150	1920	2550	9930	6620	4540	1200	540	1530
17	1990	2900	3340	2050	1660	2520	9570	6690	5100	1020	633	1190
18	1920	2900	3320	1810	1410	2440	8680	7030	5340	1100	661	1210
19	1890	2850	3270	1670	1120	2460	8820	6620	4320	902	488	1230
20	1850	2850	3310	1850	1140	2460	9280	5940	3110	682	406	1130
21	1840	2700	3220	1990	1140	2420	9510	5320	3320	395	305	1100
22	1790	2600	3190	1940	1350	2400	10300	4840	3010	375	280	1050
23	1740	2260	3140	1790	1610	2550	11700	4820	1860	255	400	854
24	1710	2610	3110	1750	1950	2640	12700	6160	998	422	411	433
25	1670	2520	2930	1690	2110	2620	12500	8070	710	619	390	240
26	1610	2480	2610	1850	2050	2580	11200	9220	1980	540	416	238
27	1650	2680	2180	2160	2010	2500	10200	9600	4800	668	350	577
28	1710	2700	1750	2260	2040	2390	9370	11100	8220	682	365	1050
29	1730	2740	1730	2300	-----	2370	8520	12300	7540	647	365	1300
30	2080	2820	2040	2270	-----	2390	7490	11200	6600	726	305	894
31	1990	-----	2300	2290	-----	2430	-----	9480	-----	584	416	-----

MEAN	1874	2742	3033	1783	1985	2382	7261	7061	5488	1745	571	866
ACRE- FEET	115,200	163,100	186,500	109,600	110,200	146,500	432,000	434,200	326,600	107,300	35,120	51,530

YEAR OR PERIOD MEAN 3064 ACRE-FEET 2,217,850

Daily contents, in acre-feet, of AMERICAN FALLS RESERVOIR at AMERICAN FALLS, IDAHO, for the year ending September 30, 1912. Plate No. 30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	327630	571340	882930	1173430	1222660	1359450	1549050	1705600	1712900	1612350	1157050	650110
2	336650	581340	889200	1178610	1227930	1364490	1557040	1706720	1716890	1605290	1140450	634920
3	340450	592470	895080	1183320	1234650	1368020	1564530	1710080	1716320	1594960	1122940	620100
4	347020	602790	904190	1190380	1240880	1373570	1572140	1708960	1712900	1584640	1106090	606230
5	355820	613100	919150	1194620	1242800	1377600	1581380	1711760	1708960	1575940	1085350	591850
6	364360	624610	929670	1194150	1246160	1382140	1590620	1712330	1704480	1572140	1070470	576190
7	373350	637500	946810	1188500	1249520	1387690	1599850	1712330	1697200	1555440	1054620	561350
8	379600	649450	954320	1180970	1256710	1391720	1610180	1711200	1692710	1543730	1038780	545890
9	386360	661070	963500	1179080	1264500	1396260	1620560	1715180	1690470	1532550	1022160	530340
10	391130	671690	971010	1178140	1271320	1400800	1629410	1705040	1688230	1521900	1007990	516810
11	396510	683020	978110	1179550	1277160	1405850	1638810	1710080	1689910	1505450	992970	503710
12	403950	693950	986960	1183320	1283010	1412020	1649310	1710080	1694960	1492890	975180	493270
13	410100	704200	995980	1183790	1288360	1420250	1660370	1715180	1699440	1477180	961410	485250
14	413690	714100	1007140	1183790	1290800	1425390	1669760	1719170	1698880	1458330	945560	476950
15	417050	725290	1017870	1184260	1294210	1433110	1687670	1714610	1693270	1442360	929670	470870
16	423620	736880	1025590	1184730	1305410	1440310	1701120	1714040	1688230	1424880	913490	465170
17	432290	747060	1036570	1186150	1312340	1446480	1702240	1712330	1683750	1408940	899010	459520
18	442550	757760	1047140	1188500	1315800	1451620	1705600	1711760	1678700	1391720	884100	456010
19	452240	768580	1058580	1192740	1319270	1457280	1705040	1715750	1674220	1378110	868020	450090
20	461130	777960	1069590	1193210	1322240	1465140	1703920	1714040	1669760	1361970	848800	444970
21	470040	788820	1078590	1194150	1326200	1472470	1705040	1712330	1663680	1346000	830890	439650
22	479440	798090	1091660	1195090	1330160	1478750	1703360	1708960	1657600	1328180	816250	434400
23	488850	806980	1101580	1196510	1336100	1485030	1712900	1700560	1648200	1310360	799200	429930
24	498010	815880	1108800	1196980	1340060	1492360	1705600	1701120	1638250	1292750	779760	425200
25	506840	824790	1119250	1199800	1344020	1500740	1689350	1701680	1626090	1275700	763890	420470
26	515380	834700	1130310	1204040	1348470	1508070	1693270	1703920	1613440	1257200	747060	416530
27	524780	843850	1136770	1205920	1351440	1514980	1698880	1705040	1605290	1239920	728100	413180
28	533270	853370	1146450	1209710	1355410	1522430	1713470	1717460	1604750	1222660	713080	410360
29	543540	863710	1153820	1214030		1529350	1713470	1715750	1610180	1204040	696000	410360
30	552340	873510	1160280	1216900		1535740	1707280	1715750	1612350	1188030	681650	410360
31	562260		1167310	1218820		1543190		1713470		1170140	665710	

MEAN												
ACRE-												
FEET												

U. S. GOVERNMENT PRINTING OFFICE 1912

YEAR OR PERIOD MEAN ACRE-FOOT

DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY
 SNAKE RIVER AT NEELEY, IDAHO

for the year ending September 30, 1910
 Plate No. 31

Daily discharge, in second-feet, of

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	758	51	2290	1760	1940	2230	1620	9020	10200	9740	11700	10600
2	774	52	2370	2260	2570	2200	1620	9060	8560	10500	11800	10400
3	756	51	1200	234	1290	2390	1620	9100	8730	10900	11800	10300
4	96	51	1330	605	3830	2390	1620	9100	9060	11100	11700	10400
5	60	51	1420	3220	4350	2440	1620	9150	9400	11300	11760	10600
6	480	51	95	4780	4130	2420	1620	9190	9950	11600	11600	10600
7	1270	51	81	7520	1940	2460	1630	9190	10600	12000	11500	10600
8	2060	51	1380	7070	496	2450	1620	8980	10800	12300	11400	10600
9	2990	51	1260	4920	2030	2440	1600	8980	10400	12300	11400	10400
10	2430	51	1290	4880	2000	2500	2400	8980	10300	12300	11400	10000
11	2230	51	1270	1740	1990	2480	2430	8940	10300	12000	11400	9440
12	124	51	2110	4910	2020	2500	2310	8650	10300	11900	11600	9150
13	3510	51	120	4960	2020	2530	3520	8730	10400	11900	11500	3650
14	4390	50	68	4990	2050	2570	3540	12100	10400	12000	11500	8360
15	2460	50	1340	5000	568	1110	3690	12100	10400	11900	11300	7840
16	52	50	1380	5010	2060	2590	9910	11000	10300	11800	11200	7280
17	52	1430	1300	4440	2050	2660	10600	10900	9780	11800	11000	7080
18	52	1360	1110	1800	2060	2600	12300	8940	9520	11700	11200	7040
19	52	1370	1140	4130	2050	1150	13300	9780	9440	11600	11700	6960
20	52	514	114	4140	2050	1440	11700	10900	9360	11400	11800	6480
21	51	524	74	4160	2070	1740	11100	10500	9230	11300	11900	6280
22	50	532	1760	4080	612	1740	11200	9860	9230	11500	11800	6280
23	50	598	1720	4160	2460	1650	13500	9650	9150	11700	11800	6010
24	51	423	2310	4120	2440	1600	20300	9190	9480	12000	11700	5820
25	51	430	125	1850	2460	1610	19100	9360	9780	12000	11500	5560
26	51	415	1700	4140	2800	1620	14500	9150	9740	12000	11400	5050
27	51	433	127	3960	2860	1650	6600	9230	9230	12000	11300	4650
28	51	652	60	3620	2890	1600	8600	12000	9060	11800	11200	4360
29	52	68	1690	4130	----	1610	14100	15700	8850	11600	11200	3650
30	51	60	1710	4180	----	1610	12500	15700	8940	11500	11200	3440
31	51	----	1760	4160	----	1640	----	14000	----	11600	10900	----

MEAN	813	321	1152	3901	2217	2052	7392	10230	9696	11650	11490	7796
ACRE- FEET	50000	19090	70820	239900	123100	126200	439900	629000	577000	716100	706300	463900

