

1961
ANNUAL REPORT
Irrigation Division No. 1
M. W. Mattern, Division Engineer
** ** ** ** **



Mr. J. E. Whitten
State Engineer
State of Colorado
232 State Services Building
Denver, Colorado

Dear Mr. Whitten:

I hereby submit the Annual Report of the Office of Division Engineer, Irrigation Division No. 1, for the year ending October 31, 1961.

SNOW PACK

The Snow reports of May 1st indicated normal run-off to slightly above normal in some areas tributary to the South Platte Basin. The over-all percent of average for the basin was 98 percent. The Laramie River drainage averaged 97 percent, while the North Platte area reported 107 percent. The reports for prior months did not indicate such favorable snow pack.

RESERVOIR STORAGE

Most all reservoirs were filled before March 20th this season. Due to above-normal precipitation, reservoir storage was not drawn on too heavily. As of November 1st, most all reservoirs are to maximum capacity deemed safe for the winter season.

PRECIPITATION

Precipitation in South Platte Basin was considerably above normal throughout the entire irrigation season. This excess of moisture proved somewhat of a handicap as far as farmers being permitted to work their fields. Precipitation was also plentiful in the Laramie River and North Park areas. Precipitation ranged from 2.7 inches up to 14.6 inches above annual averages. These figures are based on nine weather stations within the South Platte Basin.

WATER SUPPLY

The water supply for the past season was, for the most, very sufficient. The most senior demand was made in District No. 8 for 1860 water. This demand was on but a short time. In District No. 2 the most senior demand was for 1871 water, while in District No. 1 the most senior demand was for 1882 water. On May 15, a "No Demand" order was put out. This order remained until June 20. After this date, the "No Demand" order was put out an additional four times. Supplemental water to Northern Colorado Highline was run for a period of five days without using any additional supplemental water.

CROPS

Crops were average to below. This was caused by periods of excessive precipitation, especially where sugar beets were involved.

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CROPS - Continued

Considerable hail damage occurred in some areas such as Greeley to Hudson. Meadow hay and dry land crops appeared to be about average.

TRANS-MOUNTAIN DIVERSIONS

The Colorado-Big Thompson Project is a year around operation, and the Moffat Tunnel is also being operated the year around, but on a small scale.

RESERVOIR OUTLOOK

During periods such as this, there is a definite need for additional storage facilities. These projects should be expedited as soon as possible so as to be available when periods of excessive precipitation and run-off occur.

INSPECTION OF RESERVOIR DAMS

A number of reservoir dams were inspected generally in the company of L. Reese Brooks, construction engineer.

COMPACTS AND U. S. SUPREME COURT RULINGS

The administration and compliance of the Laramie River and San Creek Agreements were accomplished without difficulty.

STOCK WATER DAMS

Stock Water Dams are still being built at an average rate. Normally built on dry water courses, they undoubtedly affect the flow

PUMPING FROM UNDERGROUND SUPPLIES

Development of sub-surface water for various purposes still continues at a fair rate. Without a doubt, a log or record of the time and rate of flow of pumping facilities would be very beneficial in the study of return flow and recharge of water tables, also the feasibility and development of underground storage areas.

URBAN DEVELOPMENT

Urban areas still continue to develop at a remarkable rate. One of the problems faced by these areas is the inadequate storage facilities. Another is the quality of water available, which contains detergents and other undesirable elements.

MEASURING DEVICES

The policy established by the State Engineer to improve facilities for measuring water from the streams has continued. Several ditches have replaced or improved their respective measuring devices and headgates.

CHERRY CREEK RESERVOIR

The cooperation of Corps of Army Engineers with this office has been very good. A release of 885 acre feet, which was over the allowable 15,000 acre feet mutually agreed upon, was made at such a time so as to be of definite benefit to the water users.

A question as to operation and releases from the reservoir was raised by a ditch company. A meeting was held in this office in conjunction with the ditch company and the Corps of Army Engineers, and the operation was fully explained. This explanation met with

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the approval of the ditch company.

CONCLUSION

The administration of the Colorado-Big Thompson Project waters, and the quantities delivered to the several systems and the problems encountered, are contained in the report of Special Deputy State Engineer, C. E. Schnurr.

Tabulations of the Water Commissioners' Annual Reports, Amounts of Water in Storage, Diversions by Trans-Mountain Projects, Amounts Diverted by Individual Users from the Laramie River, and other pertinent data, accompany and are a part of this report.

