

1956

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STATE OF COLORADO
OFFICE OF STATE ENGINEER
DIVISION OF WATER RESOURCES
-DENVER-2

Durango, Colo.
February 15-1957

SUBJECT:

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

Dear Sir:

Attached hereto is tabulation of Water Commissioners ditch and reservoir reports for 1956. This is to complete the report made to you on Nov. 27- 1956.

There is some difference in the total amount of reservoir water used than was shown in the preliminary report. Also the amounts in storage as of May 1st. and remaining in storage as of Nov. 1st. The correct figures can be obtained from the tabulated statements if any one is interested.

The final stream flow figures will differ some from those reported but not enough to make any material difference.

Very truly yours,

J. R. Williams
Division Engineer
Irr. Division 7



1956

Durango, Colo.
November 27-1956

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

Dear Sir:

The following is a preliminary report of Division 7 for 1956.

Water Supply. The snow cover on Animas River Watershed was seventy percent of average for the period of snow course measurements, 1937 to 1955. The forecast of stream flow as of April 1st. and May 1st. for the San Juan and Dolores Rivers was seventy percent.

The preliminary determination of stream discharge for the April-September/on several streams was as follows:
period

Monthly & Period Flow in Acre Feet								
Stream	April	May	June	Total 3 Mos.	July	Aug.	Sept.	Total 6 Mos.
<u>Animas</u>								
Durango:	33670	115230	102680	251580	25220	15900	9720	302420
Average								
1937-55:	53420	244760	170520	368700	71340	30820	23620	494480
% of Av.								
1956	63	80	60	68	35	52	41	61
<u>Los Pinos</u>								
Val. Dam:	17730	63440	42580	123750	9500	5400	3360	142010
Average								
1937-55:	22560	69770	73440	165770	31840	13930	11840	223380
% of Av.								
1956	79	91	58	75	30	39	28	64
<u>La Plata</u>								
Hesperus:	3860	8640	4340	16840	954	641	233	18670
Average								
1928-54:	5420	11160	8700	25280	2560	1440	1090	30370
% of Av.								
1956	71	77	50	67	37	44	21	61
<u>Dolores-</u>								
Dolores:	31820	75480	44640	151940	12020	8780	3140	*175880
Average								
1937-55:	51400	117120	91950	260470	26350	12990	9100	308910
% of Av.								
1956	62	64	49	58	46	68	34	57

* Includes 11820 A.F from Ground Hog Reservoir.

Extreme daily minimum flow was : Animas 138 s.f., Los Pinos 50, La Plata 3, Dolores 19 and Florida River 4.5. All extreme lows occurred during September. All of the Florida flow was diverted above the gaging station to City of Durango. There was no flow at the gage for about 45 days.

On all streams the total flow during September was the lowest of recent record. The two previous extreme low years were 1934 and 1939. The flow this past season was generally a little more than during July and August of 1934 and 1939.

Comparative Low Years in Thousands of Acre Feet.

Stream	Year	3 Mos.			3 Mos.		6 Mos.			
		Apr.	May	June	Total	July	Aug.	Sept.	Total	Total
Animas	1934:	42.8	75.0	23.4	141.2	13.0	12.7	13.3	39.0	180.2
	1939:	46.0	114.6	78.5	239.1	26.9	17.0	34.3	78.2	317.3
	1956:	33.7	115.2	102.7	251.6	25.2	15.9	9.7	50.8	302.4
Los Pinos	1934:	27.0	32.0	9.7	68.7	6.3	7.1	9.4	22.8	91.5
	1939:	22.5	60.6	32.8	115.9	10.3	7.2	20.8	38.3	154.2
	1956:	17.7	63.4	42.6	123.7	9.5	5.4	3.4	18.3	142.0
La Plata	1934:	3.8	3.2	0.9	7.9	0.6	0.6	0.6	1.8	9.7
	1939:	4.0	5.6	2.2	11.8	0.5	0.4	1.1	2.0	13.8
	1956:	3.9	8.6	4.3	16.8	1.0	0.6	0.2	1.8	18.6
Dolores	1934:	28.1	34.9	6.4	69.4	3.4	3.2	2.5	9.1	78.5
	1939:	43.1	70.7	27.5	141.3	5.4	3.9	8.2	17.5	158.8
	1956:	31.8	75.5	44.6	151.9	*6.3	*4.8	*1.4	*12.5	164.4

* Natural Flow. Reservoir flow deducted from total.

