DIVISION OF WATER RESOURCES

DIVISION NO. 6

1977 ANNUAL REPORT

CONTENTS

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I. INTRODUCTORY STATEMENT

Geographically, Irrigation Division 6 is comprised of high mountains, irrigated valleys, farmed mesas, desert range land, and deep canyons. The area of the Division is the natural drainage of the Yampa, Green, Little Snake, White, and North Platte Rivers. Precipitation varies from seven inches annually in the most westerly regions to over forty inches in the eastern high mountains with an average of twenty inches in the crop producing portions of the Division. The majority of the precipitation is in the form of snow during the winter months, however, some areas do receive adequate rain to permit the growing of small grain crops and dry land hay.

Primarily the irrigation is on mountain meadows producing hay and irrigated pasture. This acreage is approximately as follows for various drainages: Yampa River - 100,000 acres, White River - 30,000 acres, and North Platte - 120,000 acres. Dry farming in the North Platte drainage is practically non-existent due to the short growing season and a minimum elevation of 8,000 feet. The dry crop acreage in the Yampa basin is approximately 131,000 acres and the White River drainage has approximately 17,000 acres. Dry land crops consist of wheat, oats, and barley. The land is generally summer fallowed which, for the most part, means only fifty percent of the land is in production annually.

The population in Division No. 6 is sparse with most of the population being in Craig, Steamboat Springs, and Meeker. As a result of the national energy crisis, the city of Craig is presently showing the most rapid growth. Several coal mines are being opened in the Craig area and construction has started on a new fossil fuel power plant. Meeker is located near the two

tracts of land that were recently leased from the Federal Government for oil shale development which is resulting in a slight population growth in that area. Steamboat Springs has stabilized to some degree and is not at present experiencing the phenomenal growth that it has had in the past.

Agriculture is the primary industry in the entire Division. Industry, though, particularly coal mining, is rapidly becoming a key source of revenue to Routt and Moffat Counties. Recreational development has stabilized with only one additional project planned. The oil shale industry, as of yet, has not caught fire, although there are several people being employed in making studies and formulating development plans.

The only area to receive substantial increases in population has been Craig. With the planned opening of two additional strip mines and work being in full swing on the power plant, many people have been attracted to the region. Several new trailer parks along with sub-divisions have been started.

This past irrigation season was one of the driest years on record. There was drought experienced throughout the state of Colorado and the Division 6 was no exception. There were many ditches that usually would have had adequate water that did not receive any water this past season and several reservoirs did not fill. As a result of the short water supply, irrigated crop production was down as well as dry land production.

The shortage of water resulted in the installation of several new headgates and measuring devices. The upper end of the Yampa River was severely affected by the drought and at times the first four water rights out of approximately seventy were the only ones with water. Water was released from the State Fish and Game Reservoir, Upper Stillwater, to supply the town of Yampa. The water users of the Stillwater Reservoir which only stored 21 percent of its capacity received 10 days of water through their ditch. All tributaries to the Yampa were similarly affected.

There were times in July and August when a call could have been placed on the entire river system. This occured when the city of Craig was short at its inlets and had to install a diversion dam across the river. As a result, the amount of water that it took to fill the small reservoir behind the dam caused a drop in the river at the Maybell Canal. However, several heavy rains fell within that week and it was not necessary to place a call on the main stem of the Yampa below the town of Yampa. There were many locations along the river where ditches were not receiving their full decree, but these ditches did not have proper headgates, diversion dams, or measuring devices. At the time the Yampa River was becoming quite low, most ranchers were starting to dry up their meadows to harvest hay; consequently, no call was placed on the Yampa River. If the pattern of use were to change and another short supply year occured, a call would be almost certain for the entire Yampa River system.

The Elk River flow held up longer and everyone on it received enough water to raise good crops and no call was required.

The White River was put under administration in early July from Old Agency Headgate upstream. The Highline Ditch called for water and consequently all rights junior to it were shut off and water was delivered to supply it. The return flow from the Old Agency and Highline was enough to supply the irrigation downstream. The town of Rangely had to do extensive work on its diversion dam to keep water at its pumps. A plan was developed where water could be released from Johnny Johnson Reservoir if necessary to supply Rangely.

