



**STATE OF COLORADO
IRRIGATION DIVISION NO. 6
STEAMBOAT SPRINGS**

B. T. CHASE
IRRIGATION DIVISION ENGINEER

November 29, 1954

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

Dear Sir:

I herewith present my annual report for Irrigation Division No. 6, for 1954.

Attached hereto are tabulated statements of Water Commissioners ditch and reservoir reports.

Past year, the water supply continued on a decline. Storage of water in reservoirs ended at approximately fifty percent of the storage capacities and of the normal amount of water stored in the average year.

Direct flow supplies after June 1, were less than fifty percent of normal and in some areas ran down to approximately twenty five percent of the demands. Several ditches diverting from streams at lower elevations, recorded no water at any time.

The direct flow supplies have two classifications, that from the main river diversions and those from practically all tributaries to the main streams. The main streams referred to here are the White River District No. 43, the Yampa River from the town of Yampa, west through Districts 58, 57 and 44 and the Elk River in District No. 50. The Little Snake River District No. 54 and 55. These areas comprise approximately thirty seven percent of the total acreage irrigated and with the exception of the Little Snake River area, the supply is usually adequate to meet all demands. The other sixty three percent of the total irrigated area is served from the various tributaries to the above mentioned streams and with but very few exceptions under normal conditions the water supply ranges from twenty-five to seventy five percent of demands during the latter half of the irrigation season. This past year was below the previous averages.

A study was made to ascertain conditions relative to the average water supply and irrigation requirements for the present irrigated areas under a few of the principal tributaries.

Deep Creek in Water District No. 58

Total adjudicated water rights 102.50 c.f.s. in 29 ditches for the irrigation of approximately 3600 acres. Heavy runoff usually starts in May and is over and below the demand with less than 30 days of full supply, the following 60 days drops to one fourth the demand to complete dry streams prior to end of irrigation need. No storage at present time. Storage needed estimated 5000 to 7000 acre feet.

Watson and Hunt Creeks, District No. 58

Total adjudicated water rights from direct flow on both creeks is 137.72 c.f.s. for the irrigation of approximately 5000 acres. The heavy runoff is through May and early June. Approximately 30 days adequate supply, next 20 days about twenty five percent of demand, balance of season less than twenty five percent. Present storage supply 1100 acre feet in Simon Reservoir No. 1 and about 200 acre feet from other sources. Additional storage needed 6000 to 7500 acre feet.

Oak Creek, Water Dist. No. 58

Total water rights from direct flow 62.65 c.f.s. in 19 ditches for the irrigation of approximately 2500 acres. The demand exceeds the supply early in July, 45 to 60 days short of final irrigation needs. Present storage one small reservoir 350 acre feet. Additional storage needed 3500 to 4000 acre feet.

Walton Creek, Dist. No. 58

Total water rights adjudicated for direct flow 127.96 c.f.s. in 27 ditches for the irrigation of 6500 acres. The supply in Walton Creek keeps up with the demand usually to about July 10. The supply drops before the end of the season to less than ten percent of the demand. There are no storage provisions at the present time. It is estimated it will require 8000 to 10000 acre feet storage to properly regulate the flow for later use.

Fish Creek in District No. 57

Total amount of water adjudicated in 15 ditches is 50.00 c.f.s. for the irrigation of approximately 3000 acres. Heavy run-off through May and early June. Balance of season, approximately 60 days the supply drops below twenty five percent of the demand. No storage at the present on Fish Creek. Probably need 3500 to 4000 acre feet.

Fortification Creek Dist. No. 44

Total adjudicated water rights 115.00 c.f.s. to the existing ditches for the irrigation of approximately 4500 acres. There is an adequate water supply only in the early part of the season, following about 30 days of a fifty percent supply, the remaining approximately 30 days of the season the supply drops to about zero. No storage at present. Storage needed estimated 5000 to 6000 acre feet.

Milk Creek, Morapas and Deer Creek
in Water District No. 44

Total water rights adjudicated to 52 ditches for the irrigation of approximately 6500 acres. Ample supply for about first one third of the season during the heavy run-off. Fifteen to twenty five percent of demand from about July 1, through July, with considerable less supply for balance of season. Present storage capacity on Milk Creek 1100 acre feet. Morapas Creek approximately 500 acre feet. Additional storage needed to regulate flow for adequate irrigation estimated 8000 to 10000 acre feet.

Willow Creek and Four Mile Creek
in Water District No. 55

Total adjudications 55.00 c.f.s. for the irrigation of 3300 acres. Present direct supply adequate only for the first three to four weeks of the season. Fifty percent supply for next thirty days and practically zero supply through balance of season about another thirty days. Present storage capacity on Willow Creek 400 acre feet. Additional storage needed 4000 to 5000 acre feet.

The Fish Creek Reservoir Dam District No. 58
The 1954 construction was terminated on October 13, the resident engineer upon request of the contractor after construction had been curtailed by a five day period of rain and snow, which had accumulated to approximately a fifteen inch depth of new snow. This also terminated the contract with the present Contractor.

October 14, a temporary spillway was excavated in the fill near the left abutment, this cut was rock lined near the lower end in the hopes it would be a protection against serious damage to the rest of the fill.

