

WATER DISTRIBUTION
AND HYDROMETRIC WORK

DISTRICT NO. 01
SNAKE RIVER, IDAHO

1973

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INTRODUCTION

The annual meeting of Water District No. 01 was held at Idaho Falls on March 5, 1973. A. L. Larson was elected as watermaster for the ensuing year.

The following were elected as members of the Committee of Nine:

Leonard Graham, Chairman; Alfred Peters, Vice-Chairman;
C. N. Scoresby, Secretary; Leo Murdock, R. Willis Walker,
Lester Saunders, Kenneth Anderson, Clyde Greenwell, Lynn Loosli.

Alternate: Burdell Curtis

Advisory Members: Carlos Randolph, representing the Bureau of Reclamation; William Kerner, representing the Gooding Project; and Merle Kunz, representing Teton Basin.

Principal resolutions adopted at the annual meeting were as follows:

1. That the following transmission losses be charged on stored water: 1.7% Moran to Palisades; 0.8% Palisades to Heise; 4.4% Heise to Lorenzo; 0.5% Lorenzo to Woodville; 6% Woodville to Blackfoot; 4% Henry's Lake to Island Park; 2% Island Park to Warm River; 0.5% Warm River to Ashton.

2. Adopted a budget of \$74,010 to cover the expense of operating the District during the coming year.

3. Recommended the continuation of a pool committee to obtain and allocate rental water.

4. Reaffirmed support of an integrated multipurpose Lynn Crandall project, the Salmon Falls Division of the Upper Snake River Project, and the Lower Teton Project.

Precipitation for 1973 was 118 percent of normal. The average precipitation for nine representative stations for the water year ending September 30, 1973, was 17.77 inches compared to a normal of 15.15 inches. Precipitation was about normal or below except for October, July, and September which were excessive, up to 277 percent for September. River regulation was discontinued on September 25 in the upper valley and September 28 in the lower valley.

With the below normal snow pack and the reduced storage capacity of American Falls Reservoir, early consideration was given to the most efficient use of the storage available if drought conditions persisted as indicated during the winter and spring months. Contingency plans were made early by the storage pool committee. However, heavy rains in the upper valley about July 20, and again in September, broke the dry spell, and ample rental water was available to those who needed it.

The Milner spill was cut off on May 3. 3,328,000 acre-feet of water spilled past Milner October 1 to September 30. All reservoir allotments were 100 percent filled except Palisades which filled 93 percent and American Falls restricted to 66 percent.

Storage deliveries started in the lower valley on May 13. The 1916 "floodwater" rights were cut off June 23. The lowest cut in rights was on August 3 and 4 when the December 14, 1891 rights were cut.

Total usable contents in the reservoir system on September 30 was 1,557,200 acre-feet. This is 38 percent of active capacity and the third lowest for the past ten years. However, the carryover for the years 1957 through 1961 were all lower.

Discharge at the Minidoka Dam was not cut below the 2,700 cfs power right at any time during the year from October 1 to September 30.

Construction of both the Teton and Ririe Dams progressed on schedule with foundation work essentially completed at both sites.

PERSONNEL

The persons engaged in water distribution during 1973 were as follows:

Arthur L. Larson	Watermaster
C. Michael Bennett	Deputy Watermaster
L. C. Anderson	Deputy Watermaster & Hydrographer, St. Anthony
Harold W. Blauer	Hydrographer at Burley
Keith Blauer	Hydrographer at Burley
Lee Wright	Hydrographer at Idaho Falls
Lola Dunn	Clerk
Arthur W. Wilson	Deputy Watermaster & Hydrographer, Teton Basin
Seth L. Hansen	Deputy Watermaster, Teton Basin
Val L. Richards	Deputy Watermaster, Lower Teton River
S. B. Garrett	Deputy Watermaster, Henry's Fork
Elmer Lenz	Deputy Watermaster, Upper Fall River
Wilbur Brown	Deputy Watermaster, Heise Division
Russel Taylor	Deputy Watermaster, Rigby Division
Al Smith	Deputy Watermaster, Blackfoot Division
Howard Hatfield	Deputy Watermaster, Swan Valley Division
Carlos Randolph	Supt. Minidoka Project, Bureau of Reclamation
Allan Templeton	Supt. Am. Falls Res., Bureau of Reclamation
Tom Gates	Asst. Supt. Am. Falls Res., Bureau of Reclamation
James L. Braman	Supt. Jackson Lake, Bureau of Reclamation
John Williams	Supt. Island Park Res., Bureau of Reclamation
Gage Readers: Foster Randall, Blanche Zollinger, R. E. Wagner, Rogers Livingston, R. H. Seymour, Mario M. Purin, Roy Flavel, Jess Jackson.	

SNOW SURVEYS

The results of snow surveys for the past ten years are shown in the following tabulations. The figures for earlier years are shown in previous annual reports of the District. Normals are those computed by Soil Conservation Service and are mostly for period 1958-72.

Depth in Inches (S-Snow; W-Water)

<u>Year</u>	<u>Jan 1</u>		<u>Feb 1</u>		<u>Mar 1</u>		<u>Apr 1</u>	
	<u>S</u>	<u>W</u>	<u>S</u>	<u>W</u>	<u>S</u>	<u>W</u>	<u>S</u>	<u>W</u>
<u>Moran (Snake River)</u>								
1964	21	3.8	40	9.1	38	10.1	43	12.7
1965	37	10.3	52	14.1	48	15.8	50	17.6
1966	24	4.1	32	8.1	38	9.6	34	10.4
1967	22	4.6	37	10.3	41	12.4	40	12.9
1968	21	3.3	35	7.3	35	9.9	33	9.9
1969	28	5.5	44	11.4	49	13.6	44	14.0
1970	21	3.8	42	11.2	40	13.0	42	13.7
1971	33	7.8	41	13.0	47	14.8	51	17.9
1972	34	8.0	50	15.5	52	18.3	38	16.9
1973	24	4.6	30	7.2	36	9.4	35	10.0
Normal		5.3		9.6		11.9		12.6
<u>Moran Bay (Snake River)</u>								
1964			54	13.7	49	16.7	66	20.4
1965			74	20.9	69	23.7	72	26.2
1966			46	12.9	54	16.0	49	17.8
1967			49	14.2	58	18.3	55	20.5
1968			42	10.4	56	16.3	51	17.8
1969			56	16.2	63	19.0	55	20.0
1970			66	18.8	60	21.4	63	23.6
1971			62	21.9	69	25.0	81	32.1
1972			68	21.5	78	28.8	67	30.0
1973			45	12.5	60	16.7	55	18.7
Normal				14.7		19.2		21.9
<u>Arizona Station (Snake River)</u>								
1964	28	6.6	50	12.5	62	18.3	60	18.7
1965	48	13.7	67	19.8	63	22.2	66	25.0
1966	35	6.3	39	11.4	45	13.6	51	17.0
1967	32	8.8	53	15.4	59	18.8	62	21.5
1968	24	4.7	41	9.6	47	13.7	50	16.1
1969	34	8.4	67	18.6	70	21.9	63	22.5
1970	28	5.3	58	14.8	51	16.3	57	19.8
1971	50	12.6	62	19.8	66	22.6	79	29.0
1972	44	11.2	55	16.6	64	21.7	57	23.0
1973	31	6.7	37	9.9	47	13.3	50	15.8
Normal		7.8		12.8		16.5		19.4

Depth in inches (S-Snow; W-Water)

Year	Jan 1		Feb 1		Mar 1		Apr 1	
	S	W	S	W	S	W	S	W
<u>Huckelberry Divide (Snake River)</u>								
1964	29	6.7	52	12.9	49	14.5	63	19.7
1965	46	12.7	66	18.9	64	22.7	65	24.1
1966	35	6.5	44	12.7	48	15.5	53	17.7
1967	29	7.4	52	14.6	56	17.3	58	19.5
1968	31	6.5	49	11.4	57	16.4	53	17.7
1969	36	8.6	66	17.8	70	21.7	60	21.9
1970	28	5.5	60	13.7	49	15.6	57	19.6
1971	50	12.2	59	18.6	64	21.3	76	26.4
1972	42	10.7	55	16.9	66	20.9	54	22.0
1973	32	7.5	39	10.6	48	13.8	53	16.1
Normal		7.9		13.1		16.9		19.3
<u>Snake River Station (Snake River)</u>								
1964	28	6.2	52	12.5	52	15.0	65	20.3
1965	46	12.8	66	18.6	71	23.8	70	25.7
1966	35	6.3	44	12.3	48	15.1	51	17.8
1967	25	6.6	51	14.5	58	18.0	59	20.4
1968	29	5.8	47	10.7	57	17.0	56	19.2
1969	40	9.1	59	17.3	63	20.1	59	21.2
1970	32	6.2	69	16.8	58	19.4	63	23.2
1971	55	12.7	66	21.4	71	24.8	79	30.3
1972	44	11.0	63	19.6	77	26.1	65	27.4
1973	32	8.2	40	11.3	48	14.6	52	16.8
Normal		8.2		13.8		18.3		21.0
<u>Lewis Lake Divide (Snake River)</u>								
1964	45	12.8	79	22.8	79	26.8	112	37.3
1965	87	28.8	121	39.5	126	48.8	130	52.1
1966	66	14.8	77	25.4	81	30.1	89	34.9
1967	48	15.9	103	32.1	107	39.0	122	45.6
1968	45	11.6	82	21.4	90	28.3	94	33.0
1969	59	15.4	110	34.4	117	42.0	104	42.4
1970	52	12.2	109	28.7	97	35.1	109	42.6
1971	111	29.3	124	44.7	135	53.5	156	65.6
1972	78	20.1	114	40.6	150	49.8	133	57.7
1973	52	14.7	68	21.4	82	28.1	88	32.4
Normal		17.0		27.5		35.9		42.1
<u>Aster Creek (Snake River)</u>								
1964	32	8.0	65	16.5	62	18.3	81	25.4
1965	78	24.7	102	33.9	99	37.9	107	41.9
1966	62	12.4	63	20.5	66	23.5	76	29.1
1967	40	12.8	91	26.6	89	31.2	100	36.2
1968	33	7.9	69	16.3	66	20.3	67	22.5
1969	47	10.7	106	30.6	107	36.3	94	36.1
1970	34	7.6	84	20.6	69	23.0	79	28.8
1971	85	21.2	99	33.8	104	38.2	126	49.6
1972	62	15.1	92	30.3	119	39.9	100	42.7
1973	39	10.1	51	14.2	61	18.9	65	21.9
Normal		12.7		21.1		26.6		31.0

Depth in inches (S-Snow; W-Water)

