

1951

Monte Vista, Colorado

December 28, 1951

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

Subject: 1951 Annual Report  
*Irrigation* Water Division 3 - District 20

Dear Mr. Hinderlider:

*1951* The prospects for water for irrigation in District 20 was on April 1st, 63% of normal, being near an all time low.

In early January 1951 it was apparent that our snow supply was very deficient. Facing this situation the water users here, desperate to supplement the snow pack, organized the San Luis Valley Weather Corporation and entered into a contract with the Water Resources Development Corporation for cloud seeding operations.

The contract, as I understand it, the cloud seeding corporation, under the general supervision of Dr. Irving P. Kreek, was to furnish and operate certain ground generators and for this service the water users organization was to pay to the operating Company the lump sum of \$10,000.00.

Further, if on April 1st. the official snow survey on several named snow courses indicated 110% normal the water users organization was to pay an additional \$15,000.00 or a total of \$25,000.00.

As has been mentioned the official snow report was approximately 63% of normal on April 1st. thus only the \$10,000.00 was paid to the Development Corporation.

It is needless to state that the farmers generally are not to well sold on the artificial precipitation idea to date.

In fairness to those promoting the cloud seeding operation it may be said that the farmers here generally, those with whom I have discussed the matter, feel that cloud seeding may prove valueable some time, but it is too much in the experimental stage, for practical use now.

The Rio Grande River discharge at the Del Norte Station from October 1, 1950 to September 30, 1951 was 310,400 acre feet.

You will note from the Reservoir report furnished by the Division Engineer that Reservoir discharge contributed little to this river supply.

Total water delivered to all ditches in District 20, including tributaries, was 342,722 acre feet as compared to years 1931 348,800 acre feet; 1934 351,251 acre feet and 1940 344,857 acre feet.

I do not find a year in the last 40 in which the delivery to ditches in District 20 has been as low as 1951. The mean for 40 years is about 553,000 acre feet.

The total delivered from all reservoirs to the ditches was 12,785 acre feet; and is included in the above total for 1951.

The extensive operation of irrigation pumps from April to October over most of the area made possible limited crop production.

A large acreage normally in crop was not seeded; this is especially true of small grains.

The potato acreage was some under normal and the yield about 75% of normal. The estimate for the valley being 9,000 cars compared with 12,000 cars in 1950; however the quality is high and the prices well above average.

The short river supply and the extensive pumping lowered the ground water to an almost alarming stage. As nearly as could be determined the mean draw-down was about 8 feet over the district.

This depletion of the so call<sup>ed</sup> "sub-water" the past season, will naturally require an above normal supply next summer in order to meet crop requirements, and build back our normal ground water levels.

A rather extensive construction and repair program has been carried on in 1951 on the canals and ditches.

The Rio Grande Canal completed the concrete trash rack, in front of their new concrete headgate, last winter and now have well under way a new O G type re-inforced concrete Diversion Dam about 200 feet in length and 12 feet high across the Rio Grande River, the cost to be about \$50,000.00.

With the three new concrete structures and the automatic controlled gate installation, the total headworks project<sup>cost</sup> will aggregate an expenditure of about \$125,000.00.

On the canals and ditches five new measuring <sup>flumes</sup> ~~wiers~~ were installed; three were made of timber, one of steel sheet piling and concrete, and one of re-inforced concrete, the largest being of timber - replacing the old wooden structure on the Empire Canal; several others were repaired.

Four new Stevens type "F" recorders were installed, two replacing old Bristol Clocks and two new installations.

The larger canals are rapidly removing old wooden structures and replacing them with concrete and steel gate installations.

A small earth dam was built by Roy Powell - on Jumper Creek - known as Jumper Creek Reservoir. I knew nothing of the construction of this dam until after it was completed. I did visit it in October and found it rather well constructed, but instructed the owner to lower crest of spill way about two feet to high water line level to insure sufficient free board. The spill way is cut through solid rock formation and apparently of sufficient width. Evidently no plans or specifications were prepared as the surface area at high water line is about five acres and the total capacity 38 acre feet; map No. 16-818 was filed in your office August 9, 1940.

Any report for the Beaver Project for 1951 would be disappointing as to progress or accomplishment. The work completed this fall briefly includes - finishing the road around the dam; reinforced concrete cut off wall in throat of old spill way and proper back fill over same; the concrete seep wall replacing four concrete collars or pilasters shown in the original design - at union of the right abutment to spill way wall; some additional excavation of rock for spill way; placing the 12" gravel cushion on floor of spill way and installing the 6" perforated pipe down center and in gravel blanket below floor of spill way.

Recently, provision has been made in the matter of controll of water through discharge tunnel to do necessary concrete repairs in tunnel and the base of the tower but no concrete has yet been placed.

Although a copy of a letter addressed to my office by Paul Davis has been furnished to you - I am including copy of the same here with - for it gives briefly his estimate on the percentage of completion on December 15, 1951.

There has been no unusual difficulties in the administration of water - even though such might well be anticipated in the face of practically an all time low water supply.

