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STATE OF COLORADO

IRRIGATION DIVISION NO. 4

MONTROSE

FREDERICK W. PADDOCK  
IRRIGATION DIVISION ENGINEER  
ROOM 7, COURT HOUSE  
P. O. BOX 15

November 22, 1952

SUBJECT:  
Annual Report

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

Dear Mr. Hinderlider:

The following constitutes our annual report to your office for the season of 1952:--

Division 4 experienced a very good season, this office and the Commissioner from Water District 68 being involved in litigation on only one occasion in 1952 as compared to five times for the Commissioner from Water District 40 in 1951.

We predict that when all of the water records are in and computed that 1952 will show up as a year of high water, probably showing a runoff of about 150% *Normal* for our Division.

In mid-May, a few days of hot weather brought the Uncompahgre River up to approximately 2500 cfs, and on the day that that peak was reached, the weather turned cool and it was in June, some three weeks later that a second peak occurred, which was 2970 cfs.

From March 24, thru to October 31, 307,270 acre feet of water was imported into Water District 41 from Water District 62 thru the Gunnison Tunnel. During the same period, records and computations show that approximately 124,000 cubic-foot acre feet of water were used from the Uncompahgre River by the Uncompahgre Valley Water User's Association. This makes a total of 431,270 acre feet used by this one group of water users alone. Diversions for this project appear at this time to be about six and one-half acre feet per acre. Taylor Reservoir owned by this project filled easily this year, and at the end of the season still retained 61,730 acre feet of storage for next season. Twenty to thirty second feet of flow is released at this time of the year to take care of fish in the Taylor River.

Soil moisture conditions all over the Division was very high at the start of the irrigation season, and that factor combined with an exceptionally good runoff led to a highly productive year for the agriculture industry as a whole.

Each year, Mr. Jesse R. Thompson, Manager of the Uncompahgre Valley User's Association sends this office two copies of his annual report, a copy of which is included in this report because of the excellent and detailed amount of information contained and because this one project has operations which extend into three water districts, numbers 41, 59 and 62.

## UNCOMPAHGRE PROJECT, COLORADO

Season of 1952

Under the terms of the contract between the Bureau of Reclamation and The Uncompahgre Valley Water Users' Association approved Aug. 4, 1931, the operation and maintenance of the Uncompahgre Project was taken over by the Association on Jan. 1, 1932.

The Project irrigation system included 577 miles of canals and laterals and 204 miles of drainage canals.

It requires 1,600 sec. ft. of water entering the project to meet requirements during periods of peak demand.

The water content of the snowfall on the Uncompahgre watershed, measured at Ironton Park, on March 1, 1952 was 18 inches or 70% above normal for March. On April 1, the water content was 22.8 inches or 66% above normal and on May 1, the water content was 10.8 inches or 37% above normal.

The water content of the snow fall on the Gunnison watershed on March 1, 1952 was 19.7 inches or 64% above normal for March. On April 1, it was 28.7 inches or 74% above normal and on May 1, it was 25.1 inches or 68% above normal.

The water content of the snowfall on the Gunnison watershed, measured at the Park Cone station on the Taylor River, on March 1, 1952 was 19.3 inches or 144% above normal for March. On April 1, it was 22.4 inches or 120% above normal and on May 1, it was 17.6 inches or 259% above normal.

From the above records it will be seen that the prospect for run-off in the Uncompahgre River on April 1, the beginning of the irrigation season, was 66% above normal while the prospect for run-off in the Gunnison River was 74% above normal.

The run-off of the Uncompahgre River was 98% of normal in May, 49% above normal in June, 42% above normal in July, 20.5% above normal in August and 87.6% of normal in September.

The run-off of the Gunnison River was 45% above normal in May, 63% above normal in June, 25% above normal in July, 26.6% above normal in August and 94.4% of normal in September.

Water supply during the past season was the best for many years.

Deliveries were made on demand up to May 14. From May 15 to 20, deliveries ranged from 125% to 90%; May 21 to 28, deliveries ranged from 90% to 100%; May 29 to June 15, deliveries were made on demand except where canal capacities could not meet demand; June 16 to 30, deliveries ranged from 100% to 80% depending on canal capacities and demand; July 1 to 10, deliveries ranged from demand to 80% depending on canal capacities and demand; July 10 to Aug 13, deliveries ranged from 70% to 100% mostly due to lack of capacity of the Gunnison Tunnel; Aug. 13 to Sept. 10, deliveries were made on demand (demand was light at this time due to excessive rains); Sept. 11 to 18, deliveries were made on a 100% basis; Sept. 19 to 30, deliveries were made on demand.