Year	Jan 1		Feb 1		Mar 1		Apr 1	
	S	W	S	W	S	W	S	W
<u>Colter Creek (Snake River)</u>								
1964			57	12.8	52	16.4	74	22.4
1965			-	-	74	25.3	78	26.9
1966			-	-	55	16.3	43	16.4
1967			-	-	60	20.6	61	22.5
1968			-	-	56	18.6	55	19.6
1969			62	18.7	64	21.5	57	20.9
1970			-	-	64	22.8	66	25.0
1971			-	-	76	25.6	84	32.6
1972			-	-	82	26.0	61	23.7
1973			-	-	51	14.5	54	18.4
Normal			-	-		19.7		22.2

Glade Creek (Snake River)

1964	29	6.5	52	12.9	50	15.1	67	20.6
1965	47	13.9	69	20.6	71	25.0	74	27.0
1966	37	6.8	46	13.3	57	16.3	54	19.1
1967	29	7.3	52	14.8	61	18.9	63	22.0
1968	29	5.9	50	11.8	59	18.1	57	19.3
1969	36	9.1	64	18.1	67	21.0	63	23.0
1970	32	6.6	68	17.1	59	19.6	64	22.8
1971	61	15.1	71	24.0	75	26.8	89	34.8
1972	45	11.4	66	20.3	79	26.9	69	28.6
1973	36	9.1	44	12.5	56	16.9	58	19.5
Normal		8.6		14.7		19.0		22.2

Base Camp (Snake River)

1964	28	6.5	52	12.8	51	15.2	64	19.7
1965	52	16.0	81	23.8	71	26.9	75	29.9
1966	31	6.4	42	12.4	46	14.6	49	16.9
1967	30	7.5	56	15.9	59	19.7	60	22.0
1968	31	6.6	42	10.5	55	16.1	53	17.5
1969	42	9.0	61	16.7	62	20.4	58	20.3
1970	29	5.7	64	16.7	55	18.9	57	21.9
1971	54	14.0	69	22.7	74	25.0	86	32.2
1972	43	10.8	68	21.0	80	28.3	69	29.9
1973	37	7.8	37	11.1	45	13.3	45	15.1
Normal		8.1		13.9		17.8		20.1

Average water content of ten Jackson Lake courses

1964		13.8	16.2	21.7
1965		23.3	27.2	29.6
1966		14.3 (9)	17.1	19.7
1967		17.6 (9)	21.4	24.3
1968		12.9 (9)	17.5	19.3
1969		20.0 (9)	23.8	24.2
1970		17.6 (9)	20.5	24.1
1971		24.4 (9)	27.8	35.0
1972		22.5 (9)	28.7	30.2
1973		12.3 (9)	16.0	18.5
Normal		15.7 (9)	20.2	23.2

Depth in inches (S-Snow; W-Water)

Year	Feb 1		Mar 1		Apr 1		May 1	
	S	W	S	W	S	W	S	W
<u>Turpin Meadows (Buffalo River)</u>								
1964	35	7.9	38	9.6	43	12.5		
1965	48	10.6	40	12.4	42	12.9		
1966	25	5.8	28	6.8	24	7.0		
1967	30	7.1	35	9.6	29	9.8		
1968	29	6.3	33	9.5	36	10.4		
1969	35	8.5	36	9.5	35	10.1		
1970	40	9.1	34	10.5	34	11.3		
1971	35	9.3	41	11.3	44	13.9		
1972	37	10.0	41	12.6	30	12.0		
1973	23	5.1	27	5.8	24	6.6		
Normal		7.4		9.6		10.3		

<u>Four Mile Meadows (Buffalo River)</u>								
1964	42	9.5	45	11.8	51	15.1		
1965	50	12.3	44	14.0	48	16.1		
1966	29	6.9	35	8.6	34	9.4		
1967	35	8.0	39	10.4	41	12.6		
1968	41	9.5	47	12.3	52	14.9		
1969	42	10.3	43	11.9	44	13.1		
1970	44	10.3	39	11.9	43	13.4		
1971	42	11.5	49	14.0	57	17.8		
1972	45	12.4	52	14.8	48	17.3		
1973	28	6.4	34	7.8	39	9.1		
Normal		9.0		11.6		13.6		

<u>Black Rock (Buffalo River)</u>								
1964	56	13.5	57	16.8	68	22.3		
1965	77	20.3	68	24.5	76	28.2		
1966	40	10.8	37	12.7	48	15.8		
1967	53	13.8	60	18.2	64	21.3		
1968	59	15.3	67	20.3	69	22.6		
1969	60	16.8	62	19.8	65	21.9		
1970	64	16.6	59	18.9	64	22.0		
1971	69	20.6	76	24.8	94	31.1		
1972	63	18.8	80	24.1	76	28.6		
1973	39	9.8	46	11.8	49	13.4		
Normal		14.5		18.6		22.3		

<u>Togwotee Pass (Buffalo River)</u>								
1964	70	18.3	70	22.1	85	30.3	81	33.4
1965	99	28.1	86	33.5	99	39.4	92	44.0
1966	49	14.6	57	17.5	58	21.2	60	23.9
1967	74	20.1	81	26.9	86	31.6	90	35.9
1968	62	18.3	77	25.0	78	27.8	73	29.1
1969	80	23.8	81	27.4	79	29.8	62	28.6
1970	82	21.5	72	23.9	82	29.9	106	37.1
1971	87	27.6	97	33.5	118	43.6	116	48.9
1972	84	27.1	107	34.9	97	40.8	96	44.0
1973	50	14.0	59	17.0	68	20.1	71	24.7
Normal		20.0		25.4		30.6		33.9

Depth in inches (S-Snow; W-Water)

Year	Jan 1		Feb 1		Mar 1		Apr 1	
	S	W	S	W	S	W	S	W
<u>Valley View Ranch (Henry's Fork)</u>								
1964	22	4.6	45	11.5	50	14.8	58	19.4
1965	45	11.2	76	23.5	64	24.0	65	25.9
1966	22	3.4	34	8.4	37	10.6	39	13.0
1967	33	7.0	62	18.2	61	22.2	69	25.2
1968	37	8.0	54	13.6	51	16.9	50	17.8
1969	33	6.3	75	22.4	83	28.1	69	28.1
1970	23	3.2	40	8.6	35	10.1	51	16.4
1971	47	12.2	55	17.9	65	22.2	69	26.1
1972	47	10.8	54	16.9	51	19.1	46	17.6
1973	24	4.1	33	6.3	32	8.0	39	10.8
Normal		6.3		12.3		15.4		17.7

<u>Big Springs (Henry's Fork)</u>								
1964	26	5.8	49	11.4	53	14.9	65	21.8
1965	58	13.3	81	22.2	69	24.6	68	26.3
1966	23	3.3	41	10.5	46	13.9	44	16.8
1967	37	9.4	69	19.4	68	23.1	74	26.7
1968	32	5.9	55	12.1	51	16.8	50	17.9
1969	41	8.4	69	21.3	85	26.0	68	27.2
1970	30	5.4	62	16.3	55	18.6	67	23.2
1971	51	14.6	68	22.3	75	26.2	80	30.8
1972	59	12.4	67	20.7	70	25.6	62	27.1
1973	32	7.6	45	11.1	49	14.7	53	18.1
Normal		7.8		14.4		18.6		21.3

<u>Island Park (Henry's Fork)</u>								
1964	23	4.5	42	8.7	43	11.1	51	15.9
1965	55	11.5	73	19.4	60	20.4	55	20.8
1966	19	2.5	56	8.4	40	11.2	34	11.5
1967	32	6.4	59	15.8	54	17.2	56	19.6
1968	26	4.4	46	8.9	44	12.9	30	13.5
1969	36	6.4	64	19.4	77	23.5	52	23.4
1970	27	4.6	54	12.6	48	15.1	58	19.4
1971	58	11.3	60	18.2	66	20.7	68	25.2
1972	51	10.6	54	15.9	51	17.6	45	16.3
1973	28	5.2	40	8.6	44	12.0	43	13.2
Normal		6.1		11.6		14.7		16.4

<u>Grassy Lake (Falls River)</u>								
1964	40	10.1	74	19.7	78	24.4	97	33.1
1965	71	22.6	103	32.8	102	38.5	103	42.6
1966	48	10.8	65	19.1	79	25.4	75	28.8
1967	47	13.0	79	23.9	86	29.8	98	34.8
1968	55	12.9	81	22.4	91	30.2	89	33.8
1969	59	15.9	84	27.6	97	32.5	86	34.1
1970	54	12.4	102	27.4	91	33.2	101	33.8
1971	75	22.1	98	34.7	110	41.1	125	51.0
1972	76	18.9	99	33.1	116	43.3	108	45.9
1973	51	14.5	64	20.1	76	25.9	83	29.8
Normal		14.1		23.2		30.1		35.0

Depth in inches (S-Snow; W-Water)