Respectfully submitted,



M. W. Mattern
Irrigation Division Engineer
Irrigation Division No.1

SUMMARY OF WATER COMMISSIONERS ANNUAL REPORTS

1961

Acre Feet Water Used

Dist. No.	No. Ditches & Reservoirs	Direct Flow	Reservoir	Big Thompson Project	Other	Total	Acre Irrigated	First Day Used	Last Day Used
1	50	199,708	74,049	840		274,597	177,924	5-1	10-24
2	68	283,965	58,604	2,710	3,700	348,979	232,055	4-10	10-31
3	70	221,208	39,846	59,001	20,076	340,131	296,350	11-1-60	10-31
4	64	119,284	96,492	38,799		254,575	256,685	11-1-60	10-31
5	101	57,792	25,520	18,832		102,144	137,480	5-1	9-22
6	84	79,968	18,281	5,826		104,075	168,391	4-22	10-31
7	141	117,956				117,956	99,495	3-8	10-31
8	80	172,006	1,918			173,924	27,054	11-1-60	10-31
9	41	18,915	2,913			21,828	13,763	4-25	10-31
23	122	62,423				62,423	38,036	3-17	8-31
64	72	118,216	64,086			182,302	103,197	11-1-60	10-31
65	17	19,116				19,116	7,780	4-22	10-31
47						* 275,000	128,000		
48	57					22,981	4,845	5-1	11-1
49	9					4,949	2,140	4-20	11-13
		<u>1,470,557</u>	<u>381,709</u>	<u>126,008</u>	<u>23,776</u>	<u>2,304,980</u>	<u>1,693,195</u>		

* Estimated--Repeated rainstorms made administration relatively easier.

TRANS-MOUNTAIN DIVERSIONS
1961

Name of Diversion	From Dist.	To Dist.	Source of Supply	Ac.Ft. Diverted	First Day	Last Day
Boreas Pass	36	8	Blue River	126	6-8	9-30
Hoosier Pass	36	10	" "	6,178	5-4	9-30
Berthoud Pass	51	7	Colo. River	310	6-30	8-11
Moffat Tunnel	51	6-7-8	" "	54,000	10-1-60	9-30-61
Williams Fork Tunnel	51	6-7-8	" "	(Included in Moffat Tun.)		
Adams Tunnel	51	1-6	" "	208,700		
Eureka Ditch	51	4	" "	39	6-18	7-13
Grand Riv. Ditch	51	3	" "	9,865	5-29	9-4
Cameron Pass Ditch	47	3	Michigan River	0		
Michigan Ditch	47	3	" "	127	6-20	6-30
Wilson Supply Ditch	48	3	Sand Creek	1,151	5-6	7-17
Deadman Ditch	48	3	Laramie River	211	6-26	7-17
Laramie Poudre Tun.	48	3	" "	10,387	5-13	9-6
Skyline Ditch	48	3	" "	1,301	6-27	7-11
Columbine Ditch	48	3	" "	0		
Bob Creek Ditch	48	3	" "	0		
Lost Lake Tunnel	48	3	" "	0		

Total Diverted from Colorado River	272,914
" " " Blue River	6,304
" " " Michigan River	127
" " " Sand Creek	1,151
" " " Laramie River	<u>11,899</u>
	292,395

DIVERSIONS FROM LARAMIE RIVER AND TRIBUTARIES

Recapitulation - Totals for Season 1961

<u>Name of Ditch</u>	<u>Amount Diverted Day Second Feet Before July 31st</u>	<u>Amount Diverted Day Second Feet After July 31st</u>
Bliler - Boswell Stuck Warren	697.25	7.38
Mansfield & Enlg. Mansfield No. 2	903.21	12.33
Forrester No. 1 Grace Cr. & Enlg.	1,025.54	0.00
Detro No. 1 Detro No. 2 Lower La Garde Ferguson	391.82	6.02
Schnitger French Woman Jimmy Crk.-Laramie River Jimmy Crk.-Jimmy Crk. La Garde minus Lower La Garde La Garde No. 1	- 92.52	0.00
Yelton	- 145.19	0.00
Homestead No. 1 Homestead No. 2 Pache Nellie	509.96	0.00
Hills (Wangnild) Martin No. 1 Martin No. 2 Wright Lone Tree (Charge Dixon)	2,124.37	- 128.00
Brown-Nunn Creek Cabin Forrester - Brown Creek Davy Parker Stubb	925.32	12.76
Smith's Brown Link No. 1 Link No. 2 Upper Hills Hills (See Owen White Acct.)	666.47	7.98
Brown - Porter Cr.	48.93	6.53