YEAR OR PERIOD
 MEAN 5748
 ACRE-FEET 4161310

contents, acre
Daily discharge, in cubic feet, of

Lake Walcott near Minidoka, Idaho

for the year ending September 30, 1912
Plate No. 32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18350	- 45210	-100590	- 88320	56980	67540	90990	98800	100370	93090	94020	94110
2	18050	- 48240	- 98550	- 87140	59130	66550	91920	99520	100370	92390	94020	94370
3	17460	- 51150	- 96600	- 84810	61940	66330	91570	100490	100250	91810	94020	94020
4	16770	- 54180	- 96810	- 86960	63260	66550	91690	98800	100010	91460	94490	93790
5	15680	- 56890	- 96240	- 88740	63700	66550	93200	99280	100130	91230	93790	93320
6	14090	- 60880	- 95420	- 88160	63920	66660	94020	98800	100250	91810	94140	93090
7	12510	- 64360	- 96860	- 81560	63260	66770	94490	99280	98560	91920	94370	93670
8	6770	- 68320	- 98500	- 68180	63370	66990	94950	99520	99040	92040	94490	93790
9	4670	- 72540	- 97750	- 59650	62600	66990	95180	99520	99520	92740	94250	93550
10	6200	- 76480	- 97190	- 53520	63700	69850	95310	99520	99040	93670	94110	94020
11	7060	- 80510	- 96550	- 47880	64140	73170	95430	99760	99160	92860	94250	94020
12	7910	- 84420	- 95870	- 46310	64800	75870	95670	99040	99520	93790	93320	94140
13	3430	- 88350	- 94040	- 33220	65010	79030	97110	99760	100010	94250	94140	94490
14	6290	- 92130	- 96120	- 25100	65230	81740	97350	99400	99760	94250	94370	93790
15	10130	- 95220	- 97120	- 18380	64800	83890	98800	99280	99520	99490	94840	94490
16	9340	- 98150	- 96410	- 13210	63700	84350	98080	99280	100490	94250	94720	93900
17	5050	-100900	- 95470	- 7190	64360	87030	96630	99400	100730	93440	94720	93090
18	570	- 99810	- 94560	- 1670	65010	89710	98800	99280	99760	94020	94250	94020
19	- 2950	- 98410	- 93940	2290	65450	91690	98080	99280	100490	94250	93900	94020
20	- 7640	- 97120	- 93350	8300	65890	90760	97470	99280	99800	94720	93320	94250
21	- 12350	- 97550	- 94980	13700	66110	90530	97960	99520	99280	94370	93320	94250
22	- 15240	- 97360	- 96170	17860	65450	89360	96870	98200	98560	93790	93790	94720
23	- 18950	- 97360	- 94510	18050	64360	88900	98320	100010	96390	93670	94020	95670
24	- 21920	- 97100	- 92920	19040	65780	88660	97590	99040	95180	93790	94020	96150
25	- 24800	- 97570	- 89820	24210	66220	89250	97840	99280	93670	93790	94020	96390
26	- 27310	- 98850	- 91150	26650	66550	89940	96990	99520	94250	94020	93790	95910
27	- 29540	- 98150	- 90000	32700	67430	90760	96030	99520	93790	94250	93090	95670
28	- 33140	- 98390	- 91290	37780	67320	91460	91110	99520	93790	94490	93790	95070
29	- 36080	- 98100	- 92970	42920		91810	98440	99760	94020	94020	93090	94250
30	- 38800	- 98900	- 91430	47990		92510	99280	100610	93670	94250	93790	93550
31	- 41680		- 89520	52890		92860		100730		93790	93550	

MEAN												
ACRE-												
FEET												

U. S. GOVERNMENT PRINTING OFFICE 6-7448

YEAR OR PERIOD _____ MEAN _____
ACRE- FEET _____

Daily discharge, in second-feet, of

NORTH SIDE MINIDOKA CANAL near MINIDOKA, IDAHO

for the year ending September 30, 1912.

Plate No. 33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	421						0	822	1290	1340	1660	1210
2	425						0	871	1290	1520	1630	1210
3	444						0	875	1290	1610	1630	1210
4	471						0	937	1290	1610	1630	1210
5	461						0	978	1330	1610	1630	1210
6	441						0	978	1450	1610	1610	1210
7	441						0	981	1550	1650	1550	1210
8	439						0	1040	1600	1710	1520	1210
9	444						0	1160	1610	1720	1510	1210
10	461						0	1230	1610	1720	1500	1110
11	540						0	1240	1610	1720	1500	1040
12	556						0	1060	1610	1720	1500	1000
13	578						0	837	1620	1720	1500	941
14	664						0	835	1620	1720	1500	868
15	710						0	835	1620	1720	1500	764
16	704						0	835	1620	1720	1500	718
17	640						0	835	1620	1680	1510	718
18	578						85	835	1610	1670	1580	718
19	512						139	835	1620	1680	1610	720
20	473						235	835	1610	1680	1610	720
21	266						401	956	1610	1670	1610	720
22	0						432	1130	1590	1670	1610	720
23	0						435	1240	1540	1670	1620	722
24	0						434	1290	1530	1670	1620	722
25	0						498	1290	1530	1680	1560	724
26	0						540	1290	1410	1680	1500	724
27	0						582	1290	1290	1680	1440	722
28	0						632	1290	1260	1680	1360	746
29	0						650	1290	1250	1680	1330	799
30	0						718	1300	1250	1680	1330	822
31	0							1300		1680	1260	

MEAN	344	0	0	0	0	0	193	1049	1491	1664	1530	921
ACRE- FEET	21,160	0	0	0	0	0	11,470	64,500	88,720	102,300	94,060	54,800

YEAR OR PERIOD _____ MEAN _____
ACRE-FEET 604
437,010

Daily discharge, in second-feet, of

SOUTH SIDE MINIDOKA CANAL, near MINIDOKA, IDAHO

for the year ending September 30, 19 **42**
Plate No. 34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	293						0	319	741	1030	1280	1130
2	290						0	320	886	1210	1280	1140
3	319						0	319	1030	1290	1230	1160
4	361						0	280	1160	1280	1240	1150
5	353						0	253	1220	1260	1240	1150
6	320						0	288	1220	1310	1240	1140
7	306						0	342	1260	1310	1260	1150
8	283						0	405	1320	1310	1270	1140
9	328						0	407	1340	1310	1260	1100
10	387						0	480	1320	1310	1250	1020
11	409						0	574	1320	1300	1240	964
12	399						0	419	1320	1300	1240	863
13	340						0	273	1280	1300	1240	755
14	403						0	239	1260	1300	1240	771
15	474						0	281	1270	1300	1240	755
16	240						0	117	1240	1300	1240	720
17	0						0	0	1200	1290	1260	699
18	0						0	0	1160	1290	1270	610
19	0						0	0	1140	1290	1250	564
20	0						0	130	1090	1280	1240	535
21	0						0	315	1070	1290	1260	498
22	0						0	326	1060	1290	1260	450
23	0						0	430	1060	1290	1230	414
24	0						0	445	1060	1290	1230	463
25	0						179	492	1100	1300	1240	508
26	0						315	517	1080	1290	1230	478
27	0						310	598	916	1270	1210	430
28	0						306	694	782	1280	1210	426
29	0						313	738	707	1290	1180	492
30	0						315	741	787	1290	1180	540
31	0							744		1280	1150	

MEAN	178	0	0	0	0	0	57.9	371	1113	1282	1238	774
ACRE- FEET	10,920	0	0	0	0	0	3450	22,780	66,250	78,800	76,150	46,050

YEAR OR PERIOD MEAN 420
ACRE-FEET 304,400

Daily discharge, in second-feet, of

SNAKE RIVER near MINIDOKA, IDAHO

for the year ending September 30, 1912
Plate No. 35

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1540	2070	1480	1260	1240	2740	1670	7390	9150	7170	8670	7960
2	1050	2100	1600	1320	708	2360	1620	7550	6400	7610	8690	7740
3	754	2100	1870	1510	500	2340	1390	8230	6370	7880	8720	7800
4	768	2140	1790	1510	2580	2360	1280	8550	6690	7980	8750	7850
5	775	2300	1490	2160	4080	2390	1230	8390	6900	8040	8830	7900
6	768	2520	1370	3030	3970	2440	1260	7740	7230	8170	8690	7960
7	1160	2520	1360	2670	2620	2440	1240	7500	7520	8390	8550	7960
8	1490	2500	1340	1680	1530	2460	1370	7150	7770	8720	8440	7880
9	1470	2460	1330	1210	1380	1870	1670	7090	7360	8670	8360	7930
10	1400	2410	1340	1180	1540	1110	1860	7150	7200	8610	8310	7740
11	1380	2380	1350	1250	1690	1130	1980	7090	7170	8720	8340	7440
12	1390	2330	1360	1250	1810	1130	2000	7040	7200	8530	8440	7170
13	1420	2280	1380	1230	1870	1150	2100	7360	7260	8530	8310	7070
14	1390	2240	1380	1230	1940	1120	2340	9940	7230	8640	8200	6720
15	1380	2180	1330	1400	1850	1140	2460	10900	7340	8690	8120	6480
16	1470	2100	1260	1350	1560	1130	9090	10200	7500	8690	8150	6140
17	1690	1840	1210	1250	1870	1140	8970	10400	7040	8640	8170	6010
18	1840	1400	1230	1140	2130	1180	11000	8770	6660	8530	8280	5880
19	1870	1360	1220	1180	2090	1400	13200	8190	6530	8500	8530	5840
20	1720	1360	1230	1360	2130	1610	11500	9820	6660	8420	8720	5490
21	1850	1080	1230	2060	2090	1840	10100	9610	6720	8340	8750	5080
22	1800	1020	1200	1720	1940	2060	10500	8340	7010	8310	8720	4920
23	2020	1020	1210	1260	1600	1530	12800	7710	7150	8470	8750	4670
24	1890	1040	1200	1150	1910	1230	18100	7500	7010	8690	8780	4510
25	1760	1110	1200	1110	2140	1220	19000	7260	6980	8780	8720	4620
26	1620	1110	1150	1030	2360	1210	15700	7150	7090	8750	8530	4400
27	1790	1050	1150	1030	2570	1210	9490	7280	7120	8750	8530	3860
28	2030	1000	1150	1120	2680	1230	6690	8820	7120	8610	8440	3740
29	2000	1000	1150	1330	----	1230	9750	13300	6880	8550	8470	2790
30	1990	1170	1150	1460	----	1360	13300	13700	6800	8550	8390	2250
31	2060	----	1150	1400	----	1500	----	12700	----	8610	8200	----

