Glenwood Springs, Colorado

November 30, 1950

Mr. 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, 1950.

On March the 9th, a portion of the Grand Valley Irrigation Project's Tunnel No. 3 was destroyed by the movement of the mountain through which it runs. The canal normally carries 800 second feet of water to about 30,000 acres of irrigated land. The board of directors of the Grand Valley Water Users Association decided to have the Bureau of Reclamation build a permanent tunnel section into solid rock not affected by the slide. Under the direction of the Bureau, The Grafe Callahan Construction Company contracted to construct the 2240 foot tunnel in 72 days which was actually completed in 32 days. Water users believed it would be impossible to have water before July the 1st but the tunnel was completed on April 27th.

The amount of water being released at Granby Dam was attacked by anglers as not being sufficient to keep the trout alive.

The Granby Reservoir commenced storing water in the Fall of 1949; and, since that time about 30 second feet has been released constantly into the Colorado River. The normal flow of the Colorado River at the gaugeing station just below the Granby Dam, during July, averages about 530 second feet.

A mile below the dam two irrigation ditches have decreed rights to 27.6 second feet. This year, these two ditches did not take out the full amounts to which they were entitled so that a small amount of water continued on down stream about another mile to the mouth of Willow Creek.

Senate Document 80, among other things, provides that the Colorado River below Granby Dam shall be preserved as a "live stream". This document is to be tested in federal court.

Market prices for peaches at Palisade for U. S. No. 1's, two inches or larger, were $3 a bushel. Last year, the same quality peaches brought from $2 to $2.75; larger Elbertas, two and one-fourth inches or larger, were $3.25 a bushel.

The apple crop was about 50% of normal, due to the freezing temperatures during June. Prices were much higher than in 1949: Jonathan, two and one-fourth inches or larger, were $4 a bushel; whereas, last year the same quality apples were $1.75 per bushel.

The potato crop was good in spite of the adverse weather conditions. Yield was about 80% of normal with an increase in acreage. Prices are lower than in 1949: U. S. No. 1's are selling for $1.00 per c.w.t.; whereas, last year the same grade was selling for $1.35 per c.w.t.

Alfalfa and natural grasses were about 80% of normal. First cuttings were very poor; but, second cuttings were much better than usual. Alfalfa hay in the stack is selling for $25 per ton and for $30 per ton bailed.

There is a small decrease in cereal acreage this year with yield being about 90% of normal. Prices about the same as last year.

Sheep shipments are the lightest in many years due to the small lamb crop. Present price being received for average lambs is $28.00 per c.w.t. and a year ago the price was about $23.00. Due to the extreme scarcity, wool prices are at a high level: 88 cents per lb.; whereas, last year's price was about 60 cents per lb.

Cattle prices have been somewhat higher than last year. Good native steers have been bringing around $30.00 a c.w.t.; whereas, last year they were bringing $26.00 to $27.00 a c.w.t.

WEATHER

This Irrigation Division experienced a very late and cold spring. During the month of May, it was so cold that the water was held back for Jr. water rights. With intervals of warm and cold weather, streams varied in flow causing much trouble for the Water Commissioners. Freezing temperatures stunted alfalfa growth and froze the fruit crops. High winds during this period kept the soil very dry. On June 7, one of the worst wind and dust storms brought distruction to many small buildings.

In the Eagle Valley from May 1st to September 1st, a period of 123 days, there was not a single day of .25 of an inch or more precipitation and only 18 days with .01 of an inch or more precipitation. During this same period of time, there were 37 days when the temperatures dropped to 32° or below. During the month of June, the temperatures dropped below 32° twelve times.

In the Rifle area, during this same period of time, there was only 4 days with a precipitation of .25 of an inch or more and only 13 days when the precipitation was .01 of an inch or more.

The following table gives temperatures, precipitation and other data as recorded at Rifle, Eagle and Green Mountain dam.

		TEMPERATURE					PRECIPITATION				
					No. of Days				No. of Days		
	ELEVATION	DEPARTURE FROM NORMAL	HIGHEST	LOWEST	90° or above	32° or below	TOTAL	DEPARTURE FROM NORMAL	.01 or more	.23 or more	1.00 or more
MAY											
Green Mountain Dam	7760	-3.1	72	17	0	20	1.33	-.04	11	2	0
Eagle	6497	-0.5	80	16	0	23	.27	-.92	3	0	0
Rifle	5500	-3.7	82	26	0	8	.42	-.58	3	1	0
JUNE											
Green Mountain Dam		0.4	82	25	0	8	.56	-.66	3	1	0
Eagle		2.2	90	23	1	12	.02	-.75	1	0	0
Rifle		-2.2	91	31	3	2	.02	-.53	1	0	0
JULY											
Green Mountain Dam		-2.8	80	31	0	1	.77	-.36	14	0	0
Eagle		0.1	90	32	1	1	.66	-.32	11	0	0
Rifle		-3.4	92	40	6	0	1.63	.53	6	3	0
AUGUST											
Green Mountain Dam		-3.6	81	31	0	3	.64	-.62	6	1	0
Eagle		-2.3	90	31	2	1	.31	-.97	3	0	0
Rifle		-3.1	92	41	7	0	.25	-.83	3	0	0

SNOW REPORT

Snow coverage at high elevations was very spotted, with some areas having more than average depths while other areas had less than the normal amounts. This fact was born out by the stream runoff. Some streams had about normal runoff while others were far below normal.