Due to the fact that October was very dry, no moisture being recorded, water was used extensively for irrigation purposes throughout the month.

The peak discharge of the Uncompahgre River during the season of 1952 was 2,970 sec. ft. and occurred on June 7, 1952 at 2:30 A.M.

Taylor Park Reservoir filled and water started over the spillway at 12:15 A.M. on June 14, 1952.

The first water of the season turned out of Taylor Park Reservoir to supplement the flow in the Gunnison River was on September 5.

There was only 19,990 acre feet turned out of the reservoir to supplement the flow in the Gunnison River to insure sufficient water to fill the Gunnison tunnel so as to meet project needs.

An additional 24,480 acre feet was turned out of the reservoir to insure room for storage in the spring while repairs are being made to the needle valves.

The minimum amount of water stored in the reservoir at the end of the irrigation season was 61,730 acre feet.

The maximum flow over the spillway was 1,530 sec. ft. and occurred at 9:10 A. M. on June 16.

Water was turned through the Gunnison Tunnel in the evening of March 24, 1952, the first passing the measuring station at the West Portal at 8:00 P.M. that date.

By April 14 there was 408 sec. ft. being discharged through the tunnel. Discharge remained about the same until May 6, when it became necessary to increase the flow due to the demand increasing faster than the spring raise in the Uncompahgre River. By May 22, there was 948 sec. ft. being discharged through the tunnel. This amount was run until June 3, at which time the flow in the Uncompahgre had increased till were able to start cutting the flow through the tunnel. On June 18 it was necessary to increase the flow through the tunnel and by the end of the month there was 924 sec. ft. being discharged. The tunnel was filled on July 16 and remained practically full with exception of a few short rainy periods, until Sept. 18. The flow was cut some from then on to the end of the season. However it was still necessary to run over 600 sec. ft. through the tunnel, to meet project needs, up to Oct. 31, 1952.

At the time of making this report there is still a heavy demand for irrigation water.

There were no major operating difficulties during the year.

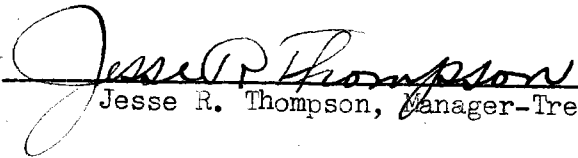
Some difficulty was experienced in the operation of the No. 1 needle valve at Taylor Park Dam. The trouble was overcome in time to get the valve in service when needed.

No operational difficulties were experienced in connection with the operation of the Gunnison Tunnel or South Canal.

Crop production was normal or above with prices fair.

All crops are harvested with the exception of a few sugar beets and some corn.

THE UNCOMPAHGRE VALLEY WATER USERS ASSN.

BY   
Jesse R. Thompson, Manager-Treasurer

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SUBJECT:

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## WATER DISTRICT 28

The Water Commissioner in W. D. 28 worked only a very few days this year. His chief problem was a trans-mountain diversion into the Rio Grande water shed in which a party is alleged to have cut a ditch bank below the headgate in order to turn the water back to the stream for his own use. The water was not needed in the Cochetopa water shed to fill decrees this year as is usually the case. *This is a problem below the headgate and was so ruled.*

## Water District 40

Water District 40 was short two deputies this season, but owing to the excellent flow of water available, the commissioner was able to manage and distribute the water with out any complaint from water users of his district. The really bad spot is on Surface Creek, and the Deputy regularly hired took a year of leave with the privilege of returning next season if he so desired. The man shifted to take his place became ill, and spent most of the season in the Veterans Hospital in Grand Junction.

Water District 40 had one peculiar happening which we believe should be mentioned in this report. Some sort of foundation settlement occurred in the Overland Reservoir Dam in the main embankment and a crack appeared in the crown transverse by about 45° with the axis, and near the south end of that embankment. For about thirty days the crack enlarged, until about 15 feet of depth of water had been run out of the reservoir below the spillway. We recommend that storage be restricted five feet below the spillway, until ~~###~~ such time as the movement in the foundation ceased. There was no leakage at this end of the embankment whatever, and formerly prior to the present enlargement, there was I am told large and measurable amounts. At present there is slight seepage, but not of sufficient quantity to collect and run so that one might in any manner measure or estimate what it amounts too in volume. The reservoir has agreed to keep ~~aman~~ at the site at all time of day during the coming season.