MEAN	1533	1773	1318	1446	2014	1621	6822	8704	7104	8437	8502	6127
ACRE- FEET	94280	105500	81040	88940	111800	99690	405900	535200	422700	518800	522700	343600

YEAR 1912
MEAN 4629
ACRE-Feet 3350150

gage height in feet
Daily ~~xxxxxxxxxxxx~~ of

LAKE MILNER at MILNER, IDAHO

for the year ending September 30, 1912
Plate No. 36

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10.40	9.96	6.56	6.98	7.78	7.39	7.62	10.80	10.84	10.68	10.74	10.96
2	10.35	9.87	6.73	7.02	7.88	7.34	8.42	10.88	11.00	10.66	10.78	10.86
3	10.14	9.74	6.90	7.11	7.62	7.22	8.92	10.90	10.74	10.68	10.79	10.72
4	9.98	9.43	7.44	7.30	7.10	7.44	9.08	10.76	10.47	10.80	10.86	10.65
5	9.90	9.38	7.64	7.40	7.22	7.42	9.26	10.97	10.43	10.80	10.84	10.64
6	9.81	9.24	7.54	7.35	7.32	7.33	9.26	10.91	10.50	10.84	10.97	10.64
7	9.88	8.92	7.52	7.36	7.40	7.45	9.22	10.94	10.49	10.80	10.98	10.76
8	9.78	8.46	7.56	7.38	7.22	7.58	9.24	11.00	10.84	10.87	10.94	10.82
9	9.78	8.35	7.50	7.36	7.19	7.49	9.52	10.96	11.08	10.98	10.92	10.74
10	9.70	8.76	7.49	7.34	7.32	7.36	9.82	10.94	11.08	10.99	10.91	10.91
11	9.67	9.34	7.54	7.27	7.34	7.52	10.00	11.18	11.00	10.89	10.87	10.92
12	9.54	9.80	7.59	7.26	7.44	7.42	10.10	10.98	11.00	10.90	10.81	10.82
13	9.26	10.22	7.64	7.22	7.33	7.54	10.15	10.90	11.03	10.85	10.86	10.98
14	9.26	10.52	7.68	7.14	7.38	7.49	10.10	10.98	11.00	10.80	10.84	10.93
15	9.16	10.58	7.71	7.10	7.48	7.58	10.22	10.94	10.80	10.86	10.80	10.89
16	8.96	10.70	7.74	7.34	7.41	7.48	10.40	10.94	11.08	10.86	10.74	10.71
17	8.90	10.66	7.77	7.68	7.14	7.53	10.84	10.91	11.18	10.82	10.76	10.36
18	9.00	10.34	7.62	7.70	7.36	7.37	10.84	10.91	10.98	10.85	10.74	10.56
19	9.14	10.28	7.66	7.39	7.48	7.54	10.87	10.89	10.78	10.86	10.76	10.68
20	9.23	9.97	7.62	7.08	7.64	7.52	10.84	10.94	10.63	10.91	10.72	10.80
21	9.38	9.73	7.26	6.86	7.64	7.64	10.82	10.96	10.56	10.91	10.68	10.74
22	9.64	9.58	7.48	7.15	7.42	7.58	10.69	11.00	10.61	10.76	10.79	10.68
23	9.83	9.44	7.50	7.63	7.36	7.66	10.85	11.03	10.75	10.66	10.82	10.65
24	9.92	9.05	7.22	7.72	7.39	7.12	10.82	10.96	10.87	10.64	10.86	10.54
25	9.94	8.54	7.28	7.60	7.38	7.32	10.80	10.90	10.83	10.72	10.94	10.56
26	9.84	8.20	7.16	7.50	7.36	7.42	10.83	10.68	10.87	10.73	10.94	10.76
27	9.78	7.80	7.08	7.43	7.46	7.52	10.81	10.58	10.86	10.83	10.80	10.72
28	9.81	7.35	7.12	7.34	7.38	7.57	10.86	10.72	10.92	10.92	10.80	10.62
29	9.92	6.92	7.14	7.26	----	7.58	10.92	10.81	11.05	10.83	10.69	10.47
30	10.00	6.61	7.13	7.38	----	7.63	10.98	10.86	10.86	10.83	10.80	10.32
31	9.98	----	7.16	7.60	----	7.68	----	10.84	----	10.74	10.90	----

MEAN												
ANNU-												
AL FEET												

YEAR OR PERIOD _____ MEAN _____
ANNU-FEET _____

P. A. LATERAL near MILNER, IDAHO

for the year ending September 30, 19 12
Plate No. 37

Daily discharge, in second-feet, of

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0					0	44	63	62	62	63
2		0					0	49	63	62	62	63
3		0					0	49	63	62	62	63
4		0					0	57	63	62	62	63
5		0					0	57	63	62	63	63
6		0					0	57	63	61	63	63
7		0					0	57	63	56	63	63
8		0					0	57	63	62	62	63
9		0					0	57	63	62	62	63
10		3					0	57	63	62	62	63
11		15					0	57	63	62	62	63
12		12					0	57	62	62	62	63
13		0					0	57	62	62	62	63
14		0					0	57	62	59	62	63
15		0					0	57	62	62	62	63
16		0					0	60	62	62	62	61
17		0					0	60	62	62	62	61
18		0					0	60	62	62	62	63
19		0					0	60	61	62	62	63
20		0					0	60	61	62	62	63
21		0					0	60	61	62	62	54
22		0					0	61	62	62	62	45
23		0					0	61	62	62	62	45
24		0					0	61	62	62	62	45
25		0					0	63	62	62	62	45
26		0					0	63	51	62	62	0
27		0					17	63	63	62	62	0
28		0					22	63	63	62	62	0
29		0					32	63	63	62	62	0
30		0						63	63	62	62	
31			0							62	62	

MEAN	0	1.0	0	0	0	0	2.37	58.2	62.0	61.7	62.2	53.9
ACRE-Feet	0	60	0	0	0	0	141	3580	3690	3790	3820	3200

MILNER LOW LIFT CANAL near MILNER, IDAHO

Daily discharge, in second-feet, of

for the year ending September 30, 1912.

Plate No. 38

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5						0	128	121	148	168	165
2	0						0	126	122	151	169	165
3	0						0	124	121	163	169	165
4	0						0	143	121	163	169	165
5	0						0	150	120	161	169	165
6	0						0	150	120	165	169	163
7	0						0	150	124	165	169	165
8	0						0	150	128	165	170	165
9	0						0	150	133	158	168	165
10	0						0	150	145	160	168	165
11	0						0	150	145	160	167	165
12	0						0	57	145	163	167	158
13	0						0	0	145	163	169	150
14	0						0	20	145	163	168	150
15	0						0	87	145	163	166	150
16	0						0	104	146	164	166	150
17	0						0	90	146	166	165	150
18	0						0	100	145	167	165	132
19	0						0	107	167	167	165	125
20	0						0	108	167	167	165	126
21	0						0	116	158	167	165	116
22	0						20	124	146	167	164	110
23	0						37	124	146	167	164	116
24	0						50	124	146	167	163	87
25	0						50	136	146	167	163	76
26	0						50	151	146	157	164	76
27	0						77	152	140	167	165	75
28	0						100	151	127	167	165	75
29	0						112	135	127	167	165	70
30	0						124	123	137	167	165	
31	0							123		167	165	

MEAN	0.16	0	0	0	0	0	20.7	119	139	164	166	133
ACRE- FEET	10	0	0	0	0	0	1230	7340	8270	10,050	10,230	7890

U. S. GOVERNMENT PRINTING OFFICE 6-7119

YEAR OR PERIOD MEAN 62.2
ACRE-FEET 15,020

Daily discharge, in second-feet, of

GOODING PROJECT IN GOODING CANAL near MILNER, IDAHO

for the year ending September 30, 1912

Plate No. 39

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0					0	1 050	1 330	1 300	1 610	1 430
2		0					0	1 050	1 340	1 310	1 610	1 410
3		0					0	1 050	1 330	1 310	1 600	1 400
4		0					0	1 050	1 330	1 410	1 590	1 400
5		0					0	1 050	1 330	1 490	1 580	1 400
6		0					0	1 050	1 340	1 490	1 580	1 400
7		0					0	1 140	1 340	1 490	1 570	1 400
8		0					0	1 260	1 350	1 520	1 490	1 400
9		0					0	1 260	1 350	1 590	1 430	1 400
10		0					0	1 260	1 300	1 590	1 430	1 410
11		0					0	1 270	1 230	1 590	1 430	1 290
12		0					0	1 270	1 240	1 590	1 420	1 200
13		0					0	1 270	1 240	1 610	1 400	1 190
14		3 30					0	1 270	1 240	1 610	1 400	1 190
15		5 50					0	1 270	1 270	1 610	1 390	1 160
16		5 20					0	1 270	1 320	1 610	1 390	1 120
17		5 90					0	1 270	1 320	1 600	1 400	1 120
18		6 50					0	1 270	1 310	1 600	1 390	1 110
19		6 50					3 40	1 270	1 310	1 600	1 390	1 080
20		6 40					6 00	1 270	1 310	1 600	1 390	1 070
21		1 90					7 10	1 270	1 310	1 600	1 400	1 020
22		0					6 70	1 270	1 310	1 600	1 430	990
23		0					8 40	1 310	1 320	1 600	1 450	990
24		0					8 40	1 420	1 320	1 600	1 450	990
25		0					8 40	1 410	1 320	1 600	1 450	970
26		0					8 40	1 410	1 320	1 610	1 450	950
27		00					8 40	1 410	1 310	1 630	1 440	950
28		0					8 40	1 380	1 310	1 630	1 440	940
29		0					8 50	1 340	1 310	1 620	1 430	310
30		0					9 00	1 340	1 300	1 620	1 440	0
31		0						1 340		1 620	1 430	