	Jan 1		Feb 1		Mar 1		Apr 1		May 1	
	S	W	S	W	S	W	S	W	S	W
<u>State Line (Teton River)</u>										
1964	21	4.0	38	9.8	41	12.2	50	16.8	34	14.5
1965	32	9.0	48	13.0	51	16.1	59	17.7	20	9.6
1966	16	3.5	25	6.4	29	7.8	33	11.1	0	0
1967	23	6.2	41	11.8	49	15.3	47	16.7	40	16.0
1968	22	4.7	33	7.4	34	10.1	40	11.6	0	0
1969	32	6.4	44	11.3	53	15.1	46	16.4	10	4.2
1970	24	4.3	47	11.7	40	13.1	51	16.8	57	20.3
1971	31	7.1	41	12.3	48	14.1	51	18.1	37	15.7
1972	31	8.3	53	16.2	54	19.1	42	18.2	22	10.7
1973	22	5.0	32	8.3	37	10.8	49	13.9	33	12.2
Normal		5.6		9.7		12.6		15.7		9.4
<u>Grover Park Divide (Salt River)</u>										
1964	18	3.9	30	6.7	33	9.0	42	13.1	36	13.4
1965	31	7.9	51	12.4	41	13.6	40	13.4	18	8.5
1966	22	4.1	25	5.9	30	7.8	26	8.5	8	3.3
1967	17	3.8	31	8.0	38	11.3	39	12.8	32	13.1
1968	23	4.3	30	6.8	33	10.1	37	11.9	27	11.1
1969	32	6.1	39	9.8	43	13.4	40	14.0	14	5.3
1970	19	3.0	43	10.1	36	12.4	43	14.9	43	14.9
1971	29	6.8	43	13.4	51	15.1	54	20.5	42	17.6
1972	27	5.9	44	11.4	47	16.2	40	15.4	28	13.9
1973	28	6.0	33	8.5	36	99.9	38	12.0	31	11.6
Normal		5.1		8.2		11.9		12.8		9.6
<u>CCC Camp FF12 (Salt River)</u>										
1964	20	4.0	36	8.0	38	9.6	45	13.5	37	12.3
1965	38	8.8	49	13.4	48	16.3	50	16.6	20	8.7
1966	16	3.5	28	5.4	32	8.1	28	7.6	9	3.2
1967			32	8.4	42	12.5	39	12.6	26	11.0
1968	22	4.1	25	5.3	31	8.4	30	10.0	22	8.9
1969	30	5.4	39	9.6	48	13.5	42	14.0	11	4.7
1970	19.7	2.9	38	8.6	33	9.1	41	12.5	40	14.2
1971	33	7.9	46	14.1	56	17.3	58	21.7	44	18.2
1972	27	6.4	49	12.1	48	15.8	40	14.7	27	13.2
1973	25	5.1	29	7.7	32	8.3	39	11.2	33	12.0
Normal		4.9		8.2		11.1		12.2		8.2
<u>Salt River Summit (Salt River)</u>										
1964	24	5.4	45	10.3	43	12.5	54	16.6	46	16.3
1965	50	12.4	60	16.6	60	22.1	56	19.6	37	17.8
1966	23	5.9	35	8.5	41	12.0	38	11.5	20	7.4
1967	20	4.0	41	11.2	49	16.1	54	17.6	43	17.8
1968	25	4.8	31	7.1	40	10.4	39	12.6	29	11.3
1969	38	6.6	53	13.6	60	17.8	51	18.1	23	9.4
1970	23	3.5	50	11.3	43	12.7	46	15.6	47	16.0
1971	43	10.6	62	19.1	66	21.6	72	26.2	59	26.3
1972	37	7.9	61	16.0	63	21.4	54	22.1	44	21.4
1973	29	5.6	35	8.1	41	12.0	49	13.9	41	7.4
Normal		6.4		10.8		14.6		16.2		13.9

Depth in inches (S-Snow; W-Water)

Year	Jan 1		Feb 1		Mar 1		Apr 1		May 1	
	S	W	S	W	S	W	S	W	S	W
<u>Greys Boundary</u>	<u>(Grays River)</u>									
1964	24	4.2	39	9.8	40	11.6	51	15.1	28	9.7
1965	19	4.4	41	9.1	35	10.8	35	11.9	0	0
1966	14	3.3	25	4.9	32	8.1	26	7.4	0	0
1967	13	1.9	28	8.3	35	10.3	29	9.2		
1968	24	4.3	35	8.4	34	10.6	28	10.4	0	0
1969	32	5.5	31	8.2	32	11.9	32	11.9		
1970	19	2.9	33	10.0	36	11.7	37	13.3	31	10.5
1971	27	4.8	39	10.9	41	13.1	41	15.2	16	7.0
1972	28	7.4	36	9.5	40	13.3	30	11.4		
1973	22	5.3	31	6.6	40	10.6	36	11.4	10	3.9
Normal		4.4		7.9		10.4		10.9		2.1

On April 1, 1973, the snow (water content) was the following average percent of normal: above Jackson Lake, 80%; Moran to Heise, 82%; Island Park, 95%; Falls River, 87%; Teton River, 89%.

Comparable figures for run-off during the year ending September 30, 1973, as percent of normal were: Snake River at Moran, 84%; Snake River near Heise, 88%; Henry's Fork near Ashton, 123%; Falls River near Squirrel 108%; Teton River near St. Anthony 98%.

The following tables show forecasts of streamflow made last spring compared to observed run-off:

Forecasts by Soil Conservation Service - April 1, 1973

Station	Runoff in Acre-feet - April thru Sept.		
	Forecast	Observed	% Difference
Snake River at Moran	670,000	655,300*	+ 2.4
Snake River near Heise	3,100,000	3,004,000*	+ 3.2
Salt River near Etna	330,000	317,770	+ 3.8
Henry's Fork near Ashton	580,000	710,200*	-18.3
Teton River nr St. Anthony	385,000	381,830**	+ 0.8

*Corrected for storage in upstream reservoirs.

**Corrected for inflow from Cross Cut Canal.

Forecasts by National Weather Service - April 1, 1973

<u>Station</u>	<u>Runoff in Acre-feet - April thru July</u>		
	<u>Forecast</u>	<u>Observed</u>	<u>% Difference</u>
Snake River at Moran	646,000	577,200*	+11.9
Snake River near Heise	2,510,000	2,353,700*	+ 6.6
Salt River near Etna	222,000	242,000	- 8.3
Henry's Fork near Ashton	448,000	522,400*	-14.2
Henry's Fork near Rexburg**	900,000	1,367,000*	-57.1
Falls River near Squirrel	301,000	329,600*	- 8.7
Teton River nr St. Anthony	298,000	308,700***	- 3.5

*Corrected for storage in upstream reservoirs.

**Corrected for diversions

***Corrected for Cross Cut Canal

Precipitation for the period April through September was below normal except July and September which were much above normal.

1973 REGULATION SCHEDULE

May	13	Cut off rights later than July 28, 1939
	14	Filling part of March 30, 1921 priority
	22	Filling part of July 28, 1939 priority
	31	Filling part of August 6, 1920 priority
June	1	Filling part of August 6, 1908 priority
	5	Filling part of March 30, 1921 priority
	7	Filling part of October 7, 1905 priority
	12	Filling part of March 30, 1921 priority
	23	Cut off January 16, 1916 rights on Henry's Fork and upper Snake River
	24	Filling part of August 6, 1908 priority
July	9	Filling part of March 26, 1903 priority
	11	Cut off all 1900 rights above Blackfoot
	12	Cut all 1896 priorities
	18	Filling part of February 6, 1895 priorities
	20	Restored 1895 rights
	27	Filling part of March 26, 1903 rights in lower valley; February 6, 1895 rights in upper valley
Aug	2	Filling part of August 18, 1894 priority
	3	Cut Dec. 14, 1891 priorities
	5	Filling July 9, 1896 priorities
	8	Filling part of February 6, 1895 priorities
	14	Cut part of August 18, 1894 priorities
	17	Cut part of May 1, 1892 priorities
	21	Filling part of February 6, 1895 priorities.
	27	Cut all of February 6, 1895 priorities
	31	Cut all 1893 priorities
Sept	3	Filling part of June 9, 1896 priorities
	6	Filling part of June 1, 1899 priorities
	7	Filling Oct. 11, 1900 priorities
	10	Filling Oct. 7, 1905 priorities
	25	Regulation discontinued

WATER SUPPLY

Runoff in acre-feet at various gaging stations during the year ending September 30, 1973, was as follows:

<u>Station</u>	<u>1973 Runoff</u>	<u>Average Runoff Past Years</u>	<u>Years of Record</u>	<u>1973 % Of Average</u>
Snake River at Moran	873,900	1,047,000	70	83
Snake River near Heise	4,367,000	4,955,000	63	88
Snake River at Neeley	5,011,500	5,109,000	47	98
Falls River near Squirrel	598,900	557,800	59	107
Teton River near St. Anthony	558,000	562,000	40	99
Henry's Fork near Ashton	1,253,000	1,033,000	53	121
Henry's Fork near Rexburg	1,718,500	1,427,000	64	120

The runoff at Moran has been corrected for Jackson Lake holdovers; near Heise for Jackson Lake and Palisades holdovers; at Neeley for Palisades and American Falls holdovers; at Squirrel for Grassy Lake holdovers; at Ashton for Island Park and Henry's Lake holdovers; at Rexburg for Grassy Lake, Island Park and Henry's Lake holdovers; at St. Anthony for Cross Cut Canal discharge into Teton River.

Maximum mean daily discharges were as follows:

Snake River at Moran	4,570 cfs on June 5, 6
Snake River near Heise	18,800 cfs on May 25, 26
Snake River near Blackfoot	13,800 cfs on May 28
Henry's Fork near Rexburg	6,340 cfs on May 21
Teton River near St. Anthony	3,080 cfs on May 21
Blackfoot River near Blackfoot	1,030 cfs* on April 30
Snake River at Milner	11,500 cfs on April 16

*Includes 601 cfs in bypass channel

Flooding of lowlands along the Henry's Fork between St. Anthony and its confluence with the North Fork was much less than the past several years. Unregulated flow at Heise would have been 26,100 cfs on May 21.

Annual reservoir holdovers on September 30 during the past ten years are shown in the following tabulation:

<u>Year</u>	<u>Jackson Lake</u>	<u>Pali- sades</u>	<u>American Falls</u>	<u>Lake Walcott</u>	<u>Henry's Lake</u>	<u>Island Park</u>	<u>Grassy Lake</u>	<u>Total</u>
1964	588.4	849	475	89.8	62.8	68.7	10.4	2,144.1
1965	631.6	1,161	1,023	95.3	70.4	102.8	11.3	3,095.4
1966	516.8	271	9	49.7	56.3	5.5	6.6	914.9
1967	558.8	828	494	95.8	75.6	80.8	9.6	2,142.6
1968	585.5	1,094	751	94.0	77.8	90.2	9.2	2,701.7
1969	569.7	648	239	92.3	72.6	52.1	7.0	1,680.7
1970	573.9	918	811	93.8	73.7	72.2	11.4	2,554.0
1971	598.3	1,066	1,285	93.7	83.5	93.7	12.8	3,233.0
1972	584.8	1,047	984	96.4	82.5	86.7	9.5	2,890.9
1973	607.4	629	82	82.4	79.9	71.8	9.7	1,557.2
Avg	581.5	851	615	88.3	73.0	69.4	9.8	2,288.0

The Palisades figures are after deducting 201,000 acre-feet dead storage. The usable capacity of the above reservoirs is 4,082,000 acre-feet. The 1973 holdover is the second lowest for the past ten years.

LITIGATIONS

On June 13, 1973, the District Court of the Seventh Judicial District for the County of Fremont entered a decree for 100 cfs of the waters of the Snake River with a priority date of June 2, 1919 for the Burgess Canal.

On Sept. 7, 1973, The District Court of the Seventh Judicial District for the County of Fremont entered a decree for 269 inches of water from Baker Springs with a priority date of Jan. 1, 1889, to Joseph and Ella Baker and Richard and Susan Baker.

On May 21, 1973, in the District Court of the Seventh Judicial District of Bonneville County, the Shattuck Irrigation Company was voluntarily dissolved as a corporation.

TRANSFERS

01-0001, 01-0047, 01-0134, 01-0135, 01-265

New Sweden Irrigation District transfers use of total of 6.01 cfs from Porter Canal to pump directly out of the Snake River.

