

STATE OF COLORADO

IRRIGATION DIVISION NO. 4

MONTROSE

December 1, 1947.

1947

FRED S. HOTCHKISS  
IRRIGATION DIVISION ENGINEER  
ROOM 7, COURT HOUSE  
P. O. BOX 15

Mr. M. C. Hinderlider,  
State Engineer,  
Denver, Colo.

Dear Sir:

Herewith I submit my annual report for 1947.

Snowfall on the watersheds in this Division for the winter of 1947 was slightly above normal. Water content was good. Thus one essential of a good supply of water for the year was present; but it has become evident that this condition alone does not always insure ample water. Fully as much depends on the weather during the melting period as on the snow supply. Of course there must be sufficient snow to supply the water needed, but it is very rarely indeed that supply is not present if the weather is such that it will run off under the right conditions. This year it happened that this was the case. Precipitation in the valley areas was deficient in the first three months of the year, but from April 1 to September 1 the rainfall was far above normal.

At the Montrose weather station during that period it was 73 % above the long time average. Largely due to these conditions streams showed no high flood peaks, but kept up remarkably well.

Reservoirs on Grand Mesa and Leroux Creek in Water District No. 40 were filled to capacity. The Taylor Park Reservoir, with a large holdover, filled easily.

The first release of water from the Taylor Park Reservoir was not made until September 7, and release for irrigation was discontinued October 7, with a net release of only about 6,800 acre feet out of a total storage of 106,200 acre feet. Many of the Grand Mesa Reservoirs held water over. The Onion Valley Reservoir on Crystal Creek in District 40 was drained in order to check the outlet valve for repair. The Gurley Reservoir in District No 60 was also drained.

Since the Uncompahgre Valley Project is fairly representative of the whole Division, the following report by Jesse R. Thompson, Manager of the Uncompahgre Valley Water Users' Association gives a good picture of the whole irrigation operation for the year:

UNCOMPAHGRE PROJECT COLORADO

Season 1947

Under the terms of the contract between the Bureau of Reclamation and the Uncompahgre Valley Water Users' Association approved August 4, 1931, the Operation and Maintenance of the Uncompahgre Project was taken over by the Association on January 1, 1932.

The Project Irrigation system includes 575 miles of canals and

laterals and 204 miles of drainage canals.

It requires 1600 second feet of water entering the project to meet requirements during periods of peak demand.

The water content of the snowfall on the Uncompahgre watershed on March 1, 1947 was 2.7 % above the normal content for March 1 for the past 11 years or period of record. On April 1 the water content was 5 % above normal and on May 1, the water content was 12.6 % above normal, or 10.7 inches.

The water content of the snowfall on the Gunnison watershed on March 1, 1947 was 5.6 % above normal for period of record. On April 1 the water content was 2.5 % above normal and on May 1 it was 17.4 % above normal.

The water content of the snowfall on the Taylor River, ( source of supply for the Taylor Park Reservoir) on March 1 1947 was 2.8 % above normal. On April 1 it was 12% above normal and on May 1 it was 137 % above normal for May 1.

From the above records it will be seen that the prospects for water for the season of 1947 was a little above normal.

Stream flow had dropped to about normal by July 28. General rains in the valley and high watersheds, from the end of July through August cut the demand and soon raised stream flow to a point where there was enough water to meet all demands.

The peak discharge of the Uncompahgre River during the season of 1947 was 1492 second feet and occurred on June 21. The discharge of the Uncompahgre River ranged from 1060 second feet on July 1 to 216 second feet on July 30. Rains which started about August 1 gradually increased the flow, and on August 10 the discharge was 292 second feet. The discharge through the balance of August ranged from 215 second feet to as high as 587 second feet, with a discharge of 368 second feet on August 31. The discharge September 1 to September 24, ranged from 207 second feet to as high as 426 second feet. These discharges were far above normal and made it possible to deliver water on demand from about August 6 to the end of the irrigation season.

The Taylor Park Reservoir filled and water started over the spillway on June 5, 1947 at 7:00 o'clock P. M. There was only 6795 acre feet of stored water used out of Taylor Reservoir for project needs during the season. This was due to general rains throughout the valley and water sheds which practically supplied enough to meet project needs. There was 102,100 acre feet of stored water in Taylor Park Reservoir on Oct. 1, 1947, at the end of the irrigation season.

Water was turned through the Gunnison tunnel, to supplement the flow of the Uncompahgre River so as to meet project irrigation needs at 5:00 o'clock P. M. on March 15, 1947. Some water was turned through previous to this time to wash mud and debris out of the concrete lined sections of the South Canal so that miscellaneous repairs to the concrete sections could be made.