MEAN	0	137	0	0	0	0	310	1252	1309	1556	1461	1130
ACRE-Feet	0	8,170	0	0	0	0	18,470	77,000	77,870	95,700	89,850	67,240

Daily discharge, in second-feet, of **GOODING CANAL BELOW NORTH SIDE DIVERSION near MILNER, IDAHO**, for the year ending September 30, 1912. Plate No. 40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0					0	1 028	1 306	1 275	1 585	1 406
2		0					0	1 030	1 313	1 281	1 585	1 394
3		0					0	1 033	1 302	1 281	1 578	1 377
4		0					0	1 028	1 299	1 384	1 568	1 377
5		0					0	1 033	1 306	1 466	1 555	1 377
6		0					0	1 028	1 318	1 468	1 555	1 377
7		0					0	1 116	1 313	1 468	1 548	1 384
8		0					0	1 242	1 324	1 495	1 461	1 382
9		0					0	1 242	1 322	1 568	1 406	1 380
10		0					0	1 242	1 288	1 568	1 404	1 384
11		0					0	1 246	1 202	1 565	1 404	1 389
12		0					0	1 248	1 209	1 572	1 399	1 270
13		0					0	1 244	1 211	1 585	1 380	1 182
14		3 15					0	1 248	1 211	1 588	1 370	1 185
15		5 31					0	1 246	1 246	1 585	1 370	1 140
16		5 02					0	1 246	1 295	1 588	1 368	1 099
17		5 74					0	1 244	1 290	1 578	1 373	1 096
18		6 33					0	1 244	1 281	1 575	1 370	1 092
19		6 31					3 23	1 244	1 281	1 580	1 370	1 087
20		6 22					5 81	1 246	1 281	1 580	1 370	1 082
21		1 79					6 92	1 246	1 281	1 575	1 375	1 004
22		0					8 55	1 246	1 290	1 568	1 406	975
23		0					8 26	1 286	1 295	1 570	1 425	975
24		0					8 28	1 392	1 297	1 575	1 428	972
25		0					8 17	1 380	1 288	1 582	1 425	954
26		0					8 30	1 380	1 288	1 588	1 425	935
27		0					8 26	1 380	1 288	1 600	1 418	933
28		0					8 30	1 380	1 288	1 605	1 418	926
29		0					8 30	1 357	1 286	1 595	1 413	306
30		0					8 84	1 313	1 283	1 595	1 416	0
31		0						1 313	1 277	1 592	1 411	

MEAN	0	133	0	0	0	0	304	1 229	1 282	1 532	1 438	1 112
ACRE- FEET	0	7 910	0	0	0	0	18,100	75,540	76,270	94,200	88,420	66,170

Daily discharge, in second-feet, of

NORTH SIDE CANAL PROJECT IN GOODING CANAL near MILNER, IDAHO

for the year ending September 30, 1912.
Plate No. 41

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	500						0	810	860	870	970	920
2	570						0	820	870	880	970	920
3	0						0	830	860	880	970	910
4	0						0	830	850	890	960	910
5	0						0	830	850	880	950	910
6	0						90	840	860	890	950	920
7	170						128	860	870	900	940	910
8	710						85	870	880	910	940	900
9	700						354	880	880	910	930	900
10	680						603	880	890	900	920	900
11	680						667	880	890	900	910	900
12	690						780	880	890	910	920	920
13	690						820	880	890	910	910	910
14	690						820	880	880	910	910	900
15	690						830	880	890	900	910	910
16	690						810	880	890	890	910	890
17	690						810	880	880	900	910	890
18	630						810	880	870	900	900	890
19	670						810	880	870	900	900	900
20	680						810	880	880	910	900	880
21	630						790	880	880	910	910	870
22	670						800	880	880	910	910	870
23	670						800	880	880	910	910	870
24	630						800	870	880	910	910	870
25	680						800	870	880	910	900	880
26	680						810	870	870	920	890	870
27	680						800	870	880	920	900	870
28	660						820	870	880	940	900	870
29	650						820	870	880	950	910	870
30	290						820	860	880	960	910	520
31												

Mean	542	0	0	0	0	0	549	865	876	905	922	883
Acres-Feet	33,340	0	0	0	0	0	32,660	53,160	52,110	55,680	56,690	52,540

U. S. GOVERNMENT PRINTING OFFICE 6-7194

YEAR OR PERIOD MEAN 464
ACRES-FEET 336,180

Daily discharge, in second-feet, of

NORTH SIDE TWIN FALLS CANAL at MILNER, IDAHO

for the year ending September 30, 1910.

Plate No. 42

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	550	547	481	427	442	556	1680	2170	2260	2610	2590
2	0	550	543	481	430	442	559	1600	2160	2350	2620	2520
3	0	550	534	484	424	439	547	1700	2180	2360	2620	2510
4	0	543	537	497	430	448	537	1740	2210	2390	2630	2520
5	0	547	540	487	424	445	537	1770	2200	2410	2650	2520
6	0	547	537	472	424	448	528	1750	2190	2440	2680	2500
7	0	543	543	469	424	454	422	1760	2180	2510	2650	2470
8	0	559	534	472	418	457	17	1880	2180	2590	2650	2450
9	0	582	528	472	415	466	3	1900	2230	2630	2660	2430
10	0	614	525	466	421	484	0	1900	2230	2630	2620	2380
11	0	611	525	460	424	500	0	1930	2280	2630	2610	2340
12	0	608	518	460	427	512	0	1910	2330	2640	2600	2270
13	0	601	522	457	433	518	0	1900	2350	2620	2640	2220
14	0	604	512	466	457	506	21	1920	2360	2620	2610	2170
15	0	601	506	481	472	506	112	1920	2340	2610	2580	2090
16	0	601	503	481	472	500	218	1920	2370	2600	2550	1930
17	0	582	506	472	457	503	437	1960	2200	2590	2540	1830
18	0	566	503	466	466	497	540	1990	2200	2580	2540	1700
19	0	566	512	454	475	500	591	2040	2200	2580	2550	1630
20	0	569	503	439	484	500	752	2100	2200	2580	2590	1580
21	0	579	500	460	478	518	864	2130	2210	2560	2600	1530
22	0	566	506	515	472	521	986	2140	2210	2560	2610	1490
23	0	559	503	534	475	540	1140	2170	2210	2590	2610	1290
24	0	547	500	515	454	518	1250	2200	2240	2640	2610	1010
25	0	537	494	454	442	528	1240	2180	2240	2690	2600	900
26	0	543	487	421	439	559	1240	2220	2250	2650	2610	760
27	0	540	484	418	448	572	1370	2220	2220	2620	2620	500
28	0	543	484	442	445	559	1570	2220	2210	2610	2650	343
29	0	543	484	445		550	1630	2200	2210	2600	2620	397
30	376	540	484	436		547	1710	2170	2230	2600	2610	289
31	547		484	436		553		2170	2590	2610		

MEAN	29.7	566	513	468	445	501	646	1977	2233	2559	2611	1772
ACRE- FEET	1830	33,700	31,510	28,750	24,710	30,810	38,430	121,600	132,900	157,300	160,600	105,400

YEAR
OR
PERIOD

MEAN 1198
ACRE-FEET 867,540

Daily discharge, in second-feet, of

SOUTH SIDE TWIN FALLS CANAL at MILNER, IDAHO

for the year ending September 30, 1912

Plate No. 43

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1210	472	616	546	550	559	280	2720	2670	3030	3570	3360
2	1210	780	616	554	541	550	a 25	2820	2680	3130	3550	3340
3	1110	822	619	559	538	559	a 25	2760	2680	3230	3550	3310
4	1060	828	622	565	501	553	234	2770	2710	3260	3530	3250
5	1060	706	616	571	464	553	568	2760	2720	3260	3530	3220
6	1070	400	619	553	467	571	568	2730	2740	3320	3540	3220
7	1060	541	616	553	481	562	580	2780	2840	3400	3530	3220
8	1070	652	616	542	481	550	700	2840	2970	3480	3520	3180
9	1010	646	616	558	473	550	809	2850	2990	3500	3520	3150
10	975	649	616	565	484	550	889	2890	3010	3460	3520	3140
11	996	691	616	560	478	547	982	2930	3060	3470	3530	3020
12	1010	716	616	565	473	541	1100	2920	3110	3470	3500	2840
13	1010	713	616	566	492	523	1160	2890	3160	3450	3540	2770
14	1030	710	616	563	529	526	1240	2900	3130	3460	3530	2660
15	1040	713	616	558	535	526	1340	2890	3110	3480	3520	2530
16	1050	716	619	573	538	529	1430	2900	3130	3480	3500	2440
17	1050	729	616	593	529	526	1500	2830	3100	3460	3510	2330
18	1050	713	616	600	529	526	1500	2840	3050	3480	3490	2250
19	1060	668	613	581	536	523	1550	2880	3040	3480	3500	2180
20	992	619	613	546	555	523	1640	2900	3030	3480	3520	2150
21	869	589	616	516	556	523	1810	2920	3030	3480	3520	2010
22	796	571	613	594	555	520	2140	2970	3020	3500	3520	1830
23	806	568	619	590	549	526	2200	2990	3020	3530	3530	1790
24	806	571	625	588	550	520	2210	2980	3010	3560	3530	1730
25	761	574	619	536	551	515	2290	2940	2990	3590	3540	1700
26	700	568	619	517	554	506	2350	2930	3010	3590	3520	1710
27	243	601	518	549	557	498	2460	2930	3010	3580	3500	1690
28	a	35	622	530	537	501	2590	2890	3010	3570	3510	1690
29	a	35	613	575	532	484	2660	2770	3040	3550	3480	1700
30	a	35	616	590	540	470	2660	2650	3030	3560	3480	1710
31	a	35	592	544		490		2630		3580	3460	