01-0038, 01-0171, 01-0039, 01-0172, 01-0250, 01-0328

SNAKE RIVER VALLEY IRRIGATION DISTRICT (Allan Cannon) transfers total of 1.80 cfs to pump directly out of the Snake River.

22-1608

Consolidates numerous individual rights from Game and Trail Creeks to common heading of Trail Creek Sprinkler Irrigation Company.

01-0002 (1565)

Wayne Bird, .3 cfs, priority of June 1, 1890, from Trego Canal to pump in the Snake River.

21-0141, 21-2035, 21-2037

Conant Creek Canal Co., 6.13 cfs to downstream pump, to relieve a canal flow problem early in the season.

PERMITS

21-7019

To the Idaho Water Resource Board, on July 7, 1972, to divert 400 cfs from Henry's Fork for purposes of research; permit to expire July 31, 1974.

22-7070

To J. Wayne Stevens, .4 cfs with priority date of May 14, 1973, from Anderson Springs tributary of the Teton River.

LICENSE

R-670/01-2068

To the U. S. Bureau of Reclamation, on March 19, 1973, to store 1,400,000 acre-feet of the waters of the Snake River in Palisades Reservoir, with a priority date of July 28, 1939.

CANAL DELIVERIES

Daily diversions from Snake River by canals above American Falls Reservoir during the 1973 irrigation season are shown on Plates 6-10B 16-20B, 54, and 55. Daily diversions for canals below American Falls are included on Plates 58-70. Miscellaneous measurements of various canals and streams in the headwater areas are shown on Plate 24.

Total Canal diversions during 1973 irrigation season by all canals in the district, including headwater areas, as tabulated in the annual watermaster bill, amounted to 7,925,000 acre-feet. This is 489,600 acre-feet less than 1972 and 556,600 acre-feet less than 1969, the greatest of record.

DIVERSIONS DURING 1973 IRRIGATION SEASON BY SNAKE RIVER CANALS
DOWNSTREAM ORDER FROM HEISE

(May thru September for upper valley canals; April 15 to September 30
for lower valley canals)

<u>Canal</u>	<u>Diversions (Acre-feet)</u>	<u>Acres Irrigated</u>	<u>Acre-feet Per Acre</u>
Riley	7,290	900	8.1
Progressive Irrigation District	252,300 (a)	33,000	7.6
Farmers Friend	115,500	10,500	11.0
Enterprise Canal	52,510 (b)	5,200	10.1
Nelson	574	55	10.4
Mattson-Craig & Arnsberger	5,650	485	11.6
Ross and Rand	1,030	145	7.1
Butler Island	13,090	1,100	11.9
Harrison	169,800	13,000	13.0
Cheney (Includes Steele)	4,170	323	12.9
Rudy Irrigation Co.	85,510	5,000	17.1
Kite and Nord	2,070	210	9.9
Burgess	270,800	22,000	12.3
Clark and Edwards	23,750	1,940	12.2
Lowder	17,350	1,000	17.4
East Labelle	35,530	3,000	11.8
Sunnydell	46,910	3,780	12.4
Lenroot	40,370	3,100	13.0
Reid	50,190	5,500	9.1
Texas Feeder	68,890	10,000	6.9
Nelson Corey	2,430	270	9.0
Hill Pettinger	1,580	200	7.9
Rigby	56,040	4,000	14.0
Dilts	6,625	580	11.4
Island	53,350	5,500	9.7
W. Labelle & Long Island	153,900	10,500	14.6
Parks and Lewisville	105,800	7,000	15.1
North Rigby	14,430	1,400	10.3
White	1,550	110	14.1
Ellis	550	70	7.8
Bramwell	2,025	470	4.3
Butte and Market Lake	83,700	20,000	4.2
Osgood	12,850	6,210 (c)	2.1
Bear Island & Smith	982	330	3.0
Idaho	278,900 (a)	35,850	7.7
Kennedy	5,820	2,200	2.6
Great Western and Porter	236,300	30,220 (d)	7.8
Woodville	23,270	2,350	9.9
Snake River Valley	215,600	20,790	10.4
Reservation	124,300 (e)	54,773	2.3
Blackfoot	97,980	15,000	6.5
New Lava Side	42,140	6,000	7.0
Peoples	122,600	20,000	6.1
Aberdeen	363,700	63,000	5.8
Corbett	52,490	6,000	8.7

Diversions by Snake River Canals, 1973

<u>Canal</u>	<u>Diversions (acre-feet)</u>	<u>Acres Irrigated</u>	<u>Acre-feet per acre</u>
Nielsen-Hansen	2,513	460	5.4
Riverside	34,510	5,000	6.9
Danskin	55,520	6,000	9.3
Trego	17,000	1,620	10.5
Wearyrick	16,570	1,600	10.3
Watson	33,140	3,000	11.0
Parsons	13,430	930	14.5
Fort Hall Michaud Canal	29,050 (f)	8,693 (f)	3.3
Falls Irrigation District	22,544 (g)	7,995 (g)	2.8
Minidoka Irrigation District	488,380	72,000	6.8
Burley Irrigation District	261,820	48,000	5.5
A & B Irrigation District	50,309	14,520	3.5
Twin Falls Canal Co.	1,040,000	202,700	5.1
North Side Canal Co.	1,078,600	160,000	6.7
Milner Low Lift	63,828	13,470 (h)	4.7
Gooding	461,400	63,700	7.2
TOTAL	6,990,810	1,042,259	6.7

- (a) Received additional water from Willow and Sand Creeks.
- (b) Used additional water from Willow Creek early in season.
- (c) Water pumped from wells for about 600 acres of this land.
- (d) Includes 7,680 acres outside New Sweden District to which water was delivered.
- (e) Received additional water from Sand Creek and Blackfoot River.
- (f) An additional 1,454 acre-feet was pumped from wells for irrigation of another 1,257 acres.
- (g) Acreage includes 235 acres of non-project land supplied from canal. An additional 209 acres supplied from wells by private users and 3,597 acres of project land were irrigated by pumping 7,072 acre-feet from wells.
- (h) Also delivered water to 645 acres outside the district.

These main river canals diverted about 2 percent less water than in 1972.

Of the 3,444,300 acre-feet diverted by lower valley canals (below Neeley), 1,334,500 acre-feet, or 39 percent, was stored water. Upper valley main canals diverted 3,546,500 acre-feet, of which 503,400 acre feet, or 14 percent was stored water.

The following tabulation shows the monthly diversions in various sections of the District during the past ten 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>
1964	277	560	869	717	556	2,979
1965	389	721	806	661	468	3,045
1966	623	783	810	642	485	3,343
1967	384	620	822	742	640	3,208
1968	541	720	871	534	492	3,158
1969	649	679	838	741	547	3,454
1970	287	780	840	760	475	3,142
1971	383	748	817	720	462	3,130
1972	673	752	840	662	543	3,470
1973	564	876	831	747	460	3,478
Average	477	724	834	693	513	3,241

Henry's Fork and Tributaries (excluding headwater areas)

<u>Year</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Season</u>
1964	163	212	256	203	144	978
1965	188	249	248	197	124	1,006
1966	225	240	215	169	117	966
1967	190	243	234	204	149	1,020
1968	207	217	246	154	124	948
1969	238	223	248	194	135	1,038
1970	146	259	248	215	109	977
1971	179	239	250	208	109	985
1972	240	236	251	199	114	1,040
1973	186	267	233	208	129	1,023
Average	196	238	243	195	125	998

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>
1964	5	133	97	200	178	112	725
1965	27	136	158	187	139	111	758
1966	76	172	150	191	155	86	830
1967	27	124	124	201	176	115	767
1968	45	169	146	199	101	97	757
1969	63	192	138	197	179	95	864
1970	36	124	135	192	175	83	745
1971	21	120	150	201	180	97	769
1972	52	172	142	190	162	82	800
1973	24	154	155	182	155	80	750
Average	38	150	140	194	160	96	776

Diversions in Thousands of Acre-feet - Continued

North Side Canal Co. 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>
1964	42	186	201	247	244	192	1,112
1965	86	195	209	237	224	166	1,117
1966	109	217	212	243	229	172	1,182
1967	104	198	202	254	242	202	1,202
1968	98	200	208	249	202	163	1,120
1969	89	214	212	236	237	172	1,160
1970	71	183	202	234	231	153	1,074
1971	66	189	202	241	240	172	1,155
1972	81	208	212	240	231	162	1,134
1973	63	203	213	243	227	147	1,096
Average	81	199	207	242	231	170	1,135

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>
1964	41	197	185	239	233	178	1,073
1965	98	209	203	232	219	159	1,120
1966	140	220	190	226	219	164	1,159
1967	101	202	191	237	234	186	1,150
1968	106	220	204	239	193	157	1,112
1969	125	225	197	227	228	157	1,158
1970	80	194	194	228	231	144	1,071
1971	62	186	196	240	238	164	1,086
1972	86	210	196	236	223	150	1,101
1973	60	207	197	228	216	149	1,057
Average	90	207	195	233	223	160	1,109

Gooding 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>
1964	2	76	90	102	97	79	446
1965	16	75	82	95	85	71	424
1966	27	88	88	94	82	67	446
1967	21	84	85	102	98	80	470
1968	30	91	94	100	84	74	473
1969	16	77	73	95	95	76	432
1970	17	85	89	97	93	77	458
1971	22	76	88	100	97	82	465
1972	31	89	91	98	99	79	487
1973	41	85	88	95	90	70	469
Average	22	83	87	98	92	76	457

RIVER DATA

The usual methods of segregating stored water and normal flow at the reservoir outlets was continued in use during 1973. Palisades reservoir was operated on the same basis as Jackson Lake, namely, convert the daily drop in lake level to second-feet and call it storage released from Palisades. For some time after storage draft started, a lag of several days was maintained in making normal flow cuts to avoid any possible natural flow losses at the high lake levels existing at Palisades and Jackson Lake. Later on in the season when dropping lake and river levels resulted in bank storage return, this water was gradually recovered for credit as stored water so that it balanced out by the end of the irrigation season.

Daily figures showing segregation of flow at the various river gaging stations and storage diversions by canals are shown in Plates 12, 12A, and 13 for Snake River and Plates 21 and 21A for Henry's Fork.

Storage use started on May 12 in the lower valley and June 23 in the upper valley and continued through September 26.

Total storage passing the Blackfoot station during the season amounted to 224,000 acre-feet.

Blackfoot River Reservoir holdover on September 30 was 263,000 acre-feet. The Indian Service 1891 decree was cut off for two days, August 3 and 4.

