

December 2, 1945.

Mr. H. U. Minderlinder
State Engineer of Colorado
State Capitol Building
Denver, Colorado

Dear Sir:

Herein is transmitted the annual report of administrative activities of this office for the year of 1945.

The season of 1945 was very good as regards irrigation supplies, crops and temperatures. Although precipitation was above normal until July 1st, the following four months were far below normal, which caused a rapid decrease in stream flow and a consequent heavy draft upon reservoir supplies, causing irrigation reservoirs to be practically empty by October 1st, 1945. On October 1st, 1945 there was 226,000 acre feet of water in storage in irrigation reservoirs, which amount was steadily increased until June 1st, 1945, at which time total storage amounted to 609,548 acre feet. The storage outlook for the coming year is not encouraging with practically no carryover and streams at very low stage. Storage for the ensuing year started in Districts 1 and 5 on October 18th, although many ditches are still using water for direct irrigation.

Temperatures have been above normal, while at the time of this writing precipitation is about 5.0 inches below normal in the South Platte river basin.

Crops are above average in most sections, with an ~~above~~ high yield of wheat being grown on the dry lands. Sugar beet production is somewhat below average, which is chiefly due to decreased acreage, and as a consequence some of the sugar factories are not operating this year. The hay crop is about normal and the price high, some native hay selling for twenty dollars per ton, and even higher in some places.

The same administrative procedure as followed last year was again in force this year in the Laramie River District. This policy seems to meet with the approval of most everyone concerned. The hay tonnage in this District was 3,797 tons this year as compared with 3,579 tons last year.

There were no floods of consequence during the season and stream flow was very constant in most sections. There were no dam failures this year, and repairs were made on several that were weakened last year. Marshall

Lake Dam is now in serviceable condition after undergoing extensive repairs. This is also true of Bergen No. 2. Reservoir survey for the plans of raising the dam of the W.S. & S. Co. No. 5 Reservoir is now in progress. Work is again proceeding on the Colorado-Big Thompson tunnel, after a delay of several months due to interference by the War Production Board.

Trans-mountain diversion was greater than last year, 78,811 acre feet being diverted, which however is much below capacity. More water could have been diverted through the trans-mountain ditches had a greater demand for it existed during the early part of the season.

Few controversies arose during the past year, none of which were of major importance.

Some legislation was passed by the last Legislature which affects the administration, most important of which was the Act which provides for the payment of Water Commissioners by the State instead of by the Counties. The office of Division Engineer of Irrigation Division No. 1 was recreated after having been abolished in 1929, since which time the duties of that office have been performed by a special deputy acting for the State Engineer.

Tables of Trans-mountain diversions, amount of water in storage by months and summation of Water Commissioners' reports for the season follow and form a part of this report.

Very respectfully submitted,

J. E. Whitten

J. E. Whitten
Division Engineer, Irrigation Division No. 1

TRANS-MOUNTAIN DIVERSIONS

IRRIGATION DIVISION NO. 1

Name of Diversion	Acres Feet	1948		Source of Supply	First Day	Last Day
		From Dist.	To Dist.			
Deadman Ditch	0	48	3	Deadman Creek Trib. Laramie River		
Laramie Poudre Tunnel	8,955	48	3	Laramie River	8-2	9-14
Skyline Ditch	9,769	48	3	" "	8-2	8-11
Lost Lake Ditch	504	48	3	" "	8-1	8-25
Columbine Ditch	0	48	3	" "	—	—
Bob Creek Ditch	0	48	3	" "	—	—
Sand Creek Ditch	1,141	48	3	Sand Creek	8-4	8-1
Michigan Ditch	1,587	47	3	No. Platte River	8-24	8-7
Gannon Pass Ditch	0	47	3	" " "	—	—
Grand River Ditch	17,525	51	3	Colorado River	8-26	9-4
Ho Fat Tunnel	52,869	51	6-7	" "	4-22	11-2
Williams Fork Tunnel	4,025	51	7	" "	7-7	9-27
Berthoud Pass Ditch	554	51	7	" "	8-27	8-6
Bureka Ditch	184	51	7	" "	8-20	9-12
Horeas Pass Ditch	0	55	25	" "	—	—
Total	76,811					

MOFFAT TUNNEL SUMMARY

1942

	<u>Acres Feet</u>
East Portal R. F.....	32,669
Diverted at Eldorado Springs.....	32,329
Charge for Loss in transit.....	340
To Clear Creek for Exchange.....	7,058
Direct exchange used.....	4,247
Balance for 11-mile Exchange.....	2,791

WILLIAMS FORK TUNNEL

1942

East Portal R. F.....	4,025
Diverted for Agri. use.....	3,285
Charge for Loss in Transit.....	201
Balance to Clear Creek for exchange.....	587

11-MILE CANON RESERVOIR OPERATION

1943

Lake elevation all year 8592.00+ (Spillway)

	Stream Loss or Gain	Day	Sec.	Ft.
April		55		
May	93			
June	1566			
July	<u>273</u>			
	1752	55	"	"
Net loss at Reservoir	1679			Sec. Ft.
	= 3330			Acro Feet
Trans-Mountain Credit in Clear Creek available for exchange				
Moffat Tunnel	2781			Acro Feet
Williams Fork Tunnel	<u>527</u>			" "
	3308			
Plus 5% (Carrying charge)	<u>166</u>			
Total Trans-Mountain Exchange Credit at 11-Mile	3474			Acro Feet
Net Gain to Stream	164			Acro Feet

The following is a statement of water in storage in Irrigation Division No. 1, from January 1, to December 1, 1943, tabulated by districts. Does not include North Park District No. 47, Laramie River Basin District No. 48, nor District No. 65, as there is very little storage in any of these districts.