The North Platte drainage had several streams under administration, some of them for the first time in over thirty years. Only the main stem of the North Platte, the Canadian River, and Big Creek were not administered. Most of the reservoirs did not fill and the hay production, on the average, was estimated at fifty percent.

II. PERSONNEL

Name	Position	District	FY 76-77 Months Worked	Budgeted	FY 76-77 Mileage
Wesley E. Signs	Division Engineer		Full Time		1256
Daries C. Lile	Asst. Division Engineer		Full Time		524
W. Kent Holt	Hydrographer		Full Time		296
Linda L. Fox	Secretary		8	12	0
Karen McPherren	Secretary		1		0
Roy D. Steffen	1042 Water Commissioner		Full Time		0
Joe E. Brown	Water Commissioner B	43	Full Time		0
*William Dunham	Water Commissioner A	43	12	2	23,736
Ben E. Cordle	Water Commissioner B	44	Full Time		18,158
Neil Black	Water Commissioner B	47	7	12	2,422
Donald C. Gilroy	Water Commissioner B	54	5	6	5,945
Jack Leonard	Water Commissioner B	55-56	3	5	5,529
James E. Sellers	Water Commissioner B	57	Full Time		10,200
Charles Gregory	Water Commissioner B	58	Full Time		8,991
Billy R. Milner	Water Commissioner B	58	6.8	8	4,793
Eric H. Wagner	Water Commissioner A	47	Full Time		6,202
*Kenneth Johnson	Water Commissioner A	43	12	0	0

*Additional time above budget allotment was paid for with Piceance Basin Study funds.

III. WATER SUPPLY

A. Forecast

Drought was throughout the Division with streamflow being at a thirty-year low. Runoff at key gaging stations was as follows:

Station	Acre Feet	% Average	No. of Years
Yampa River at Steamboat Springs	125,400	37	68
Elk River at Clark	87,490	36	57
Yampa River at Hayden	236,000	30	10
Yampa River at Maybell	345,700	31	59
Little Snake near Slater	62,490	38	30
Little Snake near Lilly Park	103,200	25	54
South Fork of White River near Buford	94,260	51	25
North Fork of White River near Buford	113,400	50	30
White River near Meeker	198,600	44	71
Piceance Creek below Ryan Gulch	9,220	68	11
White River above Rangely	226,000	--	--
White River near Watson, Utah	233,100	44	52
Michigan River near Cameron Pass	1,420	--	--
North Fork Michigan River near Gould	6,490	51	26
North Platte River near Northgate	89,910	29	61

B. Precipitation

Precipitation for selected stations in Division 6:

	Steamboat Springs	Hayden	Walden
November	.54	.12	.11
December	.70	.39	.21
January	1.02	.66	.14
February	1.29	.45	.42
March	1.22	.60	.49
April	1.50	1.03	.47
May	2.38	1.20	2.00
June	.72	.05	.11
July	1.22	1.91	1.54
August	2.79	1.99	2.42
September	1.02	.65	1.02
October	1.44	.90	1.44
Totals	15.84	9.95	10.37
	66% of normal	62% of normal	103% of normal

C. Flooding

As a result of the drought in the Division, there was no high water in the spring. However, slight flooding did occur on the Yampa drainage in mid August as a result of severe thunder storms. Several diversion dams were washed out as well as one county road bridge.

D. Water Budget

The 1977 Water Budget was compiled using the computer program designed last year with minor changes made to improve the end product. Because of the drought this season, it became necessary to add more subunits within each district to more accurately describe the water supply for each hydrologic unit. Where last year the North Platte drainage was computed as one subunit, this year's output was derived using ten subunits and two additional weather stations. Each of these subunits will reflect the acreage, irrigation season, and local climate for that subunit so that the actual irrigation depletion estimates are improved.

Better reservoir surface area inputs were also included this year, primarily due to additional investigation of capacity-area relationships for most major reservoirs in Division 6.

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COLORADO DIVISION OF WATER RESOURCES
DIVISION 6 WATER BUDGET PROGRAM
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RESERVOIR EVAPORATION AT 6450. FT.