LARAMIE RIVER DIVERSIONS - Continued

Name of Ditch	Amount Diverted Day Second Feet Before July 31st	Amount Diverted Day Second Feet After July 31st
Lamb	586.85	32.47
Lower Grant		
British Creek No. 1		
Comet		
Upper Grant		
Homestead (McIntyre)		
Stewart No. 1		
Stewart No. 2	606.14	20.63
McIntyre		
Pine Creek & Enlg.		
Comet (Charge Mosier)		
Martin No. 2 (Charge Owen & White)		
Brinker		
Charles E. Lanning		
Ben Warren & Enlg.	342.11	1.02
Glendevey		
Talmadge No. 1	3.14	49.41
Trollope		
Ward Nos. 1 & 2		
Jim (Charge Lower Jim)		
Jim No. 3 and No. 4	- 292.76	0.00
Jim minus Lower Jim		
Jim & Jim No. 2		
Lone Tree (Charge Dixon)		
Ollie		
Timothy	931.80	40.83
TOTAL MEADOW LAND DIVERSION	22,586.	5,115.
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Summary through July 31st - Allotment	27,700.	
Total Diverted	<u>22,586.</u>	
Total Unused Balance	5,114.	
Summary after July 31st - Allotment	1,800.	
Total Diverted	<u>395.</u>	
Total Unused Balance	1,405.	

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PRECIPITATION DATA -- DIVISION NO. 1

Station	Av. Ann.	Oct. 60	Nov. 60	Dec. 60	Jan. 61	Feb. 61	Mar. 61	Apr. 61	May 61	June 61	July 61	Aug. 61	Sept. 61	Total Oct. 60-Sept. 61
Boulder	18.29	2.38	.27	1.27	.43	.70	2.68	.73	3.70	2.17	2.31	2.06	4.89	23.59
Denver	14.20	2.46	.49	1.50	.07	.66	2.51	1.06	4.12	1.11	1.60	1.21	4.67	21.46
Ft. Collins	14.74	2.11	.28	.56	.21	.64	3.38	1.00	7.06	1.83	4.27	4.00	4.00	29.34
Ft. Lupton	12.51	1.88	.52	1.08	.05	.29	3.17	.52	4.46	1.63	.74	1.54	3.14	19.02
Ft. Morgan	13.43	1.36	.18	.30	.03	.02	1.82	1.16	4.06	1.71	2.32	1.15	2.54	16.65
Greeley	12.30	2.26	.12	.61	.05	.18	2.65	.12	3.85	1.87	3.73	2.23	3.22	20.89
Longmont	13.66	1.87	.51	1.02	.12	.47	2.91	.72	4.63	1.57	.83	1.50	3.89	20.04
Julesburg	16.51	.75	-	.31	.00	.15	1.91	1.40	4.51	1.22	5.65	.95	2.44	19.29
Sterling	14.78	1.66	.03	.42	.01	.07	2.00	.71	4.87	1.00	4.80	.30	2.11	17.98

1961 SNOW REPORT -- May 1st

	Water Content in Inches		Percent of Average Snow Course	Average Drainage Basin
	1961	Avg.		
<u>Upper South Platte</u>				93
Hoosier Pass	12.3	11.9	103	
Jefferson Creek	7.7	8.0	96	
Geneva Park	0.5	2.2	23	
<u>Clear Creek</u>				101
Loveland Pass	18.3	14.7	125	
Grizzly Peak	19.2	20.1	96	
Empire	6.3	7.2	88	
Berthoud Falls	13.1	14.4	91	
Clear Creek	--	--		
<u>Boulder Creek</u>				80
University Camp	20.0	25.1	80	
Baltimore	5.2	--		
<u>Saint Vrain</u>				101
Wild Basin	12.0	15.2	79	
Copeland Lake	3.0	2.4	125	
Ward	9.1	6.2	147	
<u>Big Thompson</u>				85
Lake Irene	18.1	24.3	74	
Hidden Valley	11.9	13.4	89	
Deer Ridge	4.2	3.7	114	
Long's Peak	13.4	14.3	94	
<u>Poudre</u>				102
Cameron Pass	27.5	25.6	107	
Chambers Lake	8.0	4.9	163	
Big South	1.2	0.9	133	
Deadman Hill	17.0	17.7	96	
Lake Irene	18.1	24.3	74	
Hour Glass Lake	7.3	7.8	94	
Red Feather	8.6	4.9	176	
Lost Lake	10.9	10.5	104	
OVERALL AVERAGE SOUTH PLATTE DRAINAGE BASIN				98%
<u>Laramie River</u>				97
Chambers Lake	8.0	4.9	163	
Deadman Hill	17.0	17.7	96	
McIntyre	10.1	10.4	97	
Roach	17.4	20.9	83	
<u>North Platte</u>				107
Cameron Pass	27.5	25.6	107	
Park View	8.7	6.5	134	
Columbine Lodge	20.0	21.3	94	
Willow Creek Pass	13.2	11.5	115	