

Glenwood Springs, Colorado
November 30, 1953

1953

M. C. Hinderlider
State Engineer
Denver, Colorado

Dear Sir:

In compliance with the provisions of law, I transmit herewith, my annual report as Division Engineer for Irrigation Division No. 5 for the year ending November 30, 1953.

Due to the shortage of water this season, the administration in this Division has been rather difficult to handle; however, everything has worked out well at the end.

It was necessary to either turn off or make replacements for all Trans-Mountain Diversions this season. It was first necessary to close those on the upper Colorado and Eagle rivers when the stream flow at Shoshone dropped below 1,250 second feet on August 23rd. On August 15th stream flow at Cameo dropped below 2,200 second feet and it was necessary to close diversions on the headwaters of the Roaring Fork.

This spring telemetering equipment was installed in the Division Engineer's Office; one machine recording the Colorado River and one, the Roaring Fork at Glenwood Springs. This equipment was a great help in administering the Colorado River.

About 5,500 acre feet above replacement was used out of the City of Denver's Williams Fork Replacement Reservoir, and about 28,860 acre feet above replacement was used out of the Green Mountain Reservoir for irrigation in the Grand Junction - Palisade area. Granby Reservoir was filled to elevation 8278.22, just 1.78 feet

short of the capacity at elevation 8280.00. Amount at elevation 8278.22 was 526,912 acre feet. The capacity is 539,758 acre feet, with inactive capacity of 74,190 acre feet below elevation 8186.00.

The Bureau of Reclamation has finished the Willow Creek Dam. The Willow Creek Pumping Plant is scheduled to go into operation about December 15, 1953. There has been no administrative problems with the above project this season.

Picking of an excellent, but light, peach crop was completed early in September, while the harvest of a near-normal pear and apple yield continued through the first part of October.

The potato crop was about normal with an increase in acreage over last year's. Prices are even lower than last year, running from \$1.25 to \$1.50 per Cwt. at Glenwood Springs.

The acreage of Alfalfa and natural grasses were about normal, with an 80 per cent yield. Baled alfalfa at \$20.00 per ton is about \$15.00 per ton less than last season.

Cereal acreage remained about the same this season and yield was above normal.

Mild dry weather during the fall was favorable for harvesting, but crops, ranges and pastures suffered from lack of moisture.

This fall cattle, sheep and other livestock generally were in very good condition, but were bringing even lower prices than a year ago.

WEATHER

This year Irrigation Division No. 5 experienced a very late cold spring. April started with near normal temperatures, but changed to three weeks of cool weather, with temperatures rising to near normal toward the end of the month.

Temperatures averages about 80 per cent of normal for the month. May was almost a duplicate of April.

Precipitation during June and July was spotty, but near normal. Streams dropped off rapidly during July to below normal by the 15th of August.

Precipitation was very light during September and until about October 15th, averaging less than 20 per cent of normal.

Due to light precipitation during the later part of August, all of September, and first part of October, irrigation demands remained high until November 1st.

SNOW REPORT

Snowmelt was delayed because of the cool weather occurring during most of April and May.

Because of unusually low autumn precipitation and low spring melting temperatures, mountain soils remained very dry throughout the winter. Much of the initial melt went into the ground to saturate the soil under the snow. Stream flow showed no significant rise until about April 25th, then was only short lived, as it dropped off again within a week and continued low most of May. High temperatures during June, following the low temperatures in April and May resulted in a high peak in most of the streams.