MONTH	EVAPORATION(INCHES)	NET DEPLETION(AF.)
11	1.66	57.
12	0.52	18.
1	0.52	18.
2	0.70	24.
3	1.45	50.
4	3.22	114.
5	3.90	145.
6	5.72	213.
7	6.06	213.
8	5.79	191.
9	4.96	163.
10	3.32	110.
	37.88 TOTALS	1322.

IRRIGATION CONSUMPTIVE USE

ELEV. 6500. FT. 1700. IRR. ACRES IRR. SEASON 5/ 1/1977 - 5/31/1977

MONTH	DEPLETION (INCHES)
5	3.37
	3.37 YEARLY TOTAL

NET DEPLETION = 477.ACRE FT. 0.281 ACRE FT. PER ACRE

ELEV. 7700. FT. 3000. IRR. ACRES IRR. SEASON 6/15/1977 - 8/15/1977

MONTH	DEPLETION (INCHES)
6	2.36
7	3.91
8	1.37
	7.64 YEARLY TOTAL

NET DEPLETION = 1910.ACRE FT. 0.636 ACRE FT. PER ACRE

ELEV. 6347. FT. 15471. IRR. ACRES IRR. SEASON 5/15/1977 - 10/15/1977

MONTH	DEPLETION (INCHES)
5	1.87
6	5.37
7	4.47
8	3.53
9	3.61
10	1.10
	19.97 YEARLY TOTAL

NET DEPLETION = 25759.ACRE FT. 1.664 ACRE FT. PER ACRE

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ELEV. 6300. FT. 2000. IRR. ACRES IRR. SEASON 4/15/1977 - 7/15/1977

MONTH	DEPLETION (INCHES)
4	1.38
5	3.53
6	5.13
7	2.25
	12.30 YEARLY TOTAL

NET DEPLETION = 2050.ACRE FT. 1.025 ACRE FT. PER ACRE

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ELEV. 5300. FT. 2200. IRR. ACRES IRR. SEASON 5/ 1/1977 - 8/31/1977

MONTH	DEPLETION (INCHES)
5	4.44
6	5.95
7	5.33
8	4.64
	20.37 YEARLY TOTAL

NET DEPLETION = 3736.ACRE FT. 1.698 ACRE FT. PER ACRE

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IRRIGATION TOTALS FOR WATER DISTRICT 43

33934. A.F. NET IRRIGATION DEPLETION 1.392 A.F./ACRE 24371.IRR. ACRES

WATER DISTRICT 44

RESERVOIR EVAPORATION AT 6390. FT.

MONTH	EVAPORATION(INCHES)	NET DEPLETION(AF.)
11	1.52	91.
12	0.52	31.
1	0.52	31.
2	0.70	42.
3	0.70	42.
4	3.32	206.
5	4.09	264.
6	5.87	368.
7	6.04	358.
8	5.72	333.
9	4.65	264.
10	3.45	196.
	37.14 TOTALS	2231.

IRRIGATION CONSUMPTIVE USE

ELEV. 6200. FT. 10000. IRR. ACRES IRR. SEASON 5/ 1/1977 - 10/15/1977

MONTH	DEPLETION (INCHES)
5	3.57
6	5.64
7	4.45
8	3.96
9	3.46
10	1.20
	22.29 YEARLY TOTAL

NET DEPLETION = 18581.ACRE FT. 1.858 ACRE FT. PER ACRE

ELEV. 6500. FT. 6496. IRR. ACRES IRR. SEASON 5/ 5/1977 - 6/ 5/1977

MONTH	DEPLETION (INCHES)
5	2.91
6	0.89
	3.80 YEARLY TOTAL

NET DEPLETION = 2060.ACRE FT. 0.317 ACRE FT. PER ACRE

ELEV. 6500. FT. 5000. IRR. ACRES IRR. SEASON 5/15/1977 - 7/15/1977

MONTH	DEPLETION (INCHES)
5	1.83
6	5.35
7	2.02
	9.21 YEARLY TOTAL

NET DEPLETION = 3837.ACRE FT. 0.767 ACRE FT. PER ACRE

IRRIGATION TOTALS FOR WATER DISTRICT 44

24480. A.F. NET IRRIGATION DEPLETION 1.138 A.F./ACRE 21496.IRR. ACRES

RESERVOIR EVAPORATION AT 8100. FT.