MEAN	847	646	608	559	522	529	1383	2852	2970	3447	3519	2504
ACRE-FOOT	52,050	38,430	37,380	34,340	28,960	32,530	82,290	175,300	176,700	212,000	216,400	149,000

U. S. GOVERNMENT PRINTING OFFICE 9-7139

YEAR OR PERIOD MEAN 1706
ACRE-FOOT 1,235,380

SNAPS RIVER at MILNER, IDAHO

Daily discharge, in second-feet, of

for the year ending September 30, 1922. Plate No. 44

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	356	1500	404	395	476	2280	459	1640	3470	9	11	325
2	356	1400	404	420	498	2140	473	936	99	8	12	322
3	353	1380	407	459	456	1500	452	1890	43	8	12	319
4	350	1320	548	512	729	1710	449	1670	27	8	13	319
5	353	1580	784	697	2600	1790	449	2730	10	8	13	319
6	350	2320	671	1790	3560	1580	449	1860	11	10	13	325
7	350	2530	527	2140	3240	1690	449	886	11	10	13	328
8	350	2210	527	1490	1580	1990	456	374	13	10	13	328
9	353	1330	439	614	606	1790	456	55	16	12	13	328
10	353	692	404	398	638	506	456	27	16	13	13	328
11	353	498	414	401	850	395	456	303	16	13	12	328
12	353	498	414	433	1270	356	452	507	15	12	11	328
13	353	494	417	459	1060	350	452	1020	15	12	11	336
14	353	494	417	462	1030	345	452	1930	15	12	11	333
15	392	449	417	442	1150	350	645	5160	15	13	10	330
16	494	395	414	420	798	348	4530	3140	16	13	10	325
17	494	395	417	429	626	348	6750	4140	159	13	10	316
18	501	395	417	433	775	345	7670	3300	47	11	31	319
19	501	398	417	436	931	495	10600	923	15	11	322	325
20	501	401	414	426	1060	727	8410	2370	12	11	330	333
21	498	407	407	420	1670	931	5790	2520	10	11	330	330
22	501	407	410	429	1370	1230	4750	1590	10	11	330	353
23	576	634	410	446	816	1270	7140	494	9	10	330	377
24	798	870	410	452	985	567	12500	359	10	10	330	377
25	793	865	410	423	1410	356	13300	229	11	10	328	377
26	788	825	407	404	1550	365	12400	34	11	10	328	377
27	1020	788	407	404	1850	365	6250	34	11	11	328	380
28	1420	735	426	417	2140	353	651	625	11	12	328	374
29	1620	529	456	429	-----	350	1760	5540	13	12	330	368
30	1790	401	423	456	-----	389	7320	6990	12	12	328	368
31	1920	-----	395	470	-----	452	-----	7120	-----	12	325	-----

MEAN	630	905	446	581	1276	892	3911	1966	138	10.9	145	340
ACRE- FEET	38760	53830	27440	35710	70860	54870	232700	120900	5230	670	8920	20220

YEAR OR PERIOD MEAN 930
ACRE-Feet 673110

contents acre
Daily discharge, in ~~acres~~ feet, of

HENRY'S LAKE near LAKE, IDAHO

Plate No. 45

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					46448	47480					61515	44728
2											61151	44270
3			42117							65404	59420	43811
4											53997	43582
5				45072				53418		66254	58758	43410
6									58400	66376	58639	43467
7										66376	58520	43353
8										66497	58281	43238
9	39651									66619	56969	43238
10										66619	57208	43126
11										66680	56730	43014
12										66740	56015	42902
13										66740	55418	43014
14		40940								66801	54822	43126
15										66801	54120	43126
16										66862	53535	43238
17										66862	52949	43353
18										66740	52481	43353
19										66680	51779	43238
20								55776		66619	51194	43126
21										66558	50609	43182
22							51428		62973	66497	50023	43238
23										66376	49555	43238
24										65890	48912	43582
25										65282	48397	43582
26										65039	48282	43582
27										64796	47709	43697
28					* 47410					63459	47250	43697
29						48626				63095	46792	43754
30			* 41930				* 52650		* 64740	62973	46333	43814
31	* 40440		* 44620	* 46350		* 48860		* 57480		62244	45302	

* Interpolated

MEAN												
Acres-												
Feet												

U. S. GEOLOGICAL SURVEY

YEAR OR PERIOD MEAN Acre-Feet



Daily discharge, in acre-feet, of

HENRYS FORK near LAKE, IDAHO

for the year ending September 30, 1912
 Plate No. 46

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1										a 12	270	a 277
2										a 12	272	274
3										12	272	83
4										a 12	270	a 75
5										a 12	269	a 68
6										a 12	267	60
7										21	265	60
8										a 21	263	61
9										a 21	263	61
10										a 21	261	62
11										a 21	260	62
12										a 22	269	61
13										a 22	294	57
14										a 22	292	30
15	a 4	a 4	a 5	a 5	a 6	a 7	a 11	a 10	a 11	a 22	292	9
16										a 22	292	9
17										101	292	9
18										73	294	9
19										70	292	10
20										69	292	a 10
21										70	294	a 10
22										70	292	a 10
23										154	290	a 6
24										278	288	a 3
25										278	287	a 3
26										278	285	a 3
27										278	283	a 3
28										276	281	a 3
29										272	287	a 3
30										272	a 284	a 3
31										272	a 281	

Mean Acre- Feet	est. 4 246	est. 4 238	est. 5 307	est. 5 307	est. 6 333	est. 7 430	est. 11 655	est. 10 615	est. 11 655	99.9 6140	280 17,240	46.5 2760
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YEAR 1912
 MEAN 41.3
 ACRE-FEET 29,926



Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	39260	39705	50730	73645	93740	106125	122410	134640	136825	133590	104315	69130
2	39260	39675	51385	74190	94390	106405	122945	134720	136260	133590	102255	68565
3	39140	39645	52445	74795	95040	106685	123475	134475	136260	133510	100150	68105
4	39140	39945	53650	75465	95695	107035	123935	134720	136175	133430	98340	67595
5	39495	39975	54470	76020	96485	107385	124550	134720	136340	133350	96420	66740
6	39535	39945	55255	76650	97145	108020	125165	134315	136580	133270	94325	65800
7	39555	39885	56015	77200	97875	108520	125865	134235	136500	133270	92515	64915
8	39555	39825	56690	78000	98475	109230	126330	134155	136745	133110	90540	64140
9	39555	39765	57420	78745	98945	109655	126795	134235	137070	132950	88840	62950
10	39555	39765	58120	79325	99280	110085	127345	135125	137070	132950	87160	62055
11	39535	39705	58740	79845	99745	110655	127345	135530	136905	132710	85445	61175
12	39535	39675	59495	80430	100085	111375	127345	135770	136260	132310	84175	60170
13	39465	39645	60170	81015	100420	111950	127345	135690	135935	131830	82850	60535
14	39435	39705	60810	81725	100690	112530	127421	135365	136015	130720	81605	60590
15	39410	39645	61685	82375	101030	113330	127965	135365	135690	129695	81015	60535
16	39380	40375	62430	82971	101370	113840	128830	135610	135770	128360	80255	60590
17	39380	41325	63185	83630	101780	114500	129775	135530	135610	127265	79500	60445
18	39380	42075	63900	84235	102050	115010	130720	135365	135450	125865	78690	60265
19	39380	42750	64725	84840	102390	115670	131435	134125	134880	124780	77885	60170
20	39380	43465	65355	85445	102800	116040	132310	134960	134800	123475	76975	60125
21	39435	44130	66095	85990	103145	116555	133190	134960	134555	122490	75910	60170
22	39435	44800	66790	86665	103625	117220	134720	134960	134235	121425	74910	60215
23	39435	45490	67390	87225	104110	117740	135690	135285	134075	120065	74520	60310
24	39555	46145	68205	87845	104385	118265	135935	135770	133990	119235	73590	60355
25	39675	46845	68820	88465	104870	118860	136015	136175	133910	117000	72450	60310
26	39735	47455	69545	89280	105080	119385	135935	136905	133750	115300	72450	60215
27	39705	48145	70065	90035	105495	119835	135530	136990	133910	113550	71860	60310
28	39735	48840	70690	90985	105775	120365	135450	137070	133830	112025	71115	60445
29	39885	49435	71435	91810	---	120970	134960	137230	134075	110230	70480	60590
30	39765	50040	72235	92515	---	121350	134880	137150	133910	108235	70220	60625
31	39735	---	73100	93030	---	121955	---	136990	---	106335	70220	---

