

JOHN A. LOVE, Governor

J. E. WHITTEN  
State Engineer

A. RALPH OWENS  
Deputy

L. T. BURGESS  
Chief Hydrographer

GLEN B. ROGERS  
Office Engineer



OFFICE OF THE STATE ENGINEER  
232 STATE SERVICES BUILDING  
1525 SHERMAN STREET  
DENVER 3, COLORADO

Box 551, Durango, Colorado  
January 9, 1968

Mr. A. Ralph Owens,  
State Engineer  
232 State Services Building  
Denver, Colorado

Dear Ralph:

Enclosed is my annual report for Division 7.

I have the Animas-LaPlata Reports for the last two years completed. I will send them as soon as I can get them typed.

Very truly yours,

*George E. Barclay*  
George E. Barclay

Attached:

Water Commissioners reports for all Districts in this Division



ANNUAL REPORT, DIVISION 7

for

1 9 6 6

GENERAL

This year's irrigation season worked out just about the reverse of the last years.

During the fall and early spring we had above average snowfall. Most of the early precipitation came when the ground was not frozen. This condition together with an above average temperature during the months of November and December gave us good ground moisture and a high runoff during the winter months.

All reservoirs in this Division were full at the start of the season.

The late spring and summer were hot and dry, this combination with the above average soil moisture produced an above average crop of small grains.

Most of the streams showed an above average runoff, a large percentage of the runoff occurred during the non-irrigation season in the late fall, winter and early spring.

SNOW PACK

Beginning with January the following forecast was made:

<u>Station</u>	<u>Date</u>	<u>Water Content</u>	<u>Water Content</u>	
			<u>1948-62 Average</u>	
			<u>Jan 1</u>	<u>May 15</u>
		<u>Inches</u>	<u>Inches</u>	
Upper San Juan	January 1	20.3	12.2	30.2
	May 15	6.08		
Wolf Creek Pass	January 1	20.0	9.4	16.2
	May 15	6.2		
Wolf Creek Summit	January 1	21.3	13.1	31.5
	May 15	29.5		
Red Mountain	January 1	NS	11.6	30.7
	May 15	17.0		

TEMPERATURE

Station	1965				1966							
	Nov.	Dep.	Dec.	Dep.	Jan.	Dep.	Feb.	Dep.	March	Dep.	April	Dep.
Durango	41.0	+4.9	31.2	+3.3	23.2	-2.1	25.7	-4.0	39.7	+3.0	47.1	+2.0
Cortez	42.9	+5.7	32.7	+3.2	26.0	-1.5	25.8	-6.1	41.2	+2.7	47.6	+0.2
Ft. Lewis	38.1	+4.9	26.9	+1.0	19.5	-3.5	19.5	-6.4	35.2	+3.5	42.5	+1.9
Silverton	34.0	+7.4	20.2	+0.9	11.7	-5.0	12.4	-6.6	26.7	+2.9	35.1	+1.9
	May	Dep.	June	Dep.	July	Dep.	Aug.	Dep.	Sept.	Dep.	Oct.	Dep.
Durango	55.8	+3.3	61.7	+1.1	70.6	+3.6	67.1	+1.1	60.0	+1.1	49.4	+0.7
Cortez	59.0	+3.1	65.1	+0.4	73.4	+2.1	70.5	+0.9	62.3	+0.1	51.8	+0.6
Ft. Lewis	51.6	+2.6	58.2	+1.0	67.8	+4.2	63.7	+1.8	56.8	+1.1	46.2	+0.6
Silverton	45.5	+3.6	51.1	+1.4	57.8	+2.7	55.2	+2.7	48.1	+0.9		

PRECIPITATION

	1965											
	Nov.	Dep.	Dec.	Dep.	Jan.	Dep.	Feb.	Dep.	March	Dep.	April	Dep.
Durango	2.83	+1.83	4.76	+3.13	.49	-1.12	1.23	-0.7	.54	-.95	.96	-.33
Cortez	1.92	+1.17	2.21	+1.09	.30	-.76	0.63	-.47	.10	-.99	1.03	-.06
Ft. Lewis	2.24	+1.25	3.34	+1.74	.84	-.8	0.83	-.83	1.40	-.15	.65	-.83
Silverton	1.85	+.69	3.58	+2.08	.78	-.68	0.82	-.85	.65	-1.49	1.47	-.29
	May	Dep.	June	Dep.	July	Dep.	Aug.	Dep.	Sept.	Dep.	Oct.	Dep.
Durango	.88	-.25	.42	-.42	.87	-.94	3.44	+1.08	1.14	-.59	.48	-1.38
Cortez	0.62	-.24	.39	-.29	.72	-.49	.84	-.67	1.59	+1.18	.28	-1.18
Ft. Lewis	1.19	00	.69	+2.21	1.96	+2.21	1.14	-1.00	1.48	-.32	1.20	-.83
Silverton	2.10	+.71	1.61	+2.20	2.78	+3.31	2.30	-.52	1.49	-.30		