STORED WATER DELIVERIES

Reservoir Allotments

Jackson Lake filled 100 percent, American Falls filled 66.2 percent (restricted capacity), and Palisades filled 93 percent. Allotments were made as follows:

American Falls	1,125,000 acre-feet
Jackson Lake	847,000 acre-feet
Palisades	1,116,000 acre-feet

1973 Storage Allotments in Acre-feet (Downstream order from Heise)

<u>Canal</u>	<u>Am. Falls</u>	<u>Jackson Lake</u>	<u>Palisades</u>	<u>Total</u>
Poplar Irrigation Dist.	445	1,589	1,441	3,475
Progressive Irr. Dist.	8,262	7,209	26,505	41,976
Farmers Friend		2,000	8,742	10,742
Enterprise Canal Co.	5,905	11,252	18,228	35,385
Mattson-Craig			1,339	1,339
Butler Island			232	232
Harrison	7,958	11,943	21,855	41,756
Rudy	1,753	3,530	14,601	19,884
Burgess	6,284	10,603	29,202	46,089
Clark and Edwards			744	744
Lowder		1,040	1,488	2,528
East Labelle			744	744
Sunnydell		4,000	5,859	9,859
Lenroot	2,560	5,234	7,300	15,094
Reid	1,687	1,472	2,930	6,089
Texas and Liberty Park			4,371	4,371
Enterprise Irr. Dist. (N.F.)	6,737	5,883		12,620
Fremont-Madison Irr. Dist.			930	930
Rigby			5,859	5,859
Island			4,371	4,371
Dilts	586	511	1,116	2,213
West Labelle			930	930
Long Island			4,650	4,650
Parks and Lewisville			5,115	5,115
North Rigby			1,116	1,116
Butte and Market Lake	3,088	2,695	40,920	46,703
Osgood (UIS Co.)	8,907	7,771	14,182	30,860
Bear Island	126	110		236
Sakaguchi (Smith & Kennedy)	47	91		138
Clement Bros. (Kennedy)		105		105
Owners Mutual		200	270	470
Idaho	15,162	13,230	54,684	83,076
Martin	1,328	2,659	5,208	9,195
New Sweden Irr. Dist.	17,028	19,857	29,202	66,087
West Side Mutual			2,186	2,186
Woodville	4,002	3,491	5,580	13,073

1973 Storage allotments in acre-feet - continued
(Downstream Order)

<u>Canal</u>	<u>Am. Falls</u>	<u>Jackson Lake</u>	<u>Palisades</u>	<u>Total</u>
SNAKE RIVER VALLEY	17,449	30,225	32,829	80,503
Palisades Water Users			50,340	50,340
Blackfoot	8,446	7,370	3,766	19,582
New Lava Side			10,928	10,928
Peoples	14,172	20,365	32,550	67,087
Aberdeen	36,788	74,626	142,104	253,518
Corbett	2,247	1,961	5,859	10,067
Riverside			1,395	1,395
Danskin			2,186	2,186
Trego	870	758	2,976	4,604
Wearyrick			558	558
Watson			2,186	2,186
Parsons			651	651
Total above Blackfoot	171,837	251,780	610,229	1,033,846
Michaud (Indian Service)	31,566		78,027	109,593
Falls Irrig. Dist.	15,419		38,037	53,456
Minidoka Irrig. Dist.	55,300	186,030	32,550	273,880
Burley Irrigation Dist.	104,520		36,456	140,976
Minidoka N. S. Pump	31,495		84,444	115,939
Milner Low Lift	30,234		41,385	71,619
Twin Falls Canal Co.	100,049	97,183		197,232
Hillsdale	27,229			27,229
North Side Canal Co.	262,862	312,007	108,438	682,307
Gooding	264,710		930	265,640
Idaho Power Co.	29,779			29,779
City of Pocatello			46,500	46,500
Westvaco			4,650	4,650
J. R. Simplot			2,325	2,325
U. S.			32,029*	32,029
Total Below Blackfoot	953,163	595,220	505,771	2,054,154
GRAND TOTAL	1,125,000	847,000	1,116,000	3,088,000

*Wyoming, 30,690 acre-feet; other 1,339 acre-feet.

There was 209,049 acre-feet of storage delivered to lower valley canals in excess of their allotments, plus American Falls exchange from upper valley canals. This required a charge for river transmission loss. Computations are as follows:

COMPUTATION OF LOWER VALLEY RIVER
TRANSMISSION LOSSES - 1973

(Figures in Acre-feet)

<u>Canal</u>	<u>Total Use</u>	<u>Lower Valley Supply</u>	<u>Used From Upper Valley</u>	<u>Percent</u>
Ft. Hall Michaud	21,912	31,566	0	0
Falls Irrigation	29,050	15,419	13,631	3.579
Minidoka Project	325,363	250,586	74,777	19.632
North Side Canal Co.	491,636	290,091	201,545	52.915
Twin Falls Canal Co.	98,215	100,049	0	0
Milner Low Lift	47,435	30,234	17,201	4.516
A & B Irrig. Dist.	47,630	31,495	16,135	4.236
Gooding Project	322,307	264,710	57,597	15.122

Totals			380,886	100.00
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American Falls Upper Valley Storage to Exchange: 171,837

Upper reservoir water to Lower Valley 209,049

<u>Canal</u>	<u>Share of Am. Falls Exchg.</u>	<u>Jackson</u>	<u>Palisades</u>	<u>River Loss</u>
Ft. Hall Michaud	0			
Falls Irrigation	6,150		7,481	845
Minidoka Project	33,735	41,042		5,253
North Side Canal Co.	90,928	100,000	10,617	14,000
Twin Falls Canal Co.	0			
Milner Low Lift	7,760		9,441	1,067
A & B Irrig. Dist.	7,279		8,856	1,000
Gooding Project	25,985		31,612	3,572
Totals	171,837	141,042	68,007	25,737

The storage rental committee, consisting of John Walker, Leonard Graham, and Art Larson, supervised water rentals.

No computations were made of individual holdovers, as January 1, 1974, snow surveys indicated all reservoirs would fill easily, and any holdovers would be voided.

SUMMARY OF WATER DISTRICT NO. 01 RENTALS - 1973
(acre-feet)

<u>Supplier</u>		<u>Area of Use</u>	
Falls Irrig. Dist.	20,000	Swan Valley	170
Estelle Traugher	240	Heise to Blackfoot	7,935
Vance Koon	500	Milner Low Lift	2,450
Mrs. Ward Hittson	640	Lower Valley	<u>57,527</u>
Idaho Power	19,860		
U. S. Indian Service	750	TOTAL	68,082
Neil Erickson	550		
Marsden Williams	442		
Mrs. Mabel Winterfield	100		
City of Pocatello	<u>25,000</u>		
TOTAL	68,082		

All rentals were at the rate of fifty cents per acre-foot.

SUPPLY AND DISPOSAL OF STORED WATER - 1973
(acre-feet)

<u>Supply</u>		
Jackson Lake Contents	June 27	850,600
Palisades (usable)	June 20	1,200,000
American Falls	May 12	1,127,000
Lake Walcott	May 12	96,400
Henry's Lake	July 9	89,300
Island Park	July 1	134,400
Grassy Lake	July 10	15,200
Indian and Bergman Reservoir yield		929
Sheridan Creek Right		809*
Gain - Neeley to Milner		<u>86,066</u>
TOTAL		3,600,704

*Special natural flow rights considered as storage for convenience in tabulation.

Supply and Disposal of Stored Water (acre-feet) - continued

DISPOSAL

Used by Snake River Rights	1,833,377
Used by Henry's Fork rights	109,092
Storage transmission loss, Snake River	91,343
Storage transmission loss Henry's Fork	2,343
Storage transmission loss, Cross Cut	4,831
River operation waste past Milner	3,126
Henry's Lake loss	3,000

Holdovers:

Jackson	Sept. 23	616,500
Palisades (usable)	24	614,000
American Falls	26	49,900
Lake Walcott	26	91,700
Henry's Lake	9	73,400
Island Park	10	73,800
Grassy Lake	15	<u>9,600</u>

TOTAL	3,576,012
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The supply exceeds the disposal by 24,692 acre-feet, or .7 of 1 percent.

MICHAUD PROJECT USE OF STORED WATER

The annual reports since 1958 have contained a detailed analysis of the water used on the Michaud Project by the Falls Irrigation District.

Tabulated below is a summary of this data for the past five years.

AREA NO. 1 TRIBUTARY TO AMERICAN FALLS (Figures in Acre-feet)

Year	From Wells			Acres	From Am. Falls Res.			Contr. to Gr. Water
	Acres	Pumped	Consumed		Del'd	Consumed	Excess	
1969	2,968*	5,024	5,350	5,481**	16,380	9,870	6,510	1,160
1970	2,968*	4,189	5,350	5,481**	15,470	9,870	5,600	250
1971	2,968*	6,403	5,350	5,481**	15,640	9,870	5,770	420
1972	2,968*	4,480	5,350	5,481**	16,548	9,870	6,678	1,328
1973	2,968*	4,884	5,350	5,481**	16,332	9,870	6,462	1,112

*Project land 2,759

**Project land 4,564

AREA NO. 2 TRIBUTARY BELOW AMERICAN FALLS

Year	From Wells			Acres	From Am. Falls Res.			Contr. to Gr. Water
	Acres	Pumped	Consumed		Del'd	Consumed	Excess	
1969	838	2,463	1,510	2,514*	7,586	4,525	3,061	1,464
1970	838	1,821	1,510	2,514*	7,422	4,525	2,897	1,387
1971	838	1,926	1,510	2,514*	6,833	4,525	2,308	798
1972	838	2,233	1,510	2,514*	7,912	4,525	3,387	1,877
1973	838	2,188	1,510	2,514*	8,173	4,525	3,648	2,138

*Project land 1,623

The above data is computed assuming a consumptive use of 1.8 acre-feet per acre. Deliveries to East Branch Canal are reduced by 4 percent for estimated canal loss in the 1½ miles which is non-tributary to American Falls Reservoir. No account is taken of this 4 percent loss in the contribution to ground water in Area 2.

In the tabulations in this report, the Falls Irrigation District was charged only with the water pumped from American Falls Reservoir.

GROUND WATER PUMPING

An additional credit to American Falls reservoir is water now pumped from wells by the City of Pocatello, Westvaco Company, J. R. Simplot, and Fort Hall Michaud Project. Palisades contracts for Westvaco and Simplot provide that storage charges be made on one-half of water pumped. The City of Pocatello (including Alameda) is permitted to pump 10,000 acre-feet each season before there is any charge. In the case of the Fort Hall Michaud Project, 22,400 acre-feet of pumping from wells is permitted before there is any charge against their reservoir storage.