MEAN												
ACRE-												
FEET												

U. S. GOVERNMENT PRINTING OFFICE 16-7188

YEAR OR PERIOD MEAN ACRE- FEET



Daily discharge, in second-feet, of

HENRYS FORK near ISLAND PARK

for the year ending September 30, 1912

Plate No. 48

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	412	398	5	7	8	131	11	750	1070	579	1690	965
2	408	398	5	7	8	131	11	775	1010	574	1690	965
3	408	398	5	7	8	131	11	755	981	560	1690	960
4	408	403	5	7	8	131	11	760	981	560	1690	954
5	412	412	5	7	8	63	11	740	1020	564	1680	949
6	412	426	5	7	8	10	11	705	1030	574	1680	954
7	416	426	6	7	8	10	11	690	1040	569	1680	949
8	416	426	6	7	68	10	11	715	1100	560	1590	944
9	416	412	6	7	131	10	11	780	1160	550	1520	939
10	412	398	6	7	131	10	215	846	1160	536	1520	939
11	412	403	6	7	131	10	349	897	1060	622	1400	944
12	412	398	6	7	131	11	349	944	992	651	1320	675
13	412	394	6	7	131	11	354	902	944	882	1320	448
14	408	394	6	7	131	11	403	871	902	1050	1020	476
15	398	136	6	7	131	11	204	861	892	1040	1060	508
16	398	4	6	7	131	11	91	866	913	1050	1080	499
17	390	4	6	7	131	11	150	882	856	1060	1080	499
18	380	4	6	7	131	11	235	856	835	1060	1080	499
19	376	4	6	7	131	11	322	820	785	1060	1130	490
20	362	4	6	8	131	11	430	795	740	1050	1180	471
21	358	4	6	8	131	11	564	785	705	1050	1140	453
22	354	4	6	8	131	11	785	800	661	1150	1040	439
23	344	5	6	8	131	11	944	861	646	1260	1040	439
24	340	5	6	8	131	11	954	934	627	1400	1040	439
25	349	5	6	8	131	11	960	1080	627	1400	1020	439
26	372	5	6	8	131	11	960	1090	607	1440	965	416
27	380	5	6	8	131	11	902	1160	603	1540	965	398
28	380	5	6	8	131	11	866	1160	622	1540	965	412
29	394	5	7	8	—	11	820	1200	632	1590	965	421
30	403	5	7	8	—	11	775	1190	607	1690	965	421
31	398	—	7	8	—	11	—	1140	1690	965	—	—

MEAN	392	196	5.9	7.4	98.0	28.0	391	891	860	932	1264	643
ACRE-Feet	24,080	11,680	363	454	5,440	1,720	23,270	54,760	51,190	61,290	77,630	38,290

U. S. GOVERNMENT PRINTING OFFICE 9-7143

YEAR OR PERIOD

MEAN 484
ACRE-Feet 350,227

Daily discharge, in second-feet, of

HENRYS FORK at WARM RIVER, IDAHO

For the year ending September 30, 1906

Plate No. 49

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	815	778	a 390	a 270	374	512	a 362	1240	1590	1040	2030	1280
2	809	784	a 400	a 290	378	516	a 362	1260	1530	1000	2030	1280
3	803	778	a 500	a 360	386	516	a 362	1250	1480	984	2030	1280
4	834	809	a 480	h 350	386	507	362	1270	1470	984	2030	1290
5	860	790	a 440	a 360	388	498	382	1260	1480	963	2020	1290
6	834	790	a 400	a 400	382	378	370	1200	1500	970	2010	1300
7	821	790	403	a 420	382	331	374	1180	1500	963	2010	1300
8	821	784	415	a 450	370	394	382	1220	1550	943	1990	1300
9	821	784	399	a 420	458	370	399	1310	1570	936	1870	1290
10	815	778	394	a 440	462	370	450	1410	1600	922	1860	1280
11	815	761	411	428	516	378	797	1460	1570	916	1810	1290
12	809	778	407	411	498	390	809	1480	1480	1010	1670	1300
13	803	766	394	394	471	394	847	1460	1430	1060	1640	876
14	797	755	390	332	476	366	906	1390	1390	1380	1520	830
15	790	755	403	374	494	350	969	1430	1380	1410	1360	869
16	784	445	407	374	489	374	618	1470	1410	1390	1380	869
17	784	a 420	382	390	a 330	358	749	1450	1360	1410	1390	856
18	778	a 420	350	386	a 350	366	913	1430	1310	1440	1380	856
19	772	a 390	390	374	a 430	350	1060	1380	1290	1430	1380	856
20	778	a 300	407	354	a 550	346	1190	1340	1230	1430	1470	830
21	755	a 320	390	354	a 570	366	1360	1360	1170	1420	1470	830
22	755	a 330	350	362	544	366	1500	1380	1130	1440	1380	810
23	749	338	350	378	507	374	1550	1460	1120	1530	1350	804
24	732	366	386	386	530	366	1500	1520	1100	1700	1350	810
25	732	342	362	386	512	358	1480	1570	1080	1740	1360	810
26	749	335	286	378	525	346	1480	1650	1090	1760	1300	804
27	761	338	316	378	498	370	1410	1630	1090	1870	1260	772
28	778	354	390	390	502	362	1360	1650	1100	1900	1260	766
29	778	346	415	386	---	a 362	1330	1630	1110	1900	1260	778
30	778	362	399	378	---	a 362	1280	1660	1080	2010	1260	785
31	778	---	350	374	---	a 362	---	1650	---	2030	1270	---

MEAN	790	570	392	380	455	389	897	1421	1340	1353	1594	1010
ACRE- FEET	48,570	33,890	24,110	23,360	25,290	23,920	53,380	87,370	79,720	83,170	97,980	60,090

Daily discharge, in second-feet, of

HENRYS FORK near ASHTON, IDAHO

for the year ending September 30, 1912
Plate No. 50

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1060	1000	646	494	636	760	636	1750	2300	1390	2440	1650
2	1060	1010	665	519	627	760	636	1750	2180	1380	2470	1630
3	1040	1040	803	618	818	792	636	1840	2120	1380	2420	1630
4	1050	1120	749	562	646	770	696	1830	2120	1330	2420	1630
5	1160	1050	665	570	676	707	738	1860	2080	1330	2420	1630
6	1120	1050	627	636	618	696	696	1830	2120	1330	2380	1630
7	1080	1040	656	656	656	562	760	1830	2100	1330	2420	1660
8	1080	1000	636	656	665	656	781	1840	2180	1320	2420	1650
9	1060	1030	646	636	627	589	825	2100	2180	1280	2220	1630
10	1050	976	618	676	718	656	836	2240	2200	1260	2240	1630
11	1040	976	646	656	738	618	1280	2300	2120	1260	2240	1630
12	1050	976	665	665	738	656	1300	2440	2000	1340	2060	1720
13	1050	964	646	646	749	656	1400	2260	1900	1390	1980	1270
14	1040	988	608	618	676	686	1480	2080	1860	1790	1940	1130
15	1010	1010	696	589	749	636	1470	2240	1830	1790	1600	1170
16	1030	696	665	608	749	589	1060	2400	1940	1810	1750	1230
17	1030	665	665	656	536	627	1270	2280	1860	1770	1730	1170
18	1030	676	665	618	570	618	1610	2240	1730	1810	1720	1170
19	1000	636	618	636	676	627	1580	2100	1730	1810	1750	1200
20	1010	536	707	618	792	598	1830	2100	1630	1830	1840	1160
21	988	598	665	608	869	598	2080	2180	1600	1810	1860	1160
22	976	528	656	570	825	676	2300	2280	1520	1810	1750	1090
23	940	589	562	646	686	618	2240	2400	1520	1940	1680	1090
24	964	598	636	656	749	618	2180	2510	1520	2120	1730	1100
25	976	580	636	656	718	618	2060	2510	1440	2140	1730	1100
26	976	589	519	656	760	618	2020	2570	1520	2180	1730	1090
27	1000	580	528	636	738	618	1940	2550	1520	2280	1610	1060
28	1040	589	627	656	728	618	1900	2570	1450	2320	1610	1040
29	1050	618	676	646	---	618	1900	2490	1550	2320	1650	1040
30	1040	608	665	646	---	618	1770	2470	1470	2400	1650	1050
31	1000	---	570	646	---	618	---	2420	---	2490	1660	---

MEAN	1032	811	646	624	698	648	1397	2202	1843	1766	1972	1335
ACRE- FEET	63,470	48,230	39,730	38,390	38,740	39,860	83,130	135,400	109,700	106,600	121,200	79,420

YEAR OR PERIOD MEAN 1248
ACRE-FEET 903,870

Daily discharge, in second-feet, of

HENRYS FORK RIVER AT ST. ANTHONY, IDAHO

for the year ending September 30, 1912

Plate No. 51

DAY	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								2000	2580	1220	1430	1040
2								1860	2270	1240	1420	1050
3								1960	2270	1250	1400	1050
4								2080	2400	1150	1380	1080
5								1960	2380	1150	1400	1160
6								1940	2520	1280	1370	1240
7								1880	2540	1210	1380	1260
8								1940	2890	1130	1430	1260
9								2750	3300	994	1290	1260
10								3060	3880	816	1290	1280
11								2940	3230	730	1250	1300
12								2820	2520	693	1130	1490
13								2650	2380	712	1080	1480
14								2650	2250	919	1120	1180
15								2700	2190	962	846	1040
16								a 2900	2960	1030	897	1110
17								a 2550	2610	972	887	1070
18								a 2380	2120	962	866	1070
19								h 2270	2100	897	897	1100
20								a 2500	1940	897	951	1060
21							3380	a 2900	1700	856	983	1020
22								h 3230	1520	806	940	983
23								a 3500	1460	919	856	951
24								a 3800	1610	1110	887	962
25								a 3550	1900	1040	897	972
26								a 3600	2170	h 1070	994	962
27								a 3800	1940	1280	951	919
28								a 3500	1520	1280	951	887
29								3080	1510	1300	972	887
30								3130	1380	1420	983	866
31								2940	1480	1010		