All the low snow went off early. Due to high winds, large snow drifts formed in the canyons. This combination caused a slower runoff. The percentage of useable runoff during the irrigation season when storage was not available would probably be less than 50%.

RUNOFF

<u>River</u>	<u>Station</u>	<u>1943-1947 Av.</u>	<u>1928-1965 Av.</u>	<u>Actual Runoff</u>	<u>Total % of normal</u>
San Juan	Pagosa Springs	276		247	89.5
Dolores	Dolores	260		269	103.5
La Plata	State Line		23,073	24	96.1
Animas	Durango	456		528	115.8

CROPS

Although the precipitation was below average during the later part of the year, better than average crops were grown on all lands whether it was irrigated or on dry lands. Last year being an above average precipitation during the later part of the winter and with heavy early snows, the ground moisture was above average. Above average wheat crops were made. Very good first cutting of alfalfa and native hay were made. Due to the late frost, the peach and apricot crops were nil. Apple production was spotted and below average. During the later part of the summer, range lands became dry and very little forage remained. Very little hay was produced.

INSPECTION OF RESERVOIRS

Inspection of all reservoirs, with the exception of those in Water District 69, was made. With minor maintenance, all dams were in good condition.

Three final inspections were made during the year on new construction. Haviland Dam, constructed by the Colorado Game Department, was given an adverse report due to the type of construction used. Due to adverse road conditions, dams in 69 were not inspected when they were full. Before final approval is made, it is desirable that they go through one winter's settling.

STOCK TANKS

We have had a "flock" of stock tanks to inspect. We have the SCS fairly well-trained in not authorizing any tanks on live streams or where they might be in conflict with water rights. Three areas where it is necessary to make field inspections are in District 32 below the M.V.I.D. main canals, in District 33 within the La Plata irrigation area, and in 30, 31 and 29 close to irrigation filings.

## COMPACTS

Very little trouble was experienced in the administration of the La Plata River Compact with New Mexico. The only time that we had any trouble was when the river ran out of snow water. The water "went out" in a couple of days. This, coupled with very hot weather, made it impossible to deliver to New Mexico one-half of the previous day's flow at the Hesperus Station.

## STRUCTURES

During the year, pressure was still applied to have water users to install headgates and measuring flumes on ditches in this Division. At the present time, we have nearly 100% installation on "main stem" ditches in Districts 33, 34, 32 & 31. We have a new adjudication for Districts 30, 31, 46 and 33. It will be a while before we can determine when new flumes will be necessary. A number of flumes have been installed in District 30, both on the La Plata and on the Animas, again due to the new adjudication the exact new needs for flumes is not known. In District 29 we have restrained from issuing new orders for the installation of flumes and head structure pending the outcome of the adjudication now pending. In a large number of ditches in District 29, persons are requesting a substantial increase in their allotted water.

## NEW CONSTRUCTION

Final inspection was made on the Tottem reservoir, constructed under the sponsorship of the S. C. S. for the Montezuma Valley Irrigation District. This construction makes final an old conditional decree issued in favor of the M.V.I.D.

### San Juan Chama Project

In general, work has progressed on the diversion works on the San Juan Chama Project. The Contractors have experienced many difficulties due to working conditions brought about by faulty Geological Reports. The following is a resume of the work to date.

Azatea (Chama-Navajo) 5.7 miles complete with about 9,600 feet of lining on the South end. The Mole has been removed from this end and is in the Tunnel at the Navajo end going "South". On the Navajo end the mole has completed about  $1 \frac{3}{5}$  miles of tunnel. The total length of this tunnel is 13 miles.