MONTH	EVAPORATION(INCHES)		NET DEPLETION(AF.)
11	0.60		90.
12	0.60		92.
1	0.60		94.
2	0.60		96.
3	0.60		99.
4	2.38		482.
5	3.54		783.
6	5.57		1170.
7	5.76		915.
8	5.34		850.
9	4.32		704.
10	2.73		387.
	32.67	TOTALS	5767.

IRRIGATION CONSUMPTIVE USE

ELEV. 8300. FT. 5700. IRR. ACRES IRR. SEASON 4/20/1977 - 6/10/1977

MONTH	DEPLETION (INCHES)
4	0.96
5	2.86
6	1.81
	5.64 YEARLY TOTAL

NET DEPLETION = 2681.ACRE FT. 0.470 ACRE FT. PER ACRE

ELEV. 8700. FT. 7712. IRR. ACRES IRR. SEASON 5/ 1/1977 - 7/20/1977

MONTH	DEPLETION (INCHES)
5	2.35
6	3.83
7	2.31
	8.50 YEARLY TOTAL

NET DEPLETION = 5462.ACRE FT. 0.708 ACRE FT. PER ACRE

ELEV. 8300. FT. 5868. IRR. ACRES IRR. SEASON 5/15/1977 - 7/ 5/1977

MONTH	DEPLETION (INCHES)
5	1.57
6	5.44
7	0.71
	7.73 YEARLY TOTAL

NET DEPLETION = 3780.ACRE FT. 0.644 ACRE FT. PER ACRE

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ELEV. 8000. FT. 4878. IRR. ACRES IRR. SEASON 5/25/1977 - 7/ 8/1977

MONTH	DEPLETION (INCHES)
5	0.68
6	5.66
7	1.19
	7.54 YEARLY TOTAL

NET DEPLETION = 3067.ACRE FT. 0.628 ACRE FT. PER ACRE

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ELEV. 8500. FT. 7121. IRR. ACRES IRR. SEASON 5/ 1/1977 - 5/20/1977

MONTH	DEPLETION (INCHES)
5	1.85
	1.85 YEARLY TOTAL

NET DEPLETION = 1103.ACRE FT. 0.154 ACRE FT. PER ACRE

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ELEV. 8700. FT. 7121. IRR. ACRES IRR. SEASON 5/ 1/1977 - 6/25/1977

MONTH	DEPLETION (INCHES)
5	2.35
6	3.19
	5.55 YEARLY TOTAL

NET DEPLETION = 3294.ACRE FT. 0.462 ACRE FT. PER ACRE

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ELEV. 8200. FT. 7121. IRR. ACRES IRR. SEASON 4/15/1977 - 6/ 5/1977

MONTH	DEPLETION (INCHES)
4	1.45
5	2.96
6	0.93
	5.35 YEARLY TOTAL

NET DEPLETION = 3176.ACRE FT. 0.446 ACRE FT. PER ACRE

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ELEV. 8250. FT. 15065. IRR. ACRES IRR. SEASON 5/ 5/1977 - 6/30/1977

MONTH	DEPLETION (INCHES)
5	2.59
6	5.26
	7.85 YEARLY TOTAL

NET DEPLETION = 9864.ACRE FT. 0.654 ACRE FT. PER ACRE

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ELEV. 8200. FT. 32928. IRR. ACRES IRR. SEASON 5/15/1977 - 6/25/1977

MONTH	DEPLETION (INCHES)
5	1.64
6	4.40
	6.04 YEARLY TOTAL

NET DEPLETION = 16577.ACRE FT. 0.503 ACRE FT. PER ACRE

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ELEV. 8099. FT. 16967. IRR. ACRES IRR. SEASON 5/ 5/1977 - 7/ 5/1977

MONTH	DEPLETION (INCHES)
5	2.60
6	5.63
7	0.74
	8.98 YEARLY TOTAL

NET DEPLETION = 12701.ACRE FT. 0.748 ACRE FT. PER ACRE

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IRRIGATION TOTALS FOR WATER DISTRICT 47

61709. A.F. NET IRRIGATION DEPLETION 0.558 A.F./ACRE 110481.IRR. ACRES

RESERVOIR EVAPORATION AT 7500. FT.