	TEMPERATURE						PRECIPITATION				
	ELEVATION	DEPARTURE FROM NORMAL	HIGHEST	LOWEST	No. of Days		TOTAL	DEPARTURE FROM NORMAL	No. of Days		
					90° or above	32° or below			.01 or more	.50 or more	1.00 or more
<u>MAY</u>											
Green Mountain Dam	7760	2.9	86	12	0	20	2.12	.80	15	1	0
Eagle	6497	1.9	82	14	0	18	1.24	.18	12	1	0
Glenwood Springs	5823	3.6	83	24	0	10	1.82	.51	10	1	0
<u>JUNE</u>											
Green Mountain Dam		3.8	92	29	1	4	.35	-.89	2	0	0
Eagle		3.7	92	24	4	5	.49	-.38	4	0	0
Glenwood Springs		2.6	92	34	10	0	1.52	.51	4	1	1
<u>JULY</u>											
Green Mountain Dam		2.8	92	39	1	0	1.81	.65	9	0	0
Eagle		3.8	96	36	16	0	1.99	.99	6	1	1
Glenwood Springs		2.2	94	46	16	0	1.72	.32	9	2	0
<u>AUGUST</u>											
Green Mountain Dam		1.0	86	34	0	0	1.32	.15	12	0	0
Eagle		0.2	90	36	2	0	1.65	.48	9	0	0
Glenwood Springs		-1.6	89	44	0	0	3.14	1.50	13	2	0

STREAM FLOW FORECASTS

May 1, 1953

	Acre Feet Forecast	April-Sept. Incl. Streamflow Measured Runoff	Forecast <i>order</i> by Acre Feet	10 year Avg. 1942 - 1952
Colorado River at Glenwood	1,150,000	1,201,500	51,500	1,443,000
Roaring Fork at Glenwood	<u>600,000</u>	<u>640,120</u>	<u>40,120</u>	<u>812,000</u>
Totals	1,750,000	1,841,620	91,620	2,255,000

The above table shows that the forecast runoff for the Colorado River at Glenwood Springs for 1953 was 51,500 acre feet less than the measured runoff. It also shows the forecast runoff for the Roaring Fork at Glenwood Springs for 1953 was 40,120 acre feet less than the measured runoff

TRANS-MOUNTAIN DIVERSIONS

Following is a report of the Trans-Mountain Diversions from
Division No. 5 to Division No. 1 and Division No. 2 for the irrigation season.

TO DIVISION NO. 1

Adams Tunnel	<u>180,000</u>	Acre Feet
Grand River	<u>19,700</u>	" "
Berthoud	<u>594</u>	" "
Eureka	<u>26</u>	" "
Williams Fork Tunnel	<u>7,420</u>	" "
Moffat Tunnel	<u>35,070</u>	" "
Colorado Springs Hoosier Tunnel	<u>4,840</u>	" "
Boreas Pass	<u>273</u>	" "
TOTAL	247,923	Acre Feet

TO DIVISION NO. 2

Twin Lakes Tunnel	<u>40,300</u>	Acre Feet
Busk Ivanhoe Tunnel	<u>5,080</u>	" "
Ewing Ditch	<u>1,140</u>	" "
Wurtz Ditch	<u>2,010</u>	" "
Columbine Ditch	<u>1,040</u>	" "
Fremont Pass Ditch	<u>0</u>	" "
TOTAL	<u>49,570</u>	Acre Feet
GRAND TOTAL	297,493	

Very truly yours,

L. C. Finley

Irrigation Division Engineer
Division No. 5

District No.	No. of Ditches Reported	First Day Water Was Used	Last Day Water Was Used	Average Daily Amt. Diverted in Sec.Ft.	No. of Acre Feet Used from Stream	No. of Acres That Are Irrigated
36	8,400
37	210	4-1-53	10-30-53	566.9	166,104	20,927
38	108	5-1-53	10-30-53	1,156.2	205,652	35,111
39	131	11-1-52	10-31-53	355.9	156,417	20,307
45	118	4-6-53	11- 1-53	283.9	48,559	24,693
50	6	5-18-53	7-25-53	195.5	18,814	3,960
51	21	5-9-53	10-30-53	419.9	54,914	13,568
52	18	5-1-53	10-31-53	30.5	12,452	2,190
53	36	5-1-53	10-31-53	150.5	47,806	9,825
70	60	4-1-53	11-20-53	141.1	34,087	9,175
Total	708			3,300.4	744,805	148,156