Tabulated below is a summary of above pumping for the period May 1 to September 30, 1973:

<u>User</u>	<u>Acre-Feet</u> <u>Pumped</u>	<u>Storage Charge</u>
City of Pocatello		
(Including Alameda)	7,804	0
FMC Corporation*	2,332	1,166
Fort Hall Michaud Project		
(Wells)		0
J. R. Simplot Co. **	2,440	1,220

*Reported 2,332 acre-feet pumped and 41 percent of this used consumptively

**Reported 2,440 acre-feet pumped and 72 percent used consumptively

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River Losses and Gains - continued

GAIN IN SNAKE RIVER, HEISE TO SHELLEY - 1973
(Heise dates and 24-hr cfs, except as noted)

<u>Station</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Total</u>
Rexburg	146,060	82,730	44,015	41,847	58,640	241,292
Total Supply**	445,486	490,561	448,197	354,132	214,062	1,952,438
Diversions	192,635	320,470	307,930	274,990	174,060	1,270,085
Shelley	292,450	256,540	226,360	154,410	106,230	1,035,990
Total Acct for	485,085	577,010	534,290	429,400	280,290	2,306,075
Total gain cfs	+39,599	86,449	86,093	75,268	66,228	353,637
Mean gain cfs	1,277	2,882	2,777	2,428	2,208	2,311
Total gain ac-ft	78,540	171,470	170,770	149,290	131,360	701,400

**Rexburg plus Heise and Riley from previous table.

The mean gain was 2,311 cfs compared to 2,196 cfs in 1972, and about half this amount in previous years. This gain includes inflow from Market Lake Springs, which is credited to Owners Mutual Canal Co.

GAIN OR LOSS IN SNAKE RIVER, SHELLEY TO BLACKFOOT - 1973
(Shelley dates and 24-hr cfs, except as noted)

<u>Station</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Total</u>
Shelley	290,150	257,790	228,160	156,130	106,770	1,039,000
Blackfoot River*	12,970	5,330	7,710	3,800	7,470	37,280
Total Supply	303,120	263,120	235,870	159,930	114,240	1,076,280
Diversions	91,784	121,380	110,980	101,680	57,830	483,654
Snake nr						
Blackfoot	218,410	157,210	135,780	71,860	63,970	647,230
Total Acct For	310,194	278,590	246,760	173,540	121,800	1,130,884
Total Diff cfs	7,074	15,470	10,890	13,610	7,560	54,604
Mean Diff cfs	228	516	351	439	252	357
Total Diff ac-ft	14,030	30,680	21,600	27,000	15,000	108,300

*Includes by-pass.

Every month shows a gain with June and July the highest, as in 1972. The average gain of 357 cfs, compared to 505 cfs in 1972, and the highest of record in 1971 of 541 cfs, and 285 cfs in 1970 and 1969. This gain includes 180 cfs of spring inflow above the Snake River near Blackfoot gage.

River Losses and Gains - continued

GAIN OR LOSS IN SNAKE RIVER, BLACKFOOT TO NEELEY - 1973
(Neeley dates and 24-hr cfs, except as noted)

<u>Station</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Total</u>
Blackfoot	218,400	160,100	135,500	71,260	62,060	647,320
Inflow*	108,494	87,062	81,823	86,031	96,187	459,597
A.F. Res. Draft	+24,192	+95,004	163,550	201,700	44,503	528,949
Total Supply	351,086	342,166	380,873	358,991	202,750	1,635,817
Diversions	2,852	7,289	7,753	5,455	2,648	25,997
Neeley	312,680	326,060	363,900	339,630	191,580	1,533,850
Total Use	315,532	333,349	371,653	345,085	194,228	1,559,847
Total Diff cfs	-35,554	-8,817	-9,220	-13,906	-8,522	-75,970
Mean Diff cfs	-1,147	-294	-297	-449	-284	-497
Total Diff.ac-ft	-70,520	-17,490	-18,290	-27,580	-16,900	-150,700

The average loss of 497 cfs compares to average loss of 522 in 1972.

* A tabulation of inflow data is shown in Plate 11. Eight sets of measurements were obtained for the period and figures interpolated between measurements. Portneuf River inflow was depleted by pumping for Indian Service Michaud Canal. Amount pumped each day is shown at bottom of Plate 11. Monthly totals in above table are actual inflow. Inflow figures shown on Plates 12 and 13 are theoretical inflow computed by adding pump diversion figures to actual inflow. These are shown on last line of Plate 11. The above computations fulfill requirements of Section 8(b) of Fort Hall Michaud Division-Palisades contract. Daily figures of waste from the Aberdeen Project were furnished by Mr. Myron Dance, Manager. Unmeasured inflow as computed from the "Newell" formula varied from 1,280 to 1,440 cfs.

The following measurements of the flow of Reugar Springs were obtained:

<u>Date</u>	<u>Discharge in cfs</u>
May 5, 1973	18.6
July 12, 1973	16.8
Aug. 8, 1973	18.0
Sept. 8, 1973	19.8

River Losses and Gains - continued

GAIN OR LOSS IN SNAKE RIVER, NEELEY TO MINIDOKA - 1973 (Minidoka dates and 24-hr cfs, except as noted)

<u>Station</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Total</u>
Neeley	312,140	325,830	364,170	340,360	193,990	1,536,490
Walcott	-504	-353	+ 454	+504	+6,451	6,552
Total Supply	311,636	325,477	364,624	340,864	200,441	1,543,042
N. Minidoka	45,617	43,942	50,990	43,262	22,416	206,227
S. Minidoka	31,872	34,246	40,790	34,922	18,093	159,923
Snake at Minidoka	254,850	246,110	276,450	262,670	170,940	1,211,020
Total Acct for	332,339	324,298	368,230	340,854	211,449	1,577,170
Total Diff cfs	+20,703	-1,179	+3,606	-10	+11,008	+34,128
Mean Diff cfs	+668	-39	+116	0	+367	+223
Total Diff A.F.	+41,064	-2,339	+7,152	-20	+21,834	+67,693

The average gain of 223 cfs compares with small gains or losses in years past. 1972 showed a gain of 515 cfs, the highest of record.

GAIN IN SNAKE RIVER, MINIDOKA TO MILNER - 1973 (Milner dates and 24-hr cfs, except as noted)

<u>Station</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Total</u>
Snake at Minidoka	254,950	245,735	276,705	263,215	175,610	1,216,215
Minidoka NS Pump	4,120	5,112	7,119	6,316	2,385	25,052
PA Lateral	1,941	1,887	2,229	1,978	1,344	9,379
Milner Low Lift	6,323	6,391	8,498	7,453	3,340	32,005
Milner North Side	75,110	79,850	89,470	83,080	45,074	372,584
Gooding	68,040	70,280	78,790	74,630	63,270	355,010
Twin Falls	104,530	99,290	115,200	109,000	75,330	503,350
L. Milner Stored	+1,160	0	-403	-454	-1,060	-757
Snake at Milner	5,002	311	292	297	369	6,271
Total Acct for	266,226	263,121	301,195	282,300	190,050	1,302,894
Total gain, cfs	11,276	17,386	24,490	19,085	14,442	86,679
Mean gain, cfs	364	580	790	616	481	567
Total gain A.F.	22,370	34,490	48,580	37,860	28,650	171,900

The average gain of 567 cfs is less than the 626 of 1972 and compares to 584 cfs in 1970 and 513 cfs in 1969.

NEELEY TO MILNER

	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Total</u>
Total Gain A.F.	63,430	32,150	55,730	37,840	50,480	239,630

The total gain Neeley to Milner for period May through September was 239,630 acre-feet. This is down considerably from 1972, but is still above most previous years.

For the period June 23 to September 5, this gain was 109,500 acre-feet computed by using the above figures. The figure of 86,066 acre-feet used elsewhere in this report is in error. It was an early preliminary computation, and was not corrected, as when discovered, snow pack conditions assured full reservoirs for the coming season which makes carryover computations needless.

DISTRIBUTION ON HENRY'S FORK

Mr. L. C. Anderson served as Deputy Watermaster at St. Anthony in charge of water distribution on Henry's Fork, Falls River, and lower Teton River, and Val L. Richards on the Teton River.

Holdovers in Henry's Fork reservoirs at the end of the season were about 66 percent of capacity.

Releases from Grassy Lake were discontinued on August 17. Releases from Henry's Lake and Island Park were discontinued on September 8.

The usual methods described in previous reports of segregating stored water and normal flow at the outlets of Henry's Lake and Island Park reservoirs were continued in 1973. During the period July 6 - 15, stored water was charged a daily loss of 30 cfs. During period of July 21 - 30, stored releases were credited with a like amount. This adjustment has been used in past years and presumably corrects the observed normal flow to pre-reservoir conditions. When Island Park Reservoir is full, there is a loss to ground water, which is later recovered when the reservoir level drops. By making the above adjustment, normal flow is more nearly distributed to the rights that would be in effect if Island Park reservoir were not in the river system.

1973 REGULATION SCHEDULE

With the exception of a few days, the Henry's Fork and Falls River remained on nearly the same regulation schedule as the main Snake River. For most of the season, the upper Teton River was cut to earlier priorities than the main river.

Figures showing the operation of the Cross Cut Canal in 1973 are shown on Plate 23A. It delivered 24,060 acre-feet to the Fall River Canal and 40,000 acre-feet to Teton River.

Occasional measurements of Big Springs near Island Park were tabulated on Page 33 of the 1965 report. Recent measurements are tabulated below:

September 14, 1964	184
August 5, 1965	202
November 8, 1965	194
September 15, 1967	183
September 5, 1968	182
November 4, 1969	190
September 28, 1970	178
October 19, 1971	198
October 10, 1973	189

CANAL DELIVERIES IN HENRY'S FORK BASIN

Diversions During the 1973 Irrigation Season, May to September, from Falls River, Henry's Fork and Lower Teton River

	<u>Diversions (acre-feet)</u>	<u>Area Irrigated (acres)</u>	<u>Acre-feet Per-Acre</u>
<u>Falls River Canals</u>			
Yellowstone	2,300	2,100	1.1
Marysville	34,194	16,000	2.1
Farmers Own	16,348	5,800	2.8
Enterprise	24,816	5,890	4.2
Bell	1,230	110	11.2
Falls River	94,630	9,000	10.5
McBee	522	125	4.2
Chester	10,840	1,400	7.7
Silkey	4,600	1,080	4.3
Curr	12,600	1,300	9.7
TOTAL FALLS RIVER	202,080	42,935	4.7

(a) Includes 24,060 diverted through Cross Cut.