One very rapid change is obvious, and is accelerated in dry years - namely the realization by the water users of the real value of water and the need for more accurate measuring equipment, improved irrigation structures, and the demand for supervision and extended administration.

The prospect for water for the valley, at this time, for next irrigation season is very good. While official snow surveys have not been made, all reports available indicate the heaviest snow deposits in the surrounding mountains since Federal and State cooperative snow surveys were initiated in 1938.

Respectfully submitted,

*DH Mathias*

Special Deputy State Engineer

DHM:rc

1951

ROY B. HEILMAN  
IRRIGATION DIVISION ENGINEER

GLEN E. BREES  
HYDROGRAPHER



STATE OF COLORADO  
OFFICE OF DIVISION ENGINEER  
IRRIGATION DIVISION NO. 3  
ALAMOSA, COLORADO  
December 18th., 1951.



Mr. M. C. Hinderlider,  
State Engineer,  
State Engineer's Office,  
State Capitol Building,  
Denver, Colorado

Dear Mr. Hinderlider:

Enclosed is my annual report for this year.

I am sending to your office by express, the water commissioner's ditch report sheets, reservoir report sheets and field books.

Yours very truly,

*Roy B. Heilman*  
Roy B. Heilman.

RBH:ot

Alamosa, Colorado,  
November 26th., 1951.

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

Dear Mr. Hinderlider:

Herewith is submitted to you my annual report as Irrigation Division Engineer for Division No. 3 for the year 1951. This report consists of tabulated summarized statements of the reports from the water commissioners of diversions to various ditches, acreages irrigated and reservoir storage. Data as to temperature, rainfall and climatic conditions may be secured from other sources, and in more complete form than can be given in this report.

It was thought that the 1950 season was very dry, but the 1951 season was much worse in the San Luis Vally, which comprises Division No. 3. There was considerably less water diverted to ditches than in 1950 and less than normal. For the entire division the amount of water diverted was approximately 48% of the average for the last ten preceeding years, and in one district the percentage was as low as 20%. Many ditches did not receive any water at all and others received water for such a short period of time that the water did but little good, being insufficient for one irrigation for the normal acreage. The districts suffering most from the shortage of water were again those districts in the north end and east side of

the Valley; namely, Nos. 24, 25, 26, 27 and 35.

The spring run off was late and of short duration. None of the streams were at flood stage at any time. The few rains that did come were late and were local showers rather than general rains over the division.

Most of the reservoirs in the Division were empty at the end of the 1950 season, and at the start of the 1951 season, the only water in the reservoirs was winter storage. There was practically no water available for storage from the spring run-off.

Crops for the entire division were only 40 or 50 per cent of the average. The season was satisfactory for a normal crop, but the only areas producing normal crops were the areas under ditches with the early water rights or where supplemental was supplied from pumps or artesian wells. The feed crop was very poor, so poor in some districts that the livestock had to be shipped to other areas for feed. The grain and row crops were more nearly normal, especially, in the areas where supplemental water was supplied by pumps.

The mountain ranges at the lower elevations were very poor. The higher mountain ranges, used principally for sheep, were better but season was short, being opened late in the spring.

A number of new pump installations were made through out the Valley and some in districts where pumps had not been used previously. Sufficient electric power was available for their operation.

There were a number of administrative problems, as is usual in years of short water supply, most of which, were solved satisfactorily. In District 21 a suit was brought against the water commissioner for some \$28,000.00 in damages for alleged illegal diversion to an alleged illegal point of diversion. This case is still in the courts. The result of this suit is being watched by many water users, other than the active participants in the suit, because of the principal involved.

*Hansen  
Ditch*

The reservoir dam at Platoro on the upper Conejos River was completed this year and the reservoir is ready for storage. It is planned to store most of the flow of the river at that point through out the winter.

The San Luis Valley Water Conservancy District has been extended to include considerably more acreage and also to include the towns of Monte Vista, Del Norte and Center. The inclusion of these towns into the District was protested by the Railroad Company. However, the Court ruled that they be included. It is quite probable this ruling will be appealed to a higher court. No definite plan for the construction of the project <sup>wagon wheel</sup> ~~Gap Dam~~ on the upper Rio Grande River has been agreed upon; however, the Reclamation Bureau has a large crew working on the project and it is quite possible that the project will include power as well as irrigation.

Respectfully submitted,



Roy B. Heilman,

Irrigation Division Engineer,

Division No. 3.

SUMMARY

WATER COMMISSIONERS' DITCH REPORTS

1951

DIVISION No. 3

No. of Water District	Number of Ditches Reporting	First Day Water was carried	Last Day Water was carried	No. Days water carried	No. of Acre Feet carried by all
20	184	3-8	11-16	254	342722
21	68	3-1	10-31	245	52135
22	85	3-21	10-31	225	142750
24	54	3-1	10-31	245	33975
25	56	4-1	10-31	214	17476
26	60	4-1	10-31	214	14472
27	34	4-1	10-31	214	2971
35	47	4-1	10-31	214	24635
Totals for Division	588				631136

No. of Water District	Total Number of Acres that can be Irrigated	Total Acres Irrigated
20	447186	205119
21	76827	35297
22	114470	73350
24	46804	14976
25	34274	8872
26	45338	4792
27	10490	1079
35	42276	15743
Totals For Division	817665	359228

These figures include Reservoir Water and Trans-Mountain Diversions.