Due to the limited capacity of the Gunnison tunnel it was not possible to divert enough water to meet project demands throughout the irrigation season. From April 15 to June 3 water deliveries ranged from 100% to 150%. This was due to our inability to raise the dam at the east portal due to high water in the Gunnison.

From July 1 to July 24 deliveries ranged from 90% to 150%. This was due to excessive demands and lack of capacity in the canals. From July 24 to August 5 water deliveries ranged from 80% to 150% due to lack of capacity in the Gunnison tunnel.

From August 5 to the end of the irrigation season water deliveries were made on demand. Water was delivered on demand to Water Users on an acre foot basis. The lands generally on the west side of the Uncompahgre River were furnished 5 acre feet per acre for a minimum of \$3.00. Lands generally on the east side of the Uncompahgre River, which consists mostly of adobe soils, were furnished 4 acre feet per acre for a minimum of \$2.40. Excess water was furnished at the rate of 16 cents per acre foot for all water in excess of 5 acre feet.

The only major operating difficulty for the season was a break at 1:30 P. M. on June 15, 1947, on the CQ lateral at mile post 3.50. This break was no doubt due to muskrats working in the banks of a fill above a flume over a small wash. The soil was a very sandy loam and the fill was all carried away before the water could be cut out of the lateral. Repairs were made and the water turned back in the lateral at 4:00 o'clock P. M. June 19. 3000 cubic yards of backfill was placed and 5360 feet B M of lumber was used to place 80 linear feet of flume, 5 feet deep by 10 feet wide in the fill. The new flume was placed as an extension on the upper end of the old flume which had remained in place.

No. 2 needle valve was dismantled, cleaned and repaired. About the usual amount of sludge was found in the valve. The inside surface of the valve was cleaned and polished and painted with CPT-2 coal tar paint. Cavitation on the needle body, a short distance below the bronze seat, had developed completely around the circumference at this point. These cavities were ground smooth and welded with Ferris Weld and then ground to a smooth finish. The Paradox valve control was also taken apart and cleaned. The Penstock No. 2 valve was cleaned and washed inside and all rust spots cleaned and polished and coated with a coating of CTF-2 coal tar paint. After the paint had set on the spots, the whole inside surface of the Penstock was painted with a coating of CTF-2 coal tar paint. The outside surface of the penstock was also coated with coal tar paint.

No operating difficulties were experienced with the Gunnison tunnel. The water was shut out of the Gunnison tunnel at 10:00 o'clock P.M. June 13 to inspect the tunnel and south canal lining. Very little repair was needed. Repairs were made and the water turned back in at 10:00 P.M. June 14.

Crop production was above normal. Harvest is well under way and unless damage should be sustained from rains before harvest is completed or losses develop due to inability to harvest crops on account of lack of help, this should be an exceptionally profitable year for the project farmer.

Mr. Fred Hotchkiss, Irrigation Division Engineer for the State of Colorado did an excellent job in handling the distribution of stream flow in this part of the State.

(Signed)

By Jesse R. Thompson

Manager- Treasurer.

Crop yields were good throughout the Division. Prices for hay and grain were high, but fruit, especially apples, showed a marked decline from the prices of last year and the year before.

Range conditions were very good, and prices were high, especially for beef cattle. Lower altitude ranges, which are grazed in winter, and are generally under the supervision of the Division of Grazing, were in excellent condition. This is partly due, no doubt, to the large summer rainfall, but the careful regulation of the Public Domain in the comparatively short period of the life of the Division is also a large factor in causing the improvement.

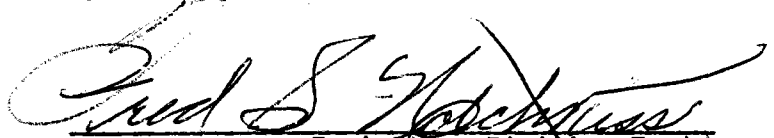
Several construction and repair projects have been completed. Beside minor repairs on small reservoir dams, the repair and enlargement of the Kennicott Slough dam of the Surface Creek system was finished to a capacity of 900 acrefeet. The Hog Schute dam, impounding water for municipal use for the City of Grand Junction was also constructed.

Under the Water Facilities law the Farm Home Administration has completed two diversion dams, one at the head of the Hartland Canal from the Gunnison River, and the other at the head of the North Fork Farmers' Ditch from the North Fork of the Gunnison.

Projects being prepared for construction by the Bureau of Reclamation are the Paonia Project in Water District No. 40 and the Meadows Project on Plateau Creek in District No. 42.

The enclosed tabulation of Water Commissioners' Annual Reports includes an estimate that I have prepared of irrigation uses and crop production for those water districts where no complete water commissioners' reports were available.