VALUES IN ACRE FEET

Dist. No.	January	February	March	April	May	June	July	August	September	October	November	December
1	100,884	103,414	117,519	128,004	132,107	140,894	119,417	70,204	25,921	2,500	11,561	37,155
2	52,275	62,803	72,690	82,051	87,597	91,577	71,656	45,190	19,274	10,955	10,529	15,261
3	115,796	119,719	122,761	127,782	140,371	161,970	157,574	122,620	66,628	47,535	52,130	59,056
4	65,834	65,645	66,329	68,733	81,461	90,195	88,095	71,992	45,462	39,565	36,695	37,190
5	24,085	25,770	26,414	27,680	31,982	32,048	32,048	26,685	15,192	9,336	8,958	8,876
6	19,848	18,551	17,638	16,705	22,617	33,751	33,850	31,266	25,685	18,531	17,081	16,991
7	10,029	8,795	8,953	5,897	5,900	12,994	15,031	12,967	11,346	9,527	9,659	8,829
8	16,632	15,970	16,570	17,500	16,400	17,596	16,983	15,333	14,757	14,698	14,728	15,714
9	5,394	5,394	5,734	6,096	7,386	8,098	6,430	4,685	5,571	1,709	1,538	2,115
25	173,800	173,800	174,000	177,824	186,853	187,533	187,233	153,724	176,106	172,565	162,868	162,695
64	106,834	115,564	120,102	114,739	120,372	122,912	112,104	79,582	56,457	11,605	22,200	42,333
Totals	687,409	713,225	746,109	772,801	833,026	899,348	840,423	664,250	444,394	338,250	347,152	406,816

City of Denver 196,153 195,952 192,760 196,300 204,629 211,414 212,783 207,679 200,939 195,318 185,231 185,435

Bal for Irrig. 491,276 519,273 553,349 576,501 628,397 687,934 627,635 456,571 243,455 142,932 161,921 221,381

*Maximum Storage to Date

LARAMIE RIVER ADMINISTRATION IN COLORADO

1945

Administration of the Laramie River, Water District No. 48, was conducted under the provisions of the agreement entered into in 1942 between the Meadow land users and the Trans-Mountain diversion interests, whereby Colorado's allocation by the Supreme Court of the United States of 39,750 acre feet of the waters of the Laramie River, were divided equally between the two groups of water users, which gives each group 19,875 acre feet. Under the aforementioned agreement, the latter amount of water may be diverted, when available and as required, by each group.

This agreement terminates much of the former friction which existed between the two groups of water users, following the last interpretation by the Supreme Court of the United States of its original decision in the noted case of Wyoming vs. Colorado, involving the use of the waters of the Laramie River, and tends to a more efficient use of the water allocated to Colorado.

The Meadow land users entered into a further agreement among themselves which provides for a division of their one-half of the 39,750 acre feet, upon the basis of the amount of land irrigated under each ditch. This agreement between the Meadow land users permits of a diversion up to 4.1 acre feet per acre of Meadow land irrigated, and such quantity per acre may be diverted at such time or times and at such rate as may be determined by the individual user. This agreement also provides for an exchange of water among water users, and also permits an individual water user to assign to another water user, any part of his pre rata share of the water to which he is entitled.

Daily records of the amounts of water diverted by each ditch are kept by the Water Commissioner, who is assisted by special deputies of the State Engineer's office. A summary of these records for the season 1945 is attached hereto and forms a part of this report.

Irrigation in the Laramie River Basin in Colorado in 1945 began on May 1 and continued to late in July, when diversions were discontinued to permit the harvest of the hay crop. At that time, there still remained undiverted a considerable portion of the water allocated to the Meadow lands. Following this period, however, a few ditches diverted small quantities of water until November 8, when all diversions ceased for the year, at which time the total diversion by the Meadow land users amounted to 19,310 acre feet.

The facilities for effectuating Trans-Mountain diversions from the Laramie River in Colorado consist of the Laramie Poudre Tunnel, the Skyline, Lost Lake, Deadman, Bob Creek and Columbine Ditches. No diversions were made

Laramie River Administration in Colorado (Cont'd)

in 1945 by the Deadman, Bob Creek and Columbine Ditches, due to the abundance of water supplies in the Cache La Poudre River during the early part of the season.

Total diversions by the Laramie Poudre Tunnel, Skyline and Lost Lake Ditches amounted to 19,228 acre feet.