MEAN								2736	2268	1057	1101	1100
ACRE- FEET								168,200	135,000	65,010	67,710	65,430

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YEAR OR PERIOD MEAN ACRE-FEET 501,350

Daily discharge, in second-feet, of

HENRY'S FORK NEAR RISKBURG, IDAHO

for the year ending September 30, 1942

Plate No. 52

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1370	1540	1160	884	1380	1200	1230	2050	3080	1460	1040	862
2	1390	1540	1220	770	1340	1250	1250	1910	2500	1310	1060	879
3	1440	1540	1380	808	1340	1300	1280	1960	2100	1260	1070	906
4	1440	1780	1750	945	1240	1310	1310	2030	2040	1250	1070	940
5	1560	2000	a 1740	940	1200	1330	1430	2030	2230	1240	1070	956
6	1660	2010	h 1630	923	1260	1250	1510	1960	2340	1310	1070	1020
7	1610	1920	a 1400	1080	1200	1190	1440	1960	2500	1410	1070	1050
8	1590	1840	a 1390	1170	1240	1140	1440	1900	2730	1400	1080	1050
9	1600	1760	a 1390	1270	1230	1180	1410	2100	3200	1310	1100	1060
10	1580	1740	* 1390	1330	1190	1140	1470	2490	3930	1170	1080	1070
11	1560	1680	1420	1350	1250	1160	1550	2830	4520	1010	1070	1070
12	1560	1660	1440	1290	1260	1230	1940	2970	4130	884	1060	1160
13	1560	1620	1410	1290	1250	1250	2020	2880	3570	818	1000	1400
14	1560	1600	1380	1240	1160	1280	2200	2620	3060	780	967	1290
15	1550	1560	1400	1160	1030	1260	2340	2500	2640	786	928	1260
16	1560	1460	1420	*1130	978	* 1200	2300	2700	3170	770	818	1190
17	1570	1210	1410	1130	765	1190	1940	2850	3630	928	791	1200
18	1560	1140	1410	1230	813	1230	2090	2700	3110	879	760	1220
19	1550	* 1050	1400	1210	775	1220	2430	2520	2590	846	740	1250
20	1530	978	1370	1180	1070	1200	2580	2320	2460	780	730	1280
21	1520	912	1400	1140	1310	1160	2880	2410	2130	720	740	1260
22	1500	1000	1390	1110	1410	1200	3330	2670	1890	665	755	1240
23	1490	950	1340	1110	1380	1260	3720	3100	1560	640	745	1160
24	1460	1050	1290	1240	1260	1220	3630	3570	1430	640	740	1160
25	1440	1070	1330	1320	1230	1220	3260	f 3940	1630	695	750	1150
26	1520	1080	1230	1350	1220	1200	2980	f 3920	1960	750	796	1140
27	1550	1080	1140	1400	* 1220	1190	2740	f 4120	2380	808	802	1140
28	1580	1140	b 1150	1420	1200	1190	2520	f 4340	2220	868	770	1100
29	1600	1160	b 1300	1470		1190	2310	4280	1990	934	760	1070
30	1580	1180	b 1350	1450		1200	2110	3860	1800	967	796	1060
31	1580		b 1300	1400		1210		3570		1000	835	

MEAN	1536	1408	1378	1185	1186	1218	2155	2808	2617	977	905	1120
ACRE-FOOT	94,450	83,800	84,750	72,870	65,850	74,880	128,200	172,700	155,700	60,080	55,660	66,630

YEAR OR PERIOD MEAN 1541
ACRE-FOOT 1,115,570

Daily from 6 to 10 AM in feet of

GRASSY LAND SURFACE NEAR MOUNTAIN, MONTANA

For the year ending September 30, 1913
Plate No. 63

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8192	9029	9751	10697	11342	11888	12303	13175	15182	15229	14135	10967
2	8254	9012	9764	10710	11384		12317	13220	15182	15229	14045	10967
3	8292	9067	9803	10737	11398	11902	12332	13280	15182	15244	13940	10967
4	8317	9104	9842	10764	11412		12346	13325	15244	15244	13895	10940
5	8340	9142	9894	10791	11426	11916	12375	13385	15244	15244	13745	10940
6	8379	9167	9920	10818	11440	11930	12404	13415	15244	15244	13595	10940
7	8404	9205	9933	10845	11454	11944	12419	13445	15244	15244	13430	10940
8	8442	9231	9946	10872	11482	11958	12433	13475	15275	15244	13295	10940
9	8504	9270	9972	10899	11510	11972	12448	13505	15275	15244	13042	10940
10	8517	9270	9985	10926	11538	11986	12462	13580	15291	15182	12868	10926
11	8529	9283	10011	10940	11552	12000	12477	13640	15275	15136	12694	10926
12	8554	9296	10037	10953	11566	12014	12506	13685	15244	15089	12520	10926
13	8567	9309	10063	10967	11580	12028	12520	13730	15244	15105	12346	10926
14	8592	9348	10103	10980	11594	12042	12535	13790	15244	15120	12158	10926
15	8617	9374	10130	10994	11622	12056	12564	13865	15244	15182	12028	10926
16	8642	9413	10157	11007	11664	12071	12578	13955	15260	15182	11944	10926
17	8667	9465	10197	11034	11692	12085	12607	14015	15244	15182	11862	10926
18	8692	9504	10238	11048	11706	12114	12636	14065	15229	15182	11762	10913
19	8704	9530	10305	11062	11734	12129	12694	14075	15244	15182	11678	10913
20	8742	9556	10359	11076	11762	12143	12738	14165	15244	15182	11580	10913
21	8767	9582	10386	11090	11790	12158	12767	14210	15229	15182	11432	10913
22	8792	9595	10413	11104	11804	12187	12825	14300	15229	15182	11384	10913
23	8817	9608	10440	11118	11832	12216	12883	14407	15229	15105	11286	10913
24	8842	9621	10467	11146	11846	12230	12912	14562	15260	14995	11188	10913
25	8867	9634	10494	11174	11846	12245	12941	14733	15260	14919	11090	10913
26	8892	9647	10548	11202	11860	12259	12984	14934	15260	14810	10994	10913
27	8917	9660	10575	11230	11874	11274	13013	15136	15260	14717	10967	10913
28	8942	9673	10602	11258	11888	12274	13057	15182	15229	14624	10967	10913
29	8954	9686	10629	11272	-----	12288	13100	15182	15229	14500	10967	10913
30	8979	9699	10656	11300			13130	15182	15244	14376	10967	10913
31	9004		10683	11328		12303		15182		14225	10967	

MEAN ACRE- FEET												
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U. S. GOVERNMENT PRINTING OFFICE 6-7413

YEAR OR PERIOD MEAN ACRE-FEET



Daily discharge, in acre-feet, of

GRASSY LAKE OUTLET near MORAN, WYO.

For the year ending the month of _____, 19__

Plate No. 54

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1											49	
2											49	
3											49	
4											49	
5											62	
6											87	
7											87	
8											87	
9											87	
10											87	
11											87	
12											87	
13											87	
14											76	
15											49	
16											49	
17											49	
18											49	
19											49	
20											49	
21											49	
22										49	49	
23										49	49	
24										49	49	
25										49	49	
26										49	49	
27										49		
28										49		
29										49		
30										49		
31										52		

This record only covers the period after stored water release began on July 22.
 Some overflow after reservoir filled on May 27, but no record kept until July 22.
 Cascade Creek water shut off some time after Reservoir filled on May 27 and not turned on again until Oct. 7, 1942.

MEAN ACRE- FEET											978	3,210
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Daily discharge, in second-feet, of

FALL RIVER near SQUIRREL, IDAHO

for the year ending September 30, 1917
Plate No. 35

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	398	404	410	200	347	347	372	697	1390	1350	445	424
2	398	404	410	294	365	347	372	697	1530	1400	445	424
3	410	404	644	294	365	347	372	697	1610	1510	430	438
4	417	636	505	294	365	* 345	372	715	1860	1540	430	424
5	460	529	430	294	365	347	398	662	1860	1350	417	430
6	445	482	384	294	365	347	404	697	2070	1740	460	430
7	452	424	384	294	365	353	417	871	2270	1460	460	424
8	452	410	391	305	365	359	475	982	2430	1090	460	424
9	445	410	398	305	365	365	561	1340	2950	840	475	430
10	424	410	398	311	365	365	594	1160	2780	724	468	430
11	410	410	398	311	353	365	594	1290	2200	706	468	438
12	410	410	398	311	353	365	628	970	2050	594	468	452
13	417	410	398	311	353	365	715	994	2020	577	475	537
14	417	404	398	311	353	365	810	1020	2020	529	475	475
15	417	424	398	311	335	353	751	1190	2490	545	468	460
16	417	438	398	311	317	365	662	1190	2620	577	452	460
17	417	424	398	311	294	365	780	1070	1980	529	438	460
18	417	424	398	311	294	365	926	970	2040	537	430	468
19	410	410	424	311	300	200	994	926	2070	505	438	452
20	410	385	410	* 298	317	294	1070	1350	1960	505	430	438
21	410	365	410	300	323	294	1360	1400	1600	468	430	445
22	410	365	398	311	323	294	1580	1700	1510	468	424	445
23	410	365	391	341	323	294	1310	2040	2140	498	438	438
24	410	365	365	365	323	353	1050	2140	2140	498	445	438
25	404	365	365	365	323	353	1050	1930	2200	490	430	438
26	404	365	359	365	323	* 354	893	2170	2430	482	475	438
27	404	365	353	365	323	341	810	2200	1580	475	430	430
28	404	365	353	365	323	341	810	1980	1350	482	417	430
29	398	391	353	341	---	341	751	1650	1260	468	417	430
30	391	410	353	341	---	341	715	1760	1240	460	424	424
31	391	---	353	335	---	365	---	1540	---	452	417	---