Canal Deliveries in Henry's Fork Basin - continued

	<u>Diversions (acre-feet)</u>	<u>Area Irrigated (acres)</u>	<u>Acre-Feet Per Acre</u>
<u>Henry's Fork Canals</u>			
Dewey	5,934	1,200	4.9
Last Chance	26,386	1,860	14.2
St. Anthony Union	123,940	9,700	12.8
Farmers Friend	29,124	3,025	9.6
Twin Groves	80,867 30,867	2,500	12.3
Salem Union	52,220	5,500	9.5
Egin	74,670	7,000	10.7
St. Anthony U. Feeder	16,633	2,300	7.2
Independent	73,013	6,000	12.2
Consolidated Farmers	64,382	6,000	10.7
TOTAL HENRY'S FORK	497,169	45,085	11.0
<u>Lower Teton Canals</u>			
Siddoway	2,680	500	5.4
Wilford	36,500	2,300	15.9
Teton Irrigation	23,024	2,000	11.5
Good Luck	4,034	330	12.2
Pioneer	3,213	300	10.7
Stewart	5,960	478	12.5
Pincock Byington	3,854	260	14.8
Pincock Garner	3,332	480	6.9
Teton Island Feeder	97,237	10,400	9.3
Roxana	4,774	880	5.4
Island Ward	8,265	3,300	2.5
North Salem	1,260 (b)	450	2.8
Bigler Slough	1,615	240	6.7
Woodmansee-Johnson	8,957 (c)	1,320	6.8
City of Rexburg	6,355	950	6.7
Rexburg Irrigation	61,026	5,280	11.6
McCormick-Rowe	399	160	2.5
Saurey Sommers	5,046	275	18.4
Eames Thompson	240	70	3.4
TOTAL LOWER TETON	277,771	29,893	9.3
TOTAL FALLS RIVER, HENRY'S FORK AND LOWER TETON	977,020	117,913	8.3

(b) Used additional water from Henry's Fork through Salem Union.

(c) Used additional water from Moody Creek.

The total diversions in this area were slightly less than in 1972. Of the total diversions of 977,020 acre-feet, 98,619 acre-feet or 10.0 percent was stored water.

Canal Deliveries in Henry's Fork Basin - continued

Diversions by some of the principal canals in the headwater areas for the 1973 irrigation season (June 1 to September 30, except as noted) are shown below:

	<u>Diversions (acre-feet)</u>	<u>Area Irrigated (acres)</u>	<u>Acre-feet Per Acre</u>
Trail Creek Irrig. Co.	26,100*	7,520	3.5
Fox Creek Canals	6,570**	3,760	1.7
Darby Creek Canals	10,400**	4,800	2.2
Grand Teton Canal	23,400*	7,000	3.3
Canyon Creek Canal	5,480	2,200	2.5
Conant Creek Canal	4,080	1,680	2.4
Squirrel Creek Canal	1,940	1,000	1.9
Boom Creek Canal	1,485	2,180	0.7

*June 1 to Sept. 21

**June 1 to Aug. 31

STORED WATER DELIVERIES ON HENRY'S FORK

Water available for Fremont-Madison allotments was as follows:

Island Park Reservoir (July 10)	131,486 ac-ft
Grassy Lake Reservoir (July 10)	15,200 ac-ft
Sheridan Creek Right	<u>1,880 ac-ft</u>
TOTAL	148,566 ac-ft

The District allotted 131,486 acre-feet for the 1973 season. Henry's Fork users rented 994 acre-feet.

HENRY'S LAKE ALLOTMENTS - 1973

Henry's Lake contents July 12 was 89,300 acre-feet. From this, a figure of 3,000 acre-feet was deducted for dead storage and loss.

Allotments

<u>Canal</u>	<u>Percent</u>	<u>Allotment Acre-feet</u>
Independent	26.90	23,134
Salem Union	24.21	20,821
Consolidated Farmers	20.17	17,346
Last Chance	13.85	11,911
St. Anthony Union	6.72	5,779
Egin	6.72	5,779
Dewey	<u>1.43</u>	<u>1,230</u>
TOTAL	100.00	86,000

Henry's Fork near Rexburg gage showed 28,824 acre-feet that passed down river in excess of requirements to balance storage deliveries to the Main River, compared to 21,920 acre-feet in 1972.

RIVER GAINS IN HENRY'S FORK BASIN - 1973

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

Lake to Island Park	20 hours
Island Park to Ashton	19 hours
Ashton to St. Anthony	5 hours
St. Anthony to Rexburg	12 hours
Squirrel to Chester	8 hours

Gain in Henry's Fork, Lake to Island Park - 1973

(Island Park dates and 24-hr. cfs, except as noted)

<u>Station</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Total</u>
H. F. nr Lake	1,791	3,418	3,068	5,655	1,485	15,417
I. P. release	-1,710	+906	+9,560	+16,800	+5,290	30,846
Total Supply	81	4,324	12,628	22,455	6,775	46,263
H. F. @ Is. Park	34,672	26,981	30,163	41,280	24,421	157,517
Total Gain cfs	34,591	22,657	17,535	18,825	17,646	111,254
Mean Gain cfs	1,116	755	566	607	588	727
Total gain ac-ft	68,610	44,940	34,780	37,340	35,000	220,700

The average gain is 727 cfs compared to 836 in 1972.

Gain in Henry's Fork, Island Park to Ashton - 1973

(Ashton dates and 24-hr. cfs, except as noted)

<u>Station</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Total</u>
Island Park	34,328	27,065	29,785	41,177	24,961	157,316
Ashton	97,550	67,160	60,400	69,460	51,560	346,130
Total gain cfs	63,222	40,095	30,615	28,283	26,499	188,714
Mean gain cfs	2,039	1,336	988	912	883	1,233
Total gain ac-ft	125,400	79,530	60,720	56,100	52,560	374,300

The mean gain is 1,233 cfs compared to 1,277 for 1972.

Gain in Henry's Fork, Ashton to St. Anthony - 1973

(St. Anthony dates and 24-hr cfs, except as noted)

<u>Station</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Total</u>
Ashton	95,346	67,440	60,310	69,420	51,835	344,351
Chester	69,065	49,464	9,459	3,942	7,808	139,738
Total Supply	164,111	116,904	69,769	73,362	59,643	484,089
Diversions	36,178	42,624	39,060	36,173	18,452	172,487
St. Anthony	134,790	80,590	37,493	37,629	45,140	335,642
Total Acct for	170,968	123,214	76,553	73,802	63,592	508,129
Total gain cfs	+6,557	+6,310	+6,784	+440	3,949	24,040
Mean gain cfs	212	210	219	14	132	157
Total gain ac-ft	13,010	12,520	13,460	873	7,830	47,680

The average gain of 157 cfs is less than the high of 171 for 1972, but is still well above past years.

Gain in Falls River, Squirrel to Chester - 1973

(Chester dates and 24-hr cfs, except as noted)

<u>Station</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Total</u>
Squirrel	64,521	61,516	23,881	15,709	14,843	180,470
Diversions	7,691	20,124	17,274	15,142	11,120	71,351
Chester	69,065	49,464	9,459	3,942	7,808	139,738
Total Acct for	76,756	69,588	26,733	19,084	18,928	211,089
Total Gain cfs	12,235	8,072	2,852	3,375	4,085	30,619
Mean Gain cfs	394	269	92	109	136	200
Total Gain ac-ft	24,270	16,010	5,660	6,690	8,100	60,700

The average gain of 200 cfs compares to 244 cfs of 1972, and well below the 285 cfs in 1971.

Gain in Henry's Fork and Teton River, St. Anthony to Rexburg - 1973

(St. Anthony dates and 24-hr. cfs, except as noted)

<u>Station</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Total</u>
Teton River	49,992	53,570	35,831	25,898	20,788	186,079
H.F.@ St.Ant'y	134,790	80,590	37,453	37,629	45,140	335,602
Total Supply	184,782	134,160	73,284	63,527	65,928	521,681
H.F. Diversions	29,183	28,267	22,812	21,916	13,105	115,283
Teton Diversions	21,046	38,650	32,180	27,261	19,588	138,725
H.F. nr Rexburg	145,625	82,655	43,395	42,192	58,845	372,712
Total Act for	195,854	149,572	98,387	91,369	91,538	626,720
Total Gain cfs	11,072	15,412	25,103	27,842	25,610	105,039
Mean Gain cfs	357	514	810	898	854	687
Total Gain ac-ft	21,960	30,570	49,790	55,220	50,800	208,300

The average gain of 687 cfs compares to 792 cfs in 1972, but is still well above past years. The 208,300 acre-feet is 21.3 percent of the 977,020 acre-feet diverted by canals above Rexburg, and is fairly consistent with most past years.

TETON BASIN

Mr. Arthur Wilson, with summer office at Driggs, continued as Deputy Watermaster in Teton Basin during 1973.

The water content of snow on April 1 on the Teton watershed was about 92 percent of normal. April to September precipitation at Driggs was 10.76 inches compared to the normal of 8.08 inches. The yearly runoff of Teton River near St. Anthony was 99 percent of the 40 year average.

Seasonal diversions for most canals in this area were about average except for the month of May when they were near a record amount.

Again this year, canal diversions were started early and water spread to build up the ground water table. This practice seems to result in a greater sustained flow of the Teton River later in the season. This early water spreading may result in undesirable high sub in the low areas along the river in some years.

The discharge of various streams and canals and storage used in Teton Basin through exchange for natural flow is shown on Plates 23 and 24. Again this year, water formerly diverted by South Fox Canal was diverted by a pipeline from the North Canal and is included in figures for North Canal above pipeline on Plate 24.

Water distribution on Teton Creek between Wyoming and Idaho users was on the basis of the 1940 Wyoming Federal Court decree. Stored water diversions by Teton Basin users, through exchange for natural flow belonging to prior downstream rights, was on the basis of diverting 1.625 times the amount of replacement storage delivered to lower Teton River at the St. Anthony gaging station, in accordance with an agreement reached by upper and lower users on Teton River in 1949.

Canals in Teton Basin used nearly all of their storage allotments. No water was rented from sources outside the Basin.

There has been an increase in the use of sprinklers in recent years in Teton Basin. Conversion of a large part of the String Canal System to sprinklers is in progress.

Mr. Seth Hansen of Tetonia served as special deputy on the Leigh and Spring Creeks on an hourly basis for time actually spent. Considerable time is required to keep the headgates on these creeks regulated, and it is impossible for one man to look after the other streams in Teton Basin and still give the necessary attention to the streams in the vicinity of Tetonia. One-half of the cost of Mr. Hansen's services, amounting to \$517.50 was charged as a special item to the local users, and a similar amount was charged as general District 01 expense.

SWAN VALLEY

Mr. Howard Hatfield served as Deputy Watermaster and also as watermaster on several canals. The local users were charged one-half of the cost, or \$356.75, and the other half of the cost of the watermaster's services was charged as general expense to District 01.