SUMMARY

WATER COMMISSIONERS' RESERVOIR REPORTS

1954

Name of Reservoir	Water District No.	Capacity in Acre Feet	Amount Available in Acre Feet	Acre Feet in Storage May 1	Nov. 1	Total Acre Feet Delivered
Rio Grande	20	51113	4320		0	3888
Santa Maria	20	43565	2400		0	2142
Continental	20	26716	4974		1571	2800
San Luis (Beaver Cr.)	20	3283	1740		0	1568
Metroz	20	395	171		150	174
Little Ruby	20	186	99		0	87
Sowards No. 1	20	121				
" " 2	20	22				
" " 3	20	18				
Meadow Lake	20	199	87		0	78
Lock Laven	20	24				
Streams	20	40				
Goose Lake	20	232	151		0	132
Hunters Lake	20	48	48		0	44
Jumper Creek	20	38		Dam constructed in 1951.		
Spruce No. 1	20	112 )	174		0	143
Spruce No. 2	20	105 )				
Fuchs	20	237	237		0	216
Troutvale No. 1	20	510		Not used		
" " 2	20	257		" "		
Squaw	20	140	140		0	124
Poage	20	261	208		0	184
Shaw	20	491	411		51	324
Bristol Head No. 1.20		151	0	Not used		
" " No. 2.20		804	0	" "		
Road Canon	20	395	No Report			
Regan	20	667	151	Not run		151
Lost Lakes ( Lower)	20	996 )	430		0	442
" " Upper)	20	100 )	60		0	
Spring Creek	20	145	0	Not used		
Meadow	20	114	114		114	
Trout Lake	20	320	320		0	290
S. U. Dude	20	120	85		0	57
Terrace	21	17700		1793	1793	0
La Jara	21	14052		0	0	0
Cove Lake	22	<del>7910-9710</del>		0	0	2183
Sanchez	24	103155		4420	1180	5209
Eastdale No. 1.	24	3468		257	0	311
" " " 2.	24	3047	No water stored.			
Salazar No. 1,	24	234		--	--	1325
Salazar No. 2,	24	35		"	"	"
Mountain Home	35	19150		1250	0	2282
Smith	35	5336		2296	0	2496
Totals for Division		307802	16320	10016	5010	26499

1951 RESERVOIR STORAGE REPORT - DIVISION NO. 3.

AMOUNTS IN STORAGE IN ACRE FEET.

	Rio Grande	Santa Maria	Continental	Sanchez	Terrace
12-1-50	1318	1523	1631	1452	1081
1-1-51	2086	1883	Est. 2165	2265	1308
2-1-"	2779	2248	2800	2800	1308
3-1-"	4329	2617	3775	3423	1363
4-1-"	5120	2929	4976	4492	1793
5-1-"	5120	2923	4974	4420	1767
6-1-"	3620	1863	4974	5367	1793
7-1-"	0	523	2974	3159	1793
8-1-"	0	0	1720	816	1793
9-1-"	0	0	1667	260	1793
10-1-"	0	0	1571	260	1741
11-1-"	0	0	1571	1180	1793

  

	Mt. Home	Smith	Cove Lake	La Jara	San Luis Beaver Park
12-1-50	0	1411	0	0	0
1-1-51	419	1793	0	0	0
2-1-"	580	2248	0	0	0
3-1-"	856	2400	0	0	0
4-1-"	886	2400	0	0	0
5-1-"	1252	2296	0	0	1740
6-1	1602	1321	1770	0	1740
7-1-"	855	691	665	0	1740
8-1-"	0	0	0	0	924
9-1-"	0	0	0	0	0
10-1-"	0	0	0	0	0
11-1-"	0	0	0	0	0

VEGETABLE SHIPMENTS

1951 Season to Dec. 13, 1951.

Lettuce	256 Car Loads
Mixed Vegetables	624 Car Loads
Garden Peas	123 Car Loads
Cabbage	120 Car Loads
Carrots	40 Car Loads
Cauliflower	313 Car Loads
Potatoes	2276 Car Loads
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Total Car Loads - - - - -	3752 Car Loads

These figures do not include truck shipments, which are estimated to be about one-third of the car load shipments.

SUMMARY

1951 TRANS-MOUNTAIN DIVERSIONS

INTO DIVISION NO. 3.

	Acre Feet
Weminuche Pass -	910.5
Spring Creek Pass	391.2
Piedra Pass	66.2
Squaw Pass	158.6
Treasure Pass	158.8
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Total - - - - -	1685.3

COMPARISON FOR 10 YEAR PERIOD

	No. of Acres Irrigated	Acre Feet of Water Delivered to Ditches
1942	733996	1398212
1943	769680	1123219
1944	749625	1557569
1945	746751	1318180
1946	698431	912394
1947	742289	1351229
1948	757041	1320484
1949	789722	1444440
1950	570392	964516
1951	359228	631136