Precipitation

Weather : Station :	Month & Period													
	Oct.	Nov.	Dec.	Jan	Feb.	March	Total							
	:Amt.:	:Dep.:	:Amt.:	:Dep.:	:Amt.:	:Dep.:	:Amt.:	:Dep.:	:Amt.:	:Dep.:	:Amt.:	:Dep.:	%	
Cascade :	0.44:	-2.37:	2.14:	.36:	3.16:	.62:	4.71:	1.80:	3.53:	.50:	1.18:	2.26:	15.16	:-1.35:-8 :
Durango : T :	1.87:	1.15:	-.03:	2.13:	.44:	2.54:	1.13:	0.50:	-.78:	0.82:	-.69:	7.14	:-2.43:-25	
Ft. Lewis:	0.00:	1.75:	1.23:	.21:	2.12:	.53:	2.92:	1.40:	.56:	1.20:	.44:	1.20:	7.27	:-2.01:-22
Silverton:	1.3:	2.34:	1.33:	.08:	2.40:	.73:	2.62:	1.19:	.66:	1.02:	.77:	1.39:	7.91	:-3.28:-29
Wolf Cr. :	*													
Pass :	0.38:	3.16:	6.08:	3.27:	7.03:	2.24:	10.67:	4.19:	4.46:	1.56:	3.24:	4.15:	31.86:	0.83: 3
	: April	: May	: June	: July	: August	: Sept.	: Total							
	:Amt.:	:Dep.:	:Amt.:	:Dep.:	:Amt.:	:Dep.:	:Amt.:	:Dep.:	:Amt.:	:Dep.:	:Amt.:	:Dep.:	Amt. :	Dep. : %
Durango :	1.00:	-.25:	.02:	1.16:	.21:	-.70:	0.75:	1.08:	0.93:	1.42:	0.13:	1.75:	3.04	:-6.36:-68
Ft. Lewis:	0.57:	-.88:	0.60:	-.63:	0.10:	-.85 :	0.99:	-.83:	1.13:	-.99:	0.21:	1.79:	3.60	:-5.97:-63

* Recorded precipitation on Wolf Creek Pass in four days, Jan. 26-29 was 7.32 ins. water in 115 ins. snowfall.

Temperatures.

The growing season , April thru September averaged about four degrees warmer than average. Frost free period was from May 16 to about Oct. 6th. or about 145 days which was approximately twenty five days longer than average. The customary June freeze did not occur for some unknown reason.

Use of Water.

In the irrigated areas without sufficient or any storage to provide late water which are the San Juan and Piedra, Florida Mesa and La Plata sections, the early water supply was ample to meet all needs except the La Plata where the flow had to be divided or rotated with New Mexico. The stream flow and diversions declined rapidly after June 20th. so that diversions from natural flow was extremely deficient during the late summer.

In the major reservoirs listed in the following table the maximum amount in storage was 139,100 acre feet which was about eighty percent of capacity. Total use from these same reservoirs was about 122,600 acre feet which was 17,000 a.f. more than was used from storage in 1955. The amount remaining in storage as of Nov. 1 was 17,900 a.f. which is the lowest of record and 27,780 a.f. less than was in storage a year ago.

Reservoir Report.

	Acre Feet						
	Max. Amt.	Amount Nov. 1:	Amount Used				
Name of Reservoir:	Capacity:	in Res'vr.:	1956 :	1955 :	1956 :	1955 :	
Vallecito	: 126280	: 106150	: 15880:	39170:	90170 :	74110	:
Jackson Gulch	: 10000	: 6710	: 680:	1600:	5860 :	6200	:
Ground Hog	: 21710	: 10990	: 950:	4370:	11820 :	8680	:
Narraguinepp	: 8750	: 8750	: 0:	180:	8750 :	10790	:
Summit System	: 5300	: 5300	: 400:	370:	5000 :	5000	:
Red Mesa	: 1200	: 1200	: 0:	0:	950 :	770	:
Total	173240	139100	17910	45690	122550	105550	

Total reservoir capacity in the division is 205,000 ac. feet but numerous small sidestream reservoirs did not fill. No report has been received from Water Commissioners on most of them. Cascade Reservoir or Electra Lake from which water is used for development of electricity thru the Tacoma plant did not completely fill. We may be just about as short of electricity during the winter as we were short of water during the late summer.

The Red Mesa Reservoir was filled from the La Plata River late in March when a sudden thaw caused a good run of water before the handowners were ready to irrigate.

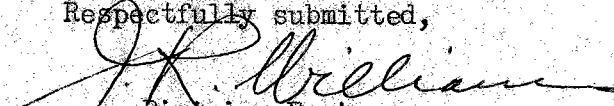
Crops.

Because of the lack of sufficient natural flow the hay and grain crops were about fifty percent of average on lands without storage for late use. Under storage, in general, hay crops were better than last year, particularly the first cutting of alfalfa which was not damaged by the customary June freeze. Because of the lack of rain during the summer the water requirement for crop growth was high. Late crops were below average. There is no fall or winter forage for livestock.

Effect of Short Water Supply.

The effect of the deficient stream flow during late summer was critical for some towns. Dove Creek, which depended on pumping from the Dolores River was out of water about the middle of August. Periodic releases of flow were made to the stream channel by the canals near Dolores to fill up the river bed so Dove Creek could pump. Recently a deep well has been drilled in the river bed and a good supply is reported. The City of Durango found it necessary to seriously curtail the use of water in Sept. and early October. The total flow of the Florida River was diverted to Durango for a period of about two months. The least daily amount diverted was 4.5 s.f. The towns got by better at that than did the livestock owners who have depended on stock water tanks and wells for supply. Both went dry in some areas. Rains in late October caused a better stream flow so that most water tanks have been filled or will be if it does'nt freeze up too badly soon.

Respectfully submitted,


Division Engineer.