MEAN ACRE- FEET	415	412	401	315	339	342	753	1290	1988	769	444	442
	25,550	24,540	24,640	19,390	18,810	21,010	44,820	79,330	118,300	47,300	27,330	26,330

U. S. GOVERNMENT PRINTING OFFICE

1917

YEAR
OR
PERIOD

MEAN 659
ACRE-Feet 477,350

Daily discharge, in second-feet, of

FALL RIVER NEAR CHESTER, IDAHO

for the year ending September 30, 1912

Plate No. 56

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								798	1170	685	47	126
2								852	1120	772	45	126
3								852	1240	816	42	123
4								807	1480	748	38	131
5								780	1490	798	37	136
6								816	1500	816	40	106
7								879	1660	685	65	97
8								1080	1900	583	81	106
9								1530	2330	460	91	128
10								1730	2700	297	91	134
11								1550	2080	219	95	183
12								1380	1560	167	95	215
13								a 1250	a 1300	113	100	426
14								a 1300	a 1250	104	109	275
15								a 1350	a 1500	139	102	161
16								1480	a 1800	164	91	158
17								1180	a 1600	134	87	158
18								1020	1390	118	95	161
19								970	1420	109	91	158
20								1220	1320	91	91	164
21							1610	1460	1110	79	100	167
22								1890	951	57	97	164
23								2170	a 1200	50	100	164
24								2360	a 1300	58	100	164
25								2060	a 1500	55	106	164
26								2050	1660	55	136	164
27								2220	1270	57	113	164
28								2060	834	57	100	164
29								1630	764	52	109	164
30								1580	632	52	121	164
31								1370		48	121	

MEAN								1409	1434	279	88.3	164
ACRE- FEET								86,630	85,350	17,130	5,430	9750

U. S. GOVERNMENT PRINTING OFFICE 1912

YEAR
OR
PERIOD

MEAN 674
ACRE-Feet 204,290

Daily discharge, in second-feet, of TETON RIVER near TETONIA, IDAHO, for the year ending September 30, 19 12.
 Plate No. 57

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	324	283	250	190	220	200	h 220	364	700	516	431	314
2	349	279	250	180	220	200	h 234	414	636	516	425	310
3	334	283	350	180	220	* 200	h 283	466	686	548	425	301
4	329	339	800	180	220	200	h 370	437	880	581	419	301
5	334	408	360	180	220	200	a 400	522	1090	629	419	310
6	339	314	290	180	200	200	a 400	548	1100	693	414	301
7	344	283	240	180	200	190	a 410	408	1150	723	408	305
8	329	266	245	180	210	190	a 460	370	1450	723	408	305
9	310	262	250	180	200	200	a 510	364	1820	678	402	296
10	301	258	250	180	190	200	a 620	386	1820	608	397	296
11	292	258	260	190	180	200	a 630	431	1550	568	392	296
12	288	258	275	220	180	200	629	460	1250	535	392	329
13	288	262	275	210	180	200	522	460	1060	510	386	397
14	283	262	275	200	180	190	454	448	930	497	386	349
15	283	266	275	190	180	190	414	466	963	510	380	324
16	283	254	280	190	180	h 214	370	528	1060	574	375	310
17	283	266	*293	200	180	a 200	349	601	847	554	370	301
18	283	283	a 285	215	180	a 185	414	535	738	561	359	310
19	283	270	h 283	* 214	180	h 166	375	478	730	522	359	310
20	283	264	300	210	180	* 176	344	443	678	516	359	305
21	283	258	300	210	190	a 179	339	443	615	510	359	301
22	283	*256	280	210	200	a 182	359	460	541	497	354	296
23	279	225	245	220	200	a 185	408	503	535	478	354	296
24	274	215	225	230	200	h 188	402	930	608	484	349	292
25	274	215	200	240	200	a 185	370	1010	678	472	359	288
26	288	220	h 194	250	200	a 182	344	1090	678	472	354	283
27	288	225	190	250	200	a 179	344	1330	678	460	344	279
28	292	230	200	250	200	a 177	349	1260	629	454	319	274
29	324	240	240	230	—	a 177	364	1060	595	454	324	270
30	296	240	250	210	—	h 177	375	921	535	454	339	266
31	279	—	240	200	—	h 194	—	800	—	448	329	—

* Result of Disch. Meast.

MEAN ACRE- FEET	300	265	279	205	196	191	402	611	908	540	377	304
	18,450	15,750	17,160	12,590	10,890	11,710	23,920	37,560	54,010	33,210	23,190	18,080

YEAR OR PERIOD _____ MEAN _____ 382
 ACRE-FEET _____ 276,520

Daily discharge, in second-feet, of

TETON RIVER near ST. ANTHONY, IDAHO

for the year ending September 30, 1912.
Plate No. 58

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	563	504	452	361	412	370	386	768	1750	1150	822	593
2	588	499	448	355	412	370	417	768	1720	1240	804	563
3	593	499	578	349	412	* 370	452	834	1970	1240	804	548
4	583	518	1270	349	408	370	553	792	2360	1270	810	543
5	593	640	651	351	412	374	756	834	2570	1320	786	543
6	593	583	499	353	399	374	762	929	2610	1430	768	538
7	588	533	443	361	399	353	798	840	2770	1470	768	538
8	583	514	448	361	403	353	883	828	3250	1440	762	533
9	563	489	457	361	395	374	949	989	3520	1360	744	523
10	548	494	457	361	374	382	1150	1460	3540	1240	744	514
11	533	484	461	386	357	378	1180	1590	3110	1160	739	504
12	528	471	471	434	403	382	1150	1420	2530	1120	716	543
13	523	* 480	475	425	370	386	1070	1130	2200	1040	705	609
14	523	489	475	386	370	386	1060	1090	1930	1000	705	598
15	523	484	466	374	370	357	1010	1020	1960	995	700	553
16	518	494	471	399	370	357	883	1080	2230	1060	700	533
17	514	494	504	421	341	378	810	1160	1920	1030	700	523
18	514	514	* 494	425	341	378	852	1100	1680	1000	689	523
19	514	489	499	* 421	349	353	929	989	1650	956	678	523
20	509	417	509	395	361	341	903	969	1550	916	667	523
21	509	395	509	395	365	357	1020	1140	1400	890	667	523
22	504	391	494	395	370	357	1260	1600	1300	870	662	518
23	509	391	439	430	370	357	1360	2130	1310	834	656	509
24	504	391	425	448	370	361	1220	2720	1450	834	651	509
25	504	391	403	452	370	361	1050	2820	1560	864	662	504
26	504	395	391	471	370	* 357	916	3080	1560	846	667	504
27	523	408	378	471	370	361	852	3330	1460	858	630	499
28	518	421	399	471	370	361	810	3030	1320	858	593	494
29	543	434	443	452	---	357	810	2440	1230	840	598	480
30	538	426	457	421	---	361	786	2140	1150	840	609	480
31	499	---	430	412	---	370	---	1870	---	834	609	---

MEAN	537	471	493	401	379	366	901	1513	2019	1058	704	530
Acft-Foot	33,020	28,030	30,340	24,690	21,050	22,500	53,630	93,010	120,100	65,070	43,270	31,510

U. S. GOVERNMENT PRINTING OFFICE

9-7159

YEAR
1912

MEAN
Acft-Foot 7 82
566,220

Portneuf River at Pocatello, Idaho

for the year ending September 30, 1912
Plate No. 59

Daily discharge, in second-feet, of

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	108	156	210	183	295		378	418	304	133	41	60
2	111	163	226		277		408	398	286	119	43	62
3	111	180	268		286	252	428	378	260	104	43	60
4	112	192	304		277	252	489	369	243	104	35	62
5	111	189	313		286	260	594	398	252	111	30	62
6	112	180	277		286	260	638	408	243	100	56	62
7	118	174	260		295	260	660	398	210	88	55	59
8	126	168	252		304	260	638	378	210	86	58	58
9	130	164	243			268	616	378	199	82	59	58
10	127	164	243		286	277	594	408	210	74	63	55
11	130	175	243		277	331	616	428	197	73	72	57
12	127	188	243		277	369	638	448	183	68	83	92
13	122	186	252		268	398	660	448	157	67	60	112
14	118	186	252		260	418	704	448	158	63	52	115
15	119	204	260			418	704	418	162	67	42	113
16	119	218	268			418	704	438	166	60	60	108
17	118	234	286			378	660	438	158	60	54	111
18	118	243	295			350	638	428	138	60	66	109
19	127	243	286			331	616	428	126	62	50	120
20	132	234	277			322	616	408	129	53	41	116
21	132	218	277			313	638	408	127	48	47	116
22	132	218	277			313	682	438	125	42	46	113
23	144	210	268			340	682	468	122	34	58	112
24	142	200	260			360	660	478	115	48	50	109
25	144	205	260			369	616	489	106	52	48	111
26	152	207	252			340	573	478	119	49	55	111
27	156	210	234			322	531	458	134	41	56	115
28	156	210	252	313		322	500	418	136	43	57	113
29	158	210	243	322		331	478	378	119	59	58	108
30	164	210	268	313		340	448	340	133	52	60	102
31	157		260	295		360		322		34	60	

MEAN	130	198	262				594	417	174	68.9	53.5	92.0
ACRE- FEET	8,000	11,780	16,080				35,320	25,660	10,370	4,240	3,290	5,480