Very truly yours,

  
Irrigation Division Engineer.  
Irrigation Division No. 4.

IRRIGATION DIVISION NO. 4

TABULATED STATEMENT OF WATER COMMISSIONERS' ANNUAL DITCH REPORTS

1947

Dist. No.	Ditches Reported	Amt. of Appropriation Second feet	Capacity of Canals or Ditches, Second Feet.	No Acres can be Irrigated
26n	192	319	1,000	29,253
40	471	3,099	4,205	227,990
41	98	1,866	2,738	113,299
42	224	3,204	3,620	151,019
59n	99	680	2,109	24,031
60n	212	1,219	1,252	90,960
61	13	56	112	11,900
<b>Totals:-</b>	<b>1,532</b>	<b>11,502</b>	<b>16,670</b>	<b>693,826</b>

DISTRICT NUMBER	FIRST DAY WATER WAS USED	LAST DAY WATER WAS USED	AVERAGE NO. OF DAYS WATER WAS USED	AVERAGE DAILY AMOUNT IN SECOND FEET	NO. ACRE FEET USED
28n	May 1	Aug. 1	86	674	116,476
40	Mch. 29	Oct. 31	155	1,554	482,857
41	Mch. 10	Oct. 31	205	1,606	659,375
42	Mch. 19	Oct. 31	105	1,739	366,214
59n	May 1	Oct. 10	83	1,538	255,461
60n	Apr. 1	Oct. 31	124	429	106,198
61	Apr. 1	Oct. 13	160	30	9,612
62n	Apr. 15	Oct. 31	106	515	108,676
<del>63</del> 65	Apr. 20	Oct. 23	131	468	122,669
<b>Totals:-</b>				<b>8,553</b>	<b>2,227,538</b>

Note:- District numbers followed by letter "n", no report by Water Commissioner. Estimated by Irrigation Division Engineer.

**IRRIGATION DIVISION NO. 4**

**TABULATED STATEMENT OF WATER COMMISSIONERS ANNUAL CROP REPORTS.**

**1947,**

Dist. No.	Alfalfa	Natural Grasses	Cereals	Orchards		
28n	93	29,101	31	--		
40	52,670	27,794	20,577	13,409		
41	18,929	3,538	24,764	979		
42	25,617	13,765	13,679	5,487		
59n	119	21,058	5	--		
60n	14,776	13,134	14,269	--		
61	613	587	1,174	15		
62n	1,430	7,836	1,699	30		
68	5,793	14,043	1,439	11		
<b>Totals:</b>	<b>120,040</b>	<b>130,856</b>	<b>77,637</b>	<b>19,931</b>		

Dist. No.	Market Gardens	Potatoes	Sugar Beets	Other Crops	Total Irrigated
28n	1	27	--	--	29,253
40	787	2,304	4,449	28,586	150,576
41	688	1,474	3,014	25,082	78,468
42	382	760	1,265	8,519	69,474
59n		68		118	21,368
60n	23	9	--	256	42,467
61	--	---	--	---	2,389
62n	30	1,047	--	2,557	14,629
68	2	133	37	25	21,483
<b>Totals:-</b>	<b>1,913</b>	<b>5,822</b>	<b>8,765</b>	<b>65,143</b>	<b>430,107</b>

Note:- District numbers followed by letter "n", no water commissioner's report. Estimated by Division Engineer.

IRRIGATION DIVISION NO. 4

TABULATED STATEMENT OF WATER COMMISSIONERS' ANNUAL RESERVOIR REPORTS

1947

DIST. NO.	NO. IN DIST.	AREA HIGH WATER LINE, ACRES	CAPACITY IN ACRE FEET	QUANTITY OF WATER IN RESERVOIR MAY 1	QUANTITY OF WATER IN RESERVOIR NOV. 1
40	154	3,844	50,740	45,258	7,586
42	74	1,988	17,760	6,424	-----
59	1	2,033	106,200	60,000	90,000
60	2	392	4,861	1,200	660
<b>Totals:-</b>	<b>231</b>	<b>8,257</b>	<b>179,561</b>	<b>112,882</b>	<b>98,046</b>

DIST. NO.	FIRST DAY WATER WAS USED	LAST DAY WATER WAS USED	AVERAGE NO. DAS. WATER USED	AVERAGE DAILY AMT. IN SECOND FEET	NO. ACRES FEET CARRIED
40	June 2	Oct. 31	54	363	39,387
42	May 2	Oct. 20	53	106	11,217
59	Sept. 7	Oct. 7	30	113	6,800
60	June 23	Oct. 6	50	42	4,200
<b>Totals:-</b>				<b>623</b>	<b>61,604</b>