J. E. Whitten
Division Engineer
Irrigation Division No. 1

Diversions from Laramie River
by Ditches in Colorado for the Year of 1945
Records of the Office of the State Engineer of Colorado

<u>Name of Ditch</u>	<u>Total Diversion Acres Feet</u>
Miller-Boswell	761
British Crk. No. 1	95
Brown-Sunn Creek	627
Brown-Porter Creek	101
Ben Warren & Enlg.	—
Brinker	—
Cemet	550
Cabin	117
Detro No. 1	147
Detro No. 2	—
Davy	466
Ferguson	—
Forrester - Brown	82
Forrester No. 1 - Forrester	556
Forrester No. 2	—
Glendover	80
French Roman	2
Grave Creek & Enlg.	1837
Grant	87
Hills	—
Upper Hills	50
Homestead (McIntyre)	260
Homestead No. 1 (Big Jenkins)	195
Homestead No. 2 (Little Jenks)	95
Hands	78
Jim (Jimmy Crk)	545
Jim No. 2	85
Jimmy & Enlg. (Jimmy Crk)	132
Jimmy Creek (Laramie River)	452
LaGarde & Enlg.	540
LaGarde No. 1	—
Lamb	978
Link No. 1	670
Link No. 2	—
Lone Tree	69
Mansfield & Enlg.	1067
Mansfield No. 2	1119
Martin No. 1	751
Martin No. 2 & Enlg.	1366
McIntyre	442
Nellie	597
Ollie	204
Pache	799

Forward

14,805

Diversions from Laramie River (Cont.)
1945

<u>Name of Ditch</u>	<u>Total Diversion Acre Feet</u>
	14,605
Parker	—
Pine Creek & Enlg.	27
Roaring Creek Ditch	217
Stuck	517
Smith-Brown	282
Stuart No. 1	249
Stuart No. 2	86
Stubb	107
Schmitzer	570
Trollope	18
Talmadge	86
Timothy	754
Warren	81
Ward No. 1	108
Ward No. 2	58
Wright	942
Yalton	787
	<hr/>
Total - Meadow Lands	19,310
	<hr/>
<u>Trans-Mountain Diversions</u>	
Laramie-Poudre Tunnel	8955
Skyline	9789
Deadman	—
Lost Lake	504
Columbine	—
Bob Creek	—
	<hr/>
Total - Trans-Mountain Diversions	19,228
Grand Total	38,538 Acre Feet

SUMMARY OF WATER CONSUMPTIONS
FOR THE IRRIGATION SEASON OF 1942

IRRIGATION DIVISION NO. 1

Dist. No.	Water Used from Natural Stream	Last Day Water Used from Natural Stream	No. A. P. Used for Season	Total No. Acres that can be irrigated	Alfalfa	Natural Grasses	Cereals	Orchards	Market Gardens	Potatoes	Sugar Beets	Beans	Peas	Cabbage	Corn	Other	Total Irrigated	
1	4-2-43	10-31-43	319,740	180,617	22,516	19,465	21,965	154	320	1,631	12,452	24,089		39	26,052	10,489	166,173	
2	4-18-43	11-24-43	374,087	226,491	40,002	10,755	83,164	239	11,015	2,735	30,415	21,161	500	2,392		10,523	219,080	
3	4-18-43	11-1-43	407,045	289,160	59,485	3,179	67,165	1,596	5,813	29,243	40,986	8,987	350	1,086		29,465	254,265	
4	4-21-43	11-4-43	198,565	167,370	44,160	270	83,202	1,905	925	9,982	12,215	2,122	1,400	871	2,295	9,305	143,060	
5	4-11-43	10-31-43	119,510	122,290	45,970	9,590	42,740	400	1,040	560	19,890	550	200	550		1,500	128,140	
6	4-22-43	11-15-43	108,535	195,325	22,172	61,125	47,015	643	2,126	245	4,609	935	225	94	17,922	9,425	172,924	
7	4-1-43	10-31-43	159,126	118,370	12,405	2,090	1,125	1,672	10,502	176	1,822	770	200	1,061	6,466	4,910	91,405	
8	3-21-43	10-31-43	119,705	113,920	10,816	1,288	6,521	49	1,220	40	529	110				4,147	28,560	
9	4-11-43	10-31-43	24,552	15,229	4,900	1,688	4,842	67	261		255	110		40	1,284	500	13,989	
23	4-9-43	8-6-43	40,000	50,000		40,000											40,000	
47	4-15-43	8-1-43	Record	70,000		47,474											47,474	
48	5-1-43	11-8-43	19,212	5,000	0	4,600	5,797										4,000	
64	11-1-42	10-31-42	262,190	186,063	31,390	30,226	39,693	796	279	2,504	14,867	6,235	0	30	20,216	5,602	153,242	
65	4-20-43	11-25-43	15,838	7,400	926	95	116	28	52	29	75	22			250	1,602	2,206	
				2,168,245	1,856,335	213,742	222,055	440,925	7,568	32,294	52,145	128,425	62,042	3,500	6,106	75,252	90,526	1,453,418

* 5,000 Acres in Nebraska
** 1,976 Acres in Nebraska