Oso Tunnel (Navajo to Little Navajo). A mole was working in the lower end of this tunnel about 200' in when it encountered soft wet ground, this gave way trapping the mole. It has since been removed. It is believed the contractors plan to use a conventional type of excavation until more stable ground is found. Work is progressing in the opening of the tunnel working south. Very little footage has been made. The total length of this tunnel is five miles.

Blanco Tunnel. About 22,000' have been excavated from the upper end, this has been by conventional mining. A total of 3800' from the lower end has been drilled by a mole. The total length of this tunnel is 9 miles.

Although the contractors have had considerable difficulty with construction, the Bureau of Reclamation claims they are still on schedule. The contracts call for completion by the Spring of 1969.

#### Adjudications

District Judge William Eakes has been very busy this last year trying to clear up several old adjudications and opening new ones in certain districts. The first adjudication for District 46 was completed early this year. This adjudication started off on the wrong foot and as a result it is very controversial. A new adjudication was made for District 31 which clarified the controversial question of priorities relative to the Pine River rights versus the Transmountain diversion of Pine River water in to the Rio Grande Watershed. A new adjudication was completed on the La Plata river and District 33. This established the priority of waters to be used on the Animas-La Plata Project. In conjunction with the adjudication of District 33, a new adjudication was worked up for District 30. At the present time District 29 is open for a new adjudication. It is very desirous to have all these waters properly adjudicated before waters of the San Juan Watershed are diverted in to the Rio Grand Basin.

#### Meetings:

A meeting of the State Conservancy Board was held in Durango. State Engineer Owens attended this meeting. A number of District Conservancy Board Meetings were attended. I also attended a number of Ditch Board Meetings.

#### Personnel

We were very lucky and very much pleased to be able to place two new deputy water commissioners in District 29. As the result of these new men, we are gradually getting the water in District 29 in order. We were pleased with the appointment of a new Deputy Water Commissioner for District 30. With the running of reservoir water in this district through the Lemon Dam, it became impossible to maintain proper ditch records on the remaining ditches in this district. With Mr. Edward C. Kennedy, Water Commissioner for District 33, and Claude Harrison, Water Commissioner for District 31 on the sick list most of the summer, it was difficult to spread out "that thin". Both of these men are back on the job at the present time.

TABULATION OF WATER COMMISSIONERS ANNUAL RESERVOIR REPORTS

District Number	Number of Reservoirs Reported	Area of high water line in acres	Capacity in Acre Feet	Amount in Storage May 1, Acre Feet	Amount in Storage Nov. 1 Acre Feet
29	6	649	3505	3505	2210
30	4	1503	62636	42145	40348
31	3	3095	126280	87922	41840
32	--	--	--	--	--
33	1	50	1200	1200	150
34	10	1499	38586	31421	7259
46	--	--	--	--	--
69	4	730	22271	22271	9064
Total	27	7516	254478	188464	100901

TABULATION OF WATER COMMISSIONERS ANNUAL DITCH REPORTS

District Number	Amount in Second feet Appropriation	Total Cap. of Ditches in C. F. S.	First day water was used	Last day water was used	Number days water was used	Average daily amt. used	Number Acre feet used	Number Acres Irrigated
29	1002	1295	Apr. 15	Oct. 31	199	107.70	46570	5737
30	491	836	Mar. 16	Oct. 31	209	302.9	138719	30798
31	724	884	Apr. 8	Oct. 31	196	346.7	135917	49958
32	191	232	Apr. 1	Oct. 31	196	247.3	40170	5191
33	534	586	May 16	Oct. 30	199	31.9	21571	12832
34	859	1336	May 1	Oct. 31	193	379	146320	52766
46	55	40	Apr. 27	Oct. 17	183	28.0	10237	1754
69	105	80	Apr. 1	Sep. 30	183	13.2	2441	1151
Totals	3967	5289	Mar. 16	Oct. 31	209	130.1	541945	160187



TABULATION OF WATER COMMISSIONERS ANNUAL RESERVOIR REPORT

District Number	First day water used from storage	Last day water was used from storage	Number of days used	Number of Acre feet used	Number of acres irrigated from Storage
29	May 15	Oct. 31	169	1297	1550
30	June 22	Oct. 31	118	18318	21985
31	May 25	Oct. 31	159	100345	36444
32	--	--	--	--	--
33	May 26	Oct. 13	81	1320	580
34	May 10	Oct. 31	174	29830	52713
46	--	--	--	--	---
69	June 11	Oct. 5	213	365	177
Totals	May 10	Oct. 31	213	151475	113449