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**OFFICE OF THE STATE ENGINEER**

232 STATE SERVICES BUILDING

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DENVER-3, COLORADO.

Durango, Colorado.

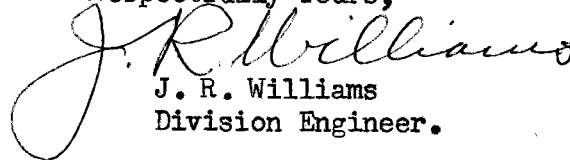
November 20 - 1962

Mr. J. E. Whitten  
State Engineer  
Denver, Colorado.

Dear Sir:

This is to submit for your approval the annual report  
for Irrigation Division 7 for 1962.

Respectfully Yours,

  
J. R. Williams  
Division Engineer.

ANNUAL REPORT

IRRIGATION DIVISION 7 - 1962

By J. R. Williams  
Division Engineer.

Water Supply.

The snow cover and water content at high elevations was above average on April 1st. and on May 1st. Forecasts averaged about 130 percent of average for stream flow on the assumption that average precipitation would occur during the spring and summer runoff period. This did not occur and as a consequence the forecasted flows failed to develop. The estimate for Animas River at Durango was 625,000 acre feet. Preliminary estimates show 491,000 for the April- September period. For Dolores at Dolores the estimate was 350,000 and measured flow was 274,000. La Plata at Hesperus was 39,000 and result was 24,700 . The published estimates had all the water users feeling good for a while anyway until it was apparent that such flows would not be reached.

Monthly & Period Flow of Animas River at Durango.

	April	May	June	Total 3 Mos.	July	Aug.	Sept.	Total 6 Mos.
1962	84920	133570	151400	369890	77020	26040	17560	490,710
Mean 1937-61	50890	139520	167600	358010	67100	30770	22880	478,760
% 1962	167	96	90	103	115	85	77	102
<u>Dolores River</u>								
1962	65350	93510	71300	230160	22700	14210	7030	274,100
Mean 1937-61	46290	107750	85680	239540	25290	13560	9010	287,400
% 1962	141	87	83	96	90	104	78	95
<u>La Plata River at Hesperus</u>								
1962	7110	8390	6510	22010	1900	496	273	24,680
Mean 1928-61	5310	11040	8810	25160	2570	1510	1050	30,290
% 1962	134	76	74	88	74	33	26	82

## Yearly and Seasonal Precipitation at Durango

### Monthly Amounts in Inches and Departures

	Oct.	Nov.	Dec.	Jan.	Feb.	March	Total	
							6 mons	
Ins.	2.58	0.85	1.39	0.78	2.29	0.87	8.76	
Dep.	.98	-.07	-.24	-.83	.99	-.62	.21	
	April	May	June	July	Aug.	Sept.	Total	Total
							6 Mos.	Year
Ins.	0.24	1.24	0.54	0.53	0.42	2.46	5.43	14.19
Dep.	-1.05	.11	-.31	-1.28	-1.94	.58	-5.49	-5.28

Lack of average precipitation during the spring and summer was the principal factor in <sup>the result was low</sup> affecting stream flow. This was an odd year temperature wise also. The winter temperatures were below normal particularly in December when a steady, dry cold period damaged fruit trees, roses and shrubs. About the tenth of February a warm spell occurred which thawed the ice out of the streams and caused some early, unseasonal runoff.

Summer temperatures were about average as shown by the weather reports, but such reports tell only part of the story. There were long periods of dry, windy days and cold nights in latter part of May and in June, which sapped the ground moisture and affected the snow cover at high elevations. The last killing freeze in the spring was on May 22d. which killed the fruit crop. The earliest hard freeze in the fall was on October 31st.

The maximum stream flow was generally on May 11th, which was earlier than usual. Good rains came the last week of September which caused some runoff and enabled the mesa areas, without reservoir water, to get some stock ponds filled.

#### Use of Water.

All reservoirs filled with the exception of Ground Hog which stored 17,110 acre feet or 79 percent of capacity.

Use By Principal Projects in Acre Feet.

Project	: Amount : River : Water : Used	: Number : Acres : Irrigated : From River	: Amount : Reservoir : Water : Used	: Number : Acres : Irr'gtd : From : Reservoirs	: Total : Amount : Used	: Total : Number : Acres : Irr'gtd.	: Gross : Hdg. : Duty
Pine River	: 135,440	: 46,514	: 68,260	: 35,499	: 203,700	: 46,514	: 4.38
Mancos	: 26,060	: 12,011	: 6,280	: 6,551	: 32,340	: 12,011	: 2.69
M.V. Irr.Co	: 102,020	: 35,000	: 30,200	: 35,000	: 132,220	: 35,000	: 3.78
Summit	: 2,600	: 5,000	: 7,000	: 5,000	: 9,600	: 5,000	: 1.92
Totals	266,120	98,525	111,740	82,050	377,860	98,525	3.83

The above-named projects used fifty-seven percent of total stream water in the division, ninety-one percent of total reservoir water and irrigated sixty-five percent of total acreage reported. Such projects diverted 27,510 acre feet more from the streams and 20,220 a.f. more reservoir water than was used in 1961. The total was 47,730 a.f. or fourteen percent more than in 1961. This was due to a trifle better early stream flow than last year, adequate storage water, and dry weather in the summer.