Several reservoirs have been repaired and in some cases enlarged. According to information received by this office the Ward and Barron Reservoir Dams have been repaired as ordered by your office in 1951, under the supervision of an Engineer. One and possibly two reservoirs will be unable to store water next year, one due to excessive leakage, and the other by being improperly repaired.

In view of our experience on Grand Mesa and in several other parts of the Division, we recommend that when ever it is necessary to remove an outlet conduit for replacement or repair, that the side slopes of the cut thru the embankment be required to be approximately 2:1 horizontal to vertical. This will tend to stop the use of draglines and bull-doziers and vertical cuts and fills at this most important part of impounding structures.

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## Water District 41

Water District 41 has undergone a study by the Commissioner and this Office during the past season, and we find that in some cases that it appears that parts of this district as administered in the past has been by parts rather than as a whole, due to an alleged decision of a some thirty or forty years ago. Since some 10 or twelve ditches requested the study, in writing, and we have found no written decision to support the customary administration, Mr. Walker and myself are changing administration in those parts and incorporating all of the district's administration into operation as a whole one and not as separate parts. We found the principal item to be that several creeks contribute flow to the river which in times past was called return flow and all distributed to four ditches. It appeared to us that comingled flow from all sources, particularly when unidentified, is simply distributed according to the decrees. Mr. Walker started doing this in August of this year. What effect this will have on the district will have to be reported at a later date, as we can not say at this date what it will do. Suffice to say probably five or six other ditches will benefit besides the ones previously mentioned.

## Water District 42

Mr. George Saunders of Mesa Resigned as water commissioner after some forty-one or two years of tenure. He was replaced by Mr. Roy Stoddart of Collbran, who has many years experience in running water as a Deputy of Mr. Saunders. We are very happy to report that Mr. Stoddart has done a very good job. Due to the late date, and the shortness of time we have had, we were unable to go over to Collbran and give Mr. Stoddart any help on his annual report. The report submitted shows a total of about 98,900 acre feet and a daily flow of 240 second feet diverted. Actually his district diverts in the neighborhood of 2400 second feet daily, and about 500,000 acre feet of flow annually. We will therfor submit# revised figures for his District when available as we feel certain that several diversions were overlooked by him, specially those along the Colorado in the Grand Valley, ~~As Mr. Stoddart is new on the job~~ The time is not too far off when this district will no doubt require that the Commissioner be hired on an annual basis, as it is a large district and at times rather difficult to manage.

## Water District 60

Mr. J. A. Sullivan, of Norwood, was appointed Water Commissioner for W. D. 60, and he has done well with the small amount of time allotted him. He operated two recorders and supervised repairs on several measuring devices. The work was done better under his supervision than any of his predecessors in the past several years. We hope he will keep up the good work by staying with us.

## Water District 61

This District is handled by Commissioner Chalmer Garber, who probably is the

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only Water Commissioner in Colorado who works on an average of four hours each day and only bills the State for 15 days, excepting those few times he finds it necessary to stay out all day which occasionally happens. Mr. Garber has a small district and only a few decrees to administer comparatively speaking, but because it is so small it is necessary to run it just right. He has one undecreed reservoir, which has its source of supply in Utah and is filled by a long diversion ditch.

## Water Districts 59 and 62

There are no commissioners in either district, and should there be one, he should be able to operate in either district, as the Gunnison River is the North-South boundary between them. This year ~~we~~ spent between one and two weeks as acting water commissioner in the two districts. Occasionally we are asked why there is no Commissioner.

## Water District 68

W. D. 68 has a new commissioner, Mr. Wallace Worley of Ridgeway who was appointed in the latter part of 1951. Mr. Worley had about thirty days of tough work this season partly because he was new to the work, and partly because there was water in several small streams with poor watersheds for the first time in several years. In one instance he and this office were named defendants along with a user in a suit for running the water of one stream according to the decrees of record. The Court made it clear that we were uninterested parties in his decree between the two parties, and held that irrespective of who owns water rights the water officials can proceed only by the decrees. This had been the stand we had tried to follow.