Approximately one third of the yardage was placed in the dam. The minimum height of fill above outlet invert about ten feet. The bottom of spillway not more than five feet above outlet. Very small storage can be accumulated before reaching spillway level.

Stillwater Reservoir No. 1, District No. 58
First day water was released was on June 10, about thirty days ahead of average. It had in storage 3299 acre feet, about fifty percent of capacity. Storage water released to various ditches through to October 12, (212 acre feet was held in storage for benefit of the town of Mampa.

The Sheriff Reservoir Dam, District No. 57
Construction was discontinued following heavy snow fall October 12 and 13. Contractor started moving out equipment on the 19th, material too wet, freezing nights.
This dam was completed to within approximately five and a half feet of the expected finished height

No emergency spillway was provided. The regular spillway cut was completed and is about two feet below the present crest of dam at lowest point. The gate on the thirty six inch outlet pipe was left open and this outlet should have sufficient capacity under a twenty foot head to hold the spring run-off well below the spillway elevation.

Dams under construction in 1954

Construction was started on the following dams quite late in the summer:

Name of Dam	Height	Capacity Ac. ft.	Use
Fish Creek Res.	50	1100	Domestic
Sheriff Res.	57	800	"
Cull Res.	50	---	Irrigation (Not Filed)

Dam Completed not storing this season

McChivvis	55	400	Irrigation
-----------	----	-----	------------

Dams completed and storage permitted in 1954

Poose Creek	32	---	Fish
D.D.&E. Enl.	25	600	Irrigation

Temperature and Precipitation

Month	Average Total Amount inches	Bulk of Precipitation Dates	Above or Below Average	Temperature Departure Degrees	Freezing Dates
May	1.61	1st to 23, Distributed	Average	+2.80	10 days
June	.69	"	-.60	+ .70	9 "
July	1.27	"	-.15	+4.10	None
August	1.80	"	-.08	+ .07	"
Sept.	4.11	"	+1.95	+2.70	Sept. 20

Precipitation deficiencies from May 20th through August 15th. The total rainfall less than two inches in 56 days during the growing season.

Fall moisture later part of August through September and first part of October was about up to average. No precipitation again through November.

Wet conditions prevailed mostly throughout the hay and grain harvesting.

A severe freeze occurring on June 12th was far more damaging to crops than water shortages. A complete loss in the first cutting of alfalfa from freezing. A heavy loss occurred on all alfalfa for later cutting where insufficient water was available to produce the second growth.

Harvesting of grain was well under way prior to the starting of rough weather. Some of the grain acreage was caught in the freeze and dry period and such fields were un-harvested except for forage.

Native hay crop was reported better than average where sufficient water was available, about a half crop was the average for other areas.

The total diversions in 1954 in acre feet were approximately sixty two percent of the 1953 diversions on about the same acreage.

The first day water was used this year was reported on March 6th and the last day November 10th, this past season from beginning to end was approximately 65 days longer than the average season.

Respectfully Submitted

B. T. Chase
B. T. Chase, Division Engineer
Irrigation Division No. 6

IRRIGATION SEASON 1954

TABULATED STATEMENT OF WATER COMMISSIONER'S ANNUAL DITCH REPORTS

District No.	No. of Ditches Reported	Amount of Appropriation cu.ft.per sec.	Capacity Of Ditches Sec. ft.	First Day Water was used	Last day Water was used
43	100	860.27	1225.50	11-10	10-30
44	94	508.97	697.00	3-6	9-28
54	40	77.12	210.00	5-1	10-10
55 - 56	No Reports				
57	53	321.16	390.50	4-2	10-30
58	262	1498.79	1616.00	4-1	11-1
Totals	549	3266.31	4139.00	3-6	11-1

	Average No. days Water carried	Average Daily Amount Carried in Second feet	No. of Acre Feet Used	Total No. Acres Irrigated	Remarks
43	70	569.77	145,227	13,871	In all water
44	90	416.37	75,965	20,888	Districts where
54	62	109.00	12,599	7,470	water was available,
55 - 56					diversions were made
57	69	213.15	33,234	12,644	up th late Navember
58	80	930.85	161,004	51,997	on meadow and pastu-
					re irrigation.
Totals	74	2239.14	428,029	106,847	

TABULATED STATEMENT OF WATER COMMISSIONER'S ANNUAL RESERVOIR REPORTS

District No.	No. of Reservoir's Reported	Area of High water Line, acres	Capacity in cubic feet	Quantity of water in Reservoir May 1st	Quantity of water in Reservoir Nov. 1st
43	0				
44	11	358	68,735,928	45,577,328	00
54	0	-			
55-56	No. Comm.				
57	14	387	148,536,725	41,652,978	00
58	9	387	421,451,457	265,967,409	4,072,520
Totals	34	1132	638,724,110	353,197,715	4,072,520

	First Day Water used	Last day Water used	Average No. days water carried	Average daily am't carried cubic ft.	No. of acre feet carried	Total No. acres irrigated
43	-	-				
44	6	7	9 - 9	76	15.66	2383
54	-	-				1050
55-56						
57	5	4	9 - 25	119	4.00	678
58	5	15	10 - 30	32	59.88	5499
						Suppl
Totals	5	4	10 - 30	76	79.54	8560

In addition to the acreage irrigated under reservoirs. The reservoirs in District No. 58 supplied supplemental water to 33 other ditches.