The amount of water in storage as of November 1st, this year was 80,500 a.f. as compared with 107,000 in 1961. The larger reservoirs have adequate carry-over but the smaller ones were all drained in September.

Crops.

In general, the crops over the division were not good due to the cold spring weather. All areas report less than average hay yield. Small grains did not yield up to average. In the dry farm areas the bean crop was almost a complete failure. There is fair ground moisture now. Fall wheat looks good and pastures have become green but anything can happen and probably will between now and next summer.

Developments.

The construction of Lemon Dam on Florida River is progressing satisfactorily. The earth fill is up fifty-five feet above the stream bed and one hundred twenty feet above the bottom of cut off trench. One hundred sixty-two feet of dam still

remains to be built. Total yardage in the dam will be about three million cubic yards. The tunnel is complete and the gate shaft. Work at the dam is about one-third complete. The canal to take water to project lands is about two-thirds complete, and it is expected that it will be done by April, 1963. The completion date on the whole project is January, 1964.

It looks as though the Animas - La Plata Project and the Dolores Project are moving along as fast as can be expected.

Several headgates, wasteway structures, and measuring flumes were installed on ditches taking water from Florida, La Plata, and Dolores Rivers. A total of forty orders were sent out last fall and during last spring for installations. Thirty of these were on the Dolores River. There has not been good compliance on the Dolores. A total of six have been installed.

#### Administration.

No particularly tough administration problems arose except on the La Plata, which will be covered in a separate report. There were some complaints, unjustified, in the Mancos area about regulations by the Water Commissioner of priorities. Then some difficulty at Mancos about diversion of domestic water out of priority late in the summer. The junior ditch owners have been notified that it will be necessary to build stock water tanks and cisterns to provide stock and domestic water. Senior right owners have agreed to allow diversions periodically to fill such tanks and cisterns.

Additional decrees are out in Dist. 29 which have added some to the work there. A new decree is completed for Dist. 32 which is the McElmo Creek area near Cortez. This will probably require the services of a commissioner next season. There should probably also be a deputy commissioner in Dist. 34 to work the Dolores River. It may get to be a trifle rough to force compliance by all with the headgate and flume orders. Since some installations were made, it may be that the great majority will fall in line.

Tabulation of Water Commissioners Annual Ditch Reports.

Dist. No.	Number of Ditches Reported	Amount S.F.	Total Capacity of Canals S.F.	First Day Water Was Used	Last Day Water Was Used	Number of Days Used	Average Daily Amt. Used S.F.	Number of Acres Irrigated	Number of Acres From Stream
29	:	589	639	:	:	:	:	*45000	* 15000
30	168	579	754	Apr. 15	Nov. 15	215	231	99490	21627
31	50	712	922	" 15	Oct. 19	188	392	146268	48333
33	31	273	377	" 12	Sept. 30	172	48	16516	11226
34	63	859	1361	" 5	" 30	179	438	155603	54536
69	14	110	69	" 3	Sept. 4	124	19	4696	1014
Totals	326	3122	4122	Apr. 3	Nov. 15	227	1030	467570	151736

\* No Report from Dist. 29. Estimated by Division Engineer.

Tabulation of Water Commissioners Annual Reservoir Reports

Part 1

Dist. No.	Number of Reservoirs Reported	Area of High Water Line (Acres)	Capacity in Acre Feet	Amount in Storage on May 1st. in Acre Feet	Amount in Storage on Nov. 1st. in Acre Feet
29	5	670	* 1,500	*1,500	No Record
30	5	938	25,310	9,108	19,975
31	3	3,093	128,236	57,716	45,297
33	1	50	1,200	1,200	0
34	9	1,501	38,580	37,141	10,160
69	4	709	22,281	11,064	5,079
Totals	27	6,961	217,107	117,729	80,511

\* No Report from Dist. 29. Estimated by Division Engineer

Tabulation of Water Commissioners Annual Reservoir Reports

Part 2

Dist. No.	First Day : Used From : Storage	Last Day : Water Was : Used From : Storage	Number Days : Water Was : Used From : Storage	Average : Daily : Amount Used : in S.F.	Number : Acre Feet : Used	Number : Acres : Irrigated
29	:	:	:	:	*1,500	* 1,500
30	July 16	Sept. 1	48	2.0	** 193	40
31	May 1	Oct. 15	165	210	68,395	35,569
33	May 11	Sept. 6	93	5.5	1,022	443
34	May 15	Sept. 29	133	196	*** 52,124	43,631
69	July 12	Sept. 4	55	3.0	309	129
Totals	May 1	Oct. 15	165	374	123,543	81,312

\* Estimated by Division Engineer. \*\* Does not include release from Cascade Reservoir which was used for power. \*\*\* Includes 13,690 acre feet from Ground Hog Reservoir in Dist. 69.

Summation of Ditch and Reservoir Reports

Dist. No.	Amount Used : From Streams : Acre Feet	Amount Used : From Storage : in Acre Feet	Total Amount : Used : in Acre Feet	Total Number : Acres : Irrigated	Gross : Headgate : Duty
29	* 45,000	* 1,500	* 46,500	* 15,000	3.10
30	99,490	190	99,680	21,630	4.61
31	146,270	68,400	214,670	48,330	4.44
33	16,520	1,020	17,540	11,230	1.56
34	155,600	52,120	207,720	54,540	3.81
69	4,700	310	5,010	1,010	4.96
Totals	467,580	123,540	591,120	151,740	3.90