MONTH	EVAPORATION(INCHES)	NET DEPLETION(AF.)
11	0.70	2.
12	0.52	2.
1	0.52	2.
2	0.52	2.
3	0.52	2.
4	2.82	14.
5	3.59	35.
6	5.37	55.
7	5.54	36.
8	5.22	17.
9	4.15	13.
10	2.95	9.
	32.46 TOTALS	195.

IRRIGATION CONSUMPTIVE USE

ELEV. 6300. FT. 5500. IRR. ACRES IRR. SEASON 5/ 1/1977 - 7/15/1977

MONTH	DEPLETION (INCHES)
5	3.54
6	5.61
7	2.14
	11.30 YEARLY TOTAL

NET DEPLETION = 5179.ACRE FT. 0.941 ACRE FT. PER ACRE

ELEV. 6500. FT. 3000. IRR. ACRES IRR. SEASON 5/15/1977 - 6/31/1977

MONTH	DEPLETION (INCHES)
5	1.83
6	5.52
	7.36 YEARLY TOTAL

NET DEPLETION = 1840.ACRE FT. 0.613 ACRE FT. PER ACRE

IRRIGATION TOTALS FOR WATER DISTRICT 54

7020. A.F. NET IRRIGATION DEPLETION 0.825 A.F./ACRE 8500.IRR. ACRES

WATER DISTRICT 55

RESERVOIR EVAPORATION AT 5354. FT.

MONTH	EVAPORATION(INCHES)		NET DEPLETION(AF.)
11	1.78		0.
12	0.52		0.
1	0.52		0.
2	1.45		0.
3	1.58		0.
4	3.47		0.
5	4.19		0.
6	6.01		0.
7	6.23		0.
8	5.88		0.
9	4.90		0.
10	3.63		0.
	40.21	TOTALS	0.

IRRIGATION CONSUMPTIVE USE

ELEV. 5400. FT. 1368. IRR. ACRES IRR. SEASON 5/ 1/1977 - 9/15/1977

MONTH	DEPLETION (INCHES)
5	4.18
6	5.65
7	4.46
8	4.43
9	1.82
	20.56 YEARLY TOTAL

NET DEPLETION = 2344.ACRE FT. 1.714 ACRE FT. PER ACRE

IRRIGATION TOTALS FOR WATER DISTRICT 55

2344. A.F. NET IRRIGATION DEPLETION 1.714 A.F./ACRE 1368.IRR. ACRES

WATER DISTRICT 56

RESERVOIR EVAPORATION AT 5500. FT.

MONTH	EVAPORATION(INCHES)	NET DEPLETION(AF.)
11	1.72	4.
12	0.52	1.
1	0.52	1.
2	0.70	1.
3	1.51	5.
4	3.40	14.
5	4.13	17.
6	5.94	22.
7	6.16	17.
8	5.81	14.
9	4.83	10.
10	3.56	5.
	38.86 TOTALS	116.

IRRIGATION CONSUMPTIVE USE

ELEV. 5354. FT. 2335. IRR. ACRES IRR. SEASON 4/ 1/1977 - 8/15/1977

MONTH	DEPLETION (INCHES)
4	2.83
5	4.19
6	5.67
7	4.48
8	2.14
	19.33 YEARLY TOTAL

NET DEPLETION = 3762.ACRE FT. 1.611 ACRE FT. PER ACRE

IRRIGATION TOTALS FOR WATER DISTRICT 56

3762. A.F. NET IRRIGATION DEPLETION 1.611 A.F./ACRE 2335.IRR. ACRES

WATER DISTRICT 57

RESERVOIR EVAPORATION AT 6700. FT.

MONTH	EVAPORATION(INCHES)	NET DEPLETION(AF.)
11	0.70	10.
12	0.52	7.
1	0.52	7.
2	0.52	7.
3	0.70	10.
4	3.22	51.
5	4.01	72.
6	5.77	91.
7	5.99	66.
8	5.68	54.
9	4.78	35.
10	3.09	24.
	35.55 TOTALS	440.