The following table shows the snow depth and water content of 23 snow courses for the year 1950 in the Colerado River Drainage Basin within Irrigation Division No. 5, also the water content for the first of February, March, April and May for the years 1947, 1948, 1949, 1950, and the average for the past fourteen years.

	Snow Depth Inches	1950	1949	1948	1947	Fourteen Year Avg.
Feb.	32.4	7.1	11.2	9.3	8.5	7.8
Mar.	38.1	9.8	13.5	11.8	12.1	10.7
Apr.	46.4	13.5	16.8	16.1	16.4	13.9
May	37.3	13.3	12.1	14.8	17.2	12.7

STREAM FLOW FORECASTS

May 1, 1950

	Acre Feet Forecast	April-Sept. Incl. Streamflow Measured Runoff	Forecast Over by Acre Feet	10 year Avg. 1939-1949
Colorado River at Glenwood	1,400,000	1,111,500	288,500	1,409,000
Roaring Fork at Glenwood	725,000	633,200	91,800	738,000
Totals	2,125,000	1,744,700	380,300	2,147,000

The above table shows that the Forecast runoff for the Colorado River at Glenwood Springs for 1950 was 288,500% acre feet more than the measure runoff. It also shows the forecast runoff for the Roaring Fork at Glenwood Springs for 1950 was 91,800 acre feet more than the measured runoff. The overall forecast was that the runoff would be about the 10 year average. Actually, however, the measured runoff was 81% of the 10 year average.

Total stream runoff in acre feet for each of the following months at Glenwood Springs.

	ROARING FORK RIVER		COLORADO RIVER
April	50,630		140,700
May	122,700		259,000
June	279,800		429,000
July	113,100		136,900
Aug.	35,100		79,620
Sept.	31,870		66,280
Total	633,200	Total	1,111,500

ADMINISTRATION COSTS

Cost of Administration of Division No. 5 for the year was $11,307.00. This included salaries of all commissioners and their deputies. 153,664 acres were irrigated at a cost of .07 cents per acre for services of Water Commissioners and deputies.

District No.	ACRES IRRIGATED	MILES TRAVELED	COM. & DEP. FEES
36	8,400	...	....
37	18,373	4,856	$1,368.00
38	34,150	4,435	1,260.00
39	21,638	8,944	2,034.00
45	23,106	16,089	3,603.00
50	9,100	1,015	243.00
51	18,359	735	567.00
53	11,635	2,829	540.00
70	8,903	8,512	1,692.00
Totals	153,664	47,415	11,307.00

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	26,907	Acre	Feet
Grand River	16,160	"	"
Berthoud	490	"	"
Eureka	77	"	"
Williams Fork Tunnel	9,090	"	"
Moffat Tunnel	29,560	"	"
East Hoosier	0	"	"
West Hoosier	0	"	"
Boreas Pass	69	"	"
TOTAL	82,353	"	"

TO DIVISION No. 2

Twin Lakes Tunnel	34,880	Acre	Feet
Busk Ivanhoe Tunnel	3,410	"	"
Ewing Ditch	783	"	"
Wurtz Ditch	1,990	"	"
Columbine Ditch	1,270	"	"
Fremount Pass Ditch	0	"	"
Total	42,333	"	"
Grand Total	124,686	"	"

Very truly yours,

L. C. Finley

Irrigation Division Engineer
Division No. 5

TABULATION OF WATER COMMISSIONERS ANNUAL DITCH REPORTS FOR IRRIGATION SEASON OF 1950 IRRIGATION 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 Can Be Irrigated
36	...	.....	.....	.....	.....	11,500
37	202	Apr. 25	Oct. 27	572.25	168,965	21,972
38	116	May 1	Nov. 15	704.80	164,443	34,150
39	131	Mar. 1	Nov. 1	357.80	170,769	34,690
45	101	Apr. 10	Oct. 10	348.82	63,167	10,600
50	...	.....	.....	.....	.....	21,400
51	59	May 5	Nov. 10	25.99	101,326	27,118
52	21	May 1	Oct. 20	31.03	8,204	2,195
53	38	May 1	Oct. 30	149.41	47,817	11,675
70	60	Apr. 1	Nov. 26	195.20	52,825	18,255
Total	728	Apr. 1	Nov. 26	2,385.30	777,516	193,555

	Alfalfa	Natural Grasses	Cereals	Orchards	Market Gardens	Potatoes
36	.....	.....	.....	...	...	.....
37	10,565	4,450	2,524	...	...	834
38	19,765	6,965	5,775	...	20	1,625
39	12,202	3,527	4,131	531	200	628
45	13,216	4,540	4,844	162	41	132
50	.....	.....	.....	...	...	.....
51	.....	17,974	.....	...	385	.....
52	524	1,050	25	...	...	.....
53	1,890	5,660	425	...	10	35
70	5,095	2,564	1,223	...	1	20
Total	63,257	46,730	18,947	693	657	3,274

District No.	Sugar Beets	Pasture	Clover	Other Crops	Total Irrigated
36	...	.....	...	...	8,400
37	...	.....	...	...	18,373
38	...	.....	...	...	34,150
39	419	.....	...	...	21,638
45	60	.....	111	...	23,106
50	...	.....	...	...	9,100
51	...	.....	...	...	18,359
52	...	406	...	180	2,185
53	...	3,285	...	330	11,635
70	...	.....	...	...	8,903
Total	479	3,691	111	510	155,849