## Division 4--General remarks

We are encouraging people to move all rights by court decree to their proper points of diversion. In nearly every case when water rights have been sold in the past it has been the custom to try and talk the commissioners into allowing the water to be run to points other than that originally decreed to them, and in some cases it has been allowed we find. The trouble is that when a water fight starts it is usually one of these irregularities that is back of the fight.

We are also encouraging people to repair their reservoir dams without waiting for us to have to condemn them in part or in whole before they make any move to do anything. This part of the program moves slowly but we believe that some progress is being made.

We are including a copy each of the form we used in an endeavor to be able to hand in our annual report on time, and to be able to include a tabulation of the Water Commissioners reports. This is the first time that we have been able to do this since becoming Division Engineer. In view of the small success that we have achieved, we shall continue the use of the form and strive to iron out the details necessary to perfect it.

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Our totals this year may not in some specific instances agree with the final records worked up by the commissioners, but we find that in almost all cases the figures will be either very close or the same. Several of the commissioners are in favor of these extra reports, which are really duplicates of the books, and several have expressed disfavor. Mr. Robinson, who has 15 deputies, however has asked for all of his sheets back as he believes that they will be of a great deal of help to him in working up his 16 or 17 field books to completion.

We are inclosing a tabulation of the Water Commissioners' Reports as the final part of our report to you.

Very truly yours,

*Frederick W. Paddock*  
Frederick W. Paddock,  
Irrigation Division Engineer, No.4.



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TABULATED STATEMENT OF THE WATER COMMISSIONER'S REPORT'S  
for  
1952

District Number	No. of Decreed Water Rights for Ditches	No. of Ditches Reported	Amount of Reported Flow in Second Feet	Amount of Decreed Flow in Second Feet	Reported Capacity of Ditches or Canals in Second Feet	Average Daily Flow Reported in Cubic Feet per Second	Total No. Acres Irrigated
40	785	482	135,291	3742	4255	1135	152,617
41	161	89	300,529	2357	2328	1480	97,898
42	760	206	49,460	8662	1624	240	71,995
61	59	8	2,840	686	88	12.7	2,459
68	296	143	192,000	1453	614	1280	27,014
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Totals	2061	926	680,120	16,052	8909	3,103	351,983
							<del>344,870</del>

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Tabulated Statement of Water Commissioner's Annual Report  
 For 1952

District Number	First Day Water Used	Last Day Water Used	Average No. of Days Water Used	Average Daily Amount In Second Feet	No. of Acre Feet Used
40	1-1-52	10-31-52	197	170	<del>270,532</del> 190,000
41	3-16-52	10-31-52	203	1480	601,058
42	3-1-52	10-31-52	162	240	98,920
61	4-18-52	10-31-52	224	12.7	5,680
68	4-1-52	10-31-52	150	1280	384,000
Totals			187	3,183	1,360,240

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TABULATED STATEMENT OF WATER COMMISSIONERS' ANNUAL RESERVOIR

REPORT

FOR

1952

District Number	Number of Reservoir Decreases	Area High Water Line in Acres reported	Decreased Capacity in Acre Feet	Acre Feet of Water in Reservoir, May 1.	Acre Feet of Water in Reservoirs, November 1.	Reported Number Acre Feet stored during season.
40	271	3744	58,692	No Report	4,262	21,224
41	5	(no report)		None	None	850
42	135	1433	33,833	None	None	4,470
61	None	97	None	1300	200	<del>6270</del>
68	14		1,004	545	420	545
<hr/>						
Totals	425	5274	93,529	1,845	4882	33,359

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Tabulated Statement of Water Commissioners' Reports (Reservoir)

for 1952

District Number	No. of R First Day Water was Used	Last Day Water was Used	Average No. days Water was Used	Average daily Acre Feet Used	Total Acre Feet of Storage Used	Total Acre Feet held over Storage for future Use.
40	3-15-52	10-31-52	100	170	16,962	4,262
41	No Report		---	---	850	None
42	6-20-52	10-31-52	70	4,63.9	4,470	None
61	5-10-52	10-31-52	174	36.0	6,270	200
68	6-1-52	8-4-52	16	7.0	125	420
Totals			90	68.5	28,677	4,882