There was little demand for stored water by individuals not owning space in Palisades Reservoir. Swan Valley users rented 195 acre-feet from Water District 01 during 1973.

CLIMATOLOGICAL DATA

(Precipitation in inches for year ending September 30, 1973)

Month	Alta		Moran		Jackson		Afton		Palisades	
	Act.	Nor.	Act.	Nor.	Act.	Nor.	Act.	Nor.	Act.	Nor.**
Oct.	3.56	1.48	2.68	1.45	3.21	1.11	2.47	1.53	2.39	1.06
Nov.	2.12	1.41	.74	1.88	.55	1.11	1.33	1.52	1.07	1.73
Dec.	2.52	1.51	3.23	2.36	1.71	1.54	2.54	1.59	1.84	1.54
Jan.	1.29	1.60	2.26	2.35	.94	1.43	1.09	1.53	1.66	1.95
Feb.	2.26	1.48	1.42	2.28	.91	1.32	.64	1.51	.94	1.68
Mar.	1.96	1.51	1.15	2.08	1.28	1.20	1.21	1.55	1.28	1.20
Apr.	1.69	1.48	1.74	1.73	.94	1.20	1.75	1.52	1.06	1.78
May	1.54	2.04	.82	1.85	.90	1.50	2.22	1.95	.95	1.91
June	1.32	2.29	1.89	1.77	1.73	1.51	1.57	1.96	1.37	2.33
July	1.51	.94	1.24	.97	1.91	.75	1.72	1.06	1.92	.92
Aug.	1.26	1.19	.72	1.30	1.27	1.12	---	1.05	.49	1.18
Sept.	4.15	1.28	2.41	1.28	2.44	1.05	---	1.16	3.83	1.68
YEAR	25.18	18.21	20.30	21.30	17.79	14.83	16.54	17.93	18.80	18.96

**13 year average (U.S. Bureau of Reclamation Averages)

Month	Ashton		Idaho Falls FAA		Pocatello		Twin Falls 2 NNE		Avg 9 sta.	
	Act.	Nor.	Act.	Nor.	Act.	Nor.	Act.	Nor.	Act.	Nor.
Oct.	1.80	1.35	1.45	.63	1.39	.89	1.23	.76	2.24	1.47
Nov.	1.73	1.56	.40	.62	.44	.99	1.12	.92	1.06	.81
Dec.	2.11	1.89	1.27	.80	1.89	1.00	1.21	.86	2.04	1.41
Jan.	2.38	1.82	.90	.89	1.04	1.21	.93	1.04	1.39	.90
Feb.	1.69	1.77	.71	.71	1.00	.92	.34	.70	1.10	.80
Mar.	1.37	1.39	.76	.66	1.45	1.02	1.59	.84	1.34	1.06
Apr.	1.10	1.04	.42	.66	.70	1.06	1.22	.93	1.18	.92
May	1.24	1.45	.81	.98	.44	1.13	.52	1.00	1.05	.69
June	1.61	1.91	.85	1.13	.87	.96	.91	.79	1.35	.83
July	1.28	.82	1.75	.46	1.84	.51	.24	.24	1.49	2.01
Aug.	1.37	.95	.75	.50	.13	.55	.07	.17	.76	.87(8)
Sept.	1.96	.94	2.16	.63	2.29	.61	.99	.49	2.77	1.00(8)
YEAR	19.64	16.89	12.23	8.67	13.48	10.85	10.37	8.74	17.77	15.12

On an average for the nine stations, the precipitation for the year ending September 30, 1973 was 118 percent of normal. October, July, and September were excessive up to 277 percent for September. May was the most deficient month at 69 percent.

WATER DISTRICT FUNDS

Water District No. 01 collects revenues for delivery of water to users in the District and disburses these funds for expenses incurred in the operation of the District's activities, in accordance with Idaho Water Laws and Regulations. Billings to water users of Water District No. 01 rendered at the close of the 1973 water year totaled \$67,959.03 for delivery of 4,134,039 24-hour second-feet of water.

As operating funds are collected from waterusers following the close of each water year, there is always a deficit of operating funds the latter part of each water year. The Watermaster has been authorized by action of the water users in annual meeting to borrow up to \$30,000 as funds are needed to meet operating expenses for the District.

When cash on hand derived from water users' payments substantially exceeds current operating needs, the surplus is invested in short term time certificates as authorized by Idaho State Law.

The Watermaster of Water District 01 serves on the rental storage committee and the Water District office keeps the records of water rentals and collects and disburses payments pertinent thereto.

As a convenience to the public, the Water District for many years sold U. S. Geological Survey topographical maps. The profits from the sales were used to help defray District expenses. This activity outgrew the facilities of the Water District to administer effectively. Therefore, the dealership was transferred to a local private dealer at the close of the 1973 water year.

WATER DISTRICT NO. 01 OPERATING COSTS

October 1, 1972, to September 30, 1973

SALARIES

Watermaster, Assistant, & Clerk

October 1, 1972 to June 30, 1973

@ \$24,620 yr.

\$18,465.00

July 1, 1973 to Sept. 30, 1973

@ \$26,500 yr.

6,625.00

\$25,090:00^{1/}

Hydrographers

Wilson, A. W. Approx 3 3/4 mo @ \$575 mo. 2,246.91

Wright, W. Lee Approx 4 3/5 mo @ \$575 mo. 2,693.18

Blauers, H., K., & W. Approx 3 1/5 mo @ \$575 mo. 1,865.12

Richards, Val 151 days @ \$24 day* 3,633.00

Garrett, Sam 69 days @ \$24 day* 1,656.00

Anderson, L. C. 47 days @ \$24 day* 1,136.00

13,230.21

River Riders

Cole, Bruce 7 days @ \$17 day* 119.00

Brown, J. M. 6 1/2 days @ \$17 day* 112.00

Brown, Wilbur 91 days @ \$17 day* 1,547.00

Smith, Al 98 days @ \$16 day* 1,568.00

Hatfield, Howard 55 days @ \$13 day* 713.50

Lenz, Elmer 3 1/2 mo. @ \$170 mo* 606.61

Hansen, Seth 345 hr. @ \$3 hr.* 1,035.00

Taylor, Russell 91 days @ \$16 day* 1,456.00

7,157.11

Gage Readers

Randall, Seymour, & Zollinger

465.00

465.00

*Includes mileage

MISCELLANEOUS

Transportation 26,915 miles at 11¢ 2,960.58

Subsistence 407.35

Telephone & Telemark 804.05

Interest on borrowed money 316.94

Watermaster's performance bond 10.00

State insurance fund 650.10

Social Security (Water Dist. Share) 1,040.66

Soil Cons. Service (Snow pillow) 250.00

Printing and binding Watermaster Report 243.92

Postage and P.O. box rent 263.50

Storage space rental 120.00

Ground water investigation 900.00

Construction & maintenance 2,131.64

Miscellaneous office expense 122.43

10,221.17

Water District No. 01 Operating Costs - Continued

STREAMGAGING COSTS

Water District proportionate share streamgaging operations	\$11,320.00	\$11,320.00
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COMMITTEE OF NINE EXPENSE

Services at \$10/day & actual expenses	475.54	475.54
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GRAND TOTAL

\$67,959.03

- 1/ Paid into Federal-State cooperative repay account to be used to pay that part of the Geological Survey employees salaries chargeable to the Water District function. The remainder of the salaries of these employees, as determined by Federal Civil Service and Geological Survey regulations, are paid from non-Water District funding sources. The Federal fiscal year begins on July 1; therefore, an adjustment of this account will be made on that date each year.
- 2/ Proportionate share of streamgaging operations and maintenance paid into Federal-State cooperative repay account with allowance for streamflow data needed in the Federal-State cooperative program and collected by Water District hydrographers.

CASH RECEIPTS AND CASH EXPENDITURES

October 1, 1972, thru September 30, 1973

BANK BALANCE SEPT. 30, 1972

\$ -87.64

CASH RECEIPTS OCT. 1, 1972 thru SEPT. 30, 1973

Water Delivery to Dist. No. 1 Waterusers	\$59,612.31
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Delinquent pmts \$10.26)	
1972 Billings \$59,602.05)	\$59,612.31

Cr. Teton Co. overpayment in 1971	802.05
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\$60,404.10

Less 4¢ error	.04
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Total 1972 billing	\$60,404.06
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Stored Water Rentals (\$22.50 delinquent 1972 rentals)	19,670.50
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Map Sales	1,298.60
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Time certificate & interest accrued	5,137.50
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State Insurance refund (1972)	146.00
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Loans to Water District to meet operating costs	11,000.00
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TOTALS

<u>\$96,864.91</u>	<u>\$ -87.64</u>
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Cash Receipts and Cash Expenditures - continued

Balance Forward

Bank Balance Sept. 30, 1972

-87.64*

Total Cash Receipts Oct. 1, 1972-Sept. 30, 1973 \$96,864.91

CASH EXPENDITURES OCT. 1, 1972 thru SEPT. 30, 1973

Net Salaries-Hydrographers, River Riders & Gage Readers	19,920.06
Mileage-Hydrographers, Ri. Riders	2,809.05
Subsistence, Per Diem, & Lodging for above	343.67
Misc. streamgaging expense (Construction, maintenance, supplies, & misc. labor)	163.35
Office Telephone	368.19
Shelley Telemark	384.00
Driggs Telephone; Misc. toll calls	45.84
Idaho Falls P.O. Box Rent & Postage	259.80
P. O. Box Rent - Driggs	3.70
Garage rent for storage	120.00
Misc. office expense & supplies	100.52
Watermaster's Expense (mileage, subsistence, professional meetings)	109.90
Salaries-Watermaster, Assistant, Clerk	24,620.00
Water District proportionate share of streamgaging operations	11,700.00
Groundwater studies	900.00
Soil Cons. Service (Snow Pillow)	250.00
Social Security	2,074.45
State Insurance Fund	650.10
Watermaster's Bond	10.00
Purchase of Maps for resale	966.35
Sales Tax on Maps Sold	16.72
Repayment of Loans (1972 WY operating funds)	21,700.00
Interest on Loans	316.94
Purchase of Time Certificate	5,000.00
Committee of Nine (1972 expenses)	518.14
Water Rentals (1972 Water Year)	2,785.00
Refund on Water Rental	125.00
Printing & Binding Watermaster's Report	243.92

TOTAL EXPENDITURES

\$96,504.70

*Plus Deficit Bank Balance Sept. 30, 1972

87.64

TOTALS

\$96,864.91

\$96,592.34

BANK BALANCE SEPT. 30, 1973

272.57