IRRIGATION CONSUMPTIVE USE

ELEV. 6375. FT. 6669. IRR. ACRES IRR. SEASON 4/15/1977 - 10/15/1977

MONTH	DEPLETION (INCHES)
4	1.44
5	3.48
6	5.67
7	4.40
8	3.84
9	3.58
10	1.10
	23.55 YEARLY TOTAL

NET DEPLETION = 13087.ACRE FT. 1.962 ACRE FT. PER ACRE

ELEV. 6700. FT. 1388. IRR. ACRES IRR. SEASON 5/15/1977 - 6/15/1977

MONTH	DEPLETION (INCHES)
5	1.78
6	2.68
	4.47 YEARLY TOTAL

NET DEPLETION = 517.ACRE FT. 0.372 ACRE FT. PER ACRE

ELEV. 6375. FT. 1507. IRR. ACRES IRR. SEASON 5/15/1977 - 8/31/1977

MONTH	DEPLETION (INCHES)
5	1.91
6	5.67
7	4.40
8	3.84
	15.83 YEARLY TOTAL

NET DEPLETION = 1989.ACRE FT. 1.319 ACRE FT. PER ACRE

IRRIGATION TOTALS FOR WATER DISTRICT 57

15594. A.F. NET IRRIGATION DEPLETION 1.630 A.F./ACRE 9564.IRR. ACRES

RESERVOIR EVAPORATION AT 8000. FT.

MONTH	EVAPORATION(INCHES)	NET DEPLETION(AF.)
11	0.52	69.
12	0.52	69.
1	0.52	69.
2	0.52	69.
3	0.52	69.
4	2.18	299.
5	2.92	424.
6	4.38	606.
7	4.87	600.
8	4.71	567.
9	3.95	473.
10	2.17	257.
	27.83 TOTALS	3576.

IRRIGATION CONSUMPTIVE USE

ELEV. 6900. FT. 6432. IRR. ACRES IRR. SEASON 6/ 1/1977 - 9/15/1977

MONTH	DEPLETION (INCHES)
6	4.15
7	4.14
8	3.13
9	1.46
	12.90 YEARLY TOTAL

NET DEPLETION = 6918.ACRE FT. 1.075 ACRE FT. PER ACRE

ELEV. 7000. FT. 3366. IRR. ACRES IRR. SEASON 5/15/1977 - 6/15/1977

MONTH	DEPLETION (INCHES)
5	1.36
6	2.06
	3.43 YEARLY TOTAL

NET DEPLETION = 963.ACRE FT. 0.286 ACRE FT. PER ACRE

ELEV. 8000. FT. 4217. IRR. ACRES IRR. SEASON 5/ 1/1977 - 6/15/1977

MONTH	DEPLETION (INCHES)
5	2.92
6	2.10
	5.02 YEARLY TOTAL

NET DEPLETION = 1765.ACRE FT. 0.418 ACRE FT. PER ACRE

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ELEV. 7800. FT. 5024. IRR. ACRES IRR. SEASON 5/ 1/1977 - 6/31/1977

MONTH	DEPLETION (INCHES)
5	2.97
6	4.40
	7.37 YEARLY TOTAL

NET DEPLETION = 3089.ACRE FT. 0.614 ACRE FT. PER ACRE

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ELEV. 6770. FT. 6556. IRR. ACRES IRR. SEASON 5/15/1977 - 8/31/1977

MONTH	DEPLETION (INCHES)
5	1.46
6	4.37
7	4.36
8	3.30
	13.50 YEARLY TOTAL

NET DEPLETION = 7379.ACRE FT. 1.125 ACRE FT. PER ACRE

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ELEV. 6800. FT. 4904. IRR. ACRES IRR. SEASON 5/15/1977 - 8/15/1977

MONTH	DEPLETION (INCHES)
5	1.45
6	4.36
7	4.35
8	1.59
	11.77 YEARLY TOTAL

NET DEPLETION = 4811.ACRE FT. 0.981 ACRE FT. PER ACRE

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IRRIGATION TOTALS FOR WATER DISTRICT 58

24928. A.F. NET IRRIGATION DEPLETION 0.817 A.F./ACRE 30499.IRR. ACRES

SUMMARY FOR WATER DISTR 43 IN ACRE-FT

IRRIGATION DEPLETION	33934.
RESERVOIR EVAPORATION	1322.
CHANGE IN RESERVOIR STORAGE	-147.
OUT OF BASIN DIVERSIONS	0.
MUNICIPAL+INDUSTRIAL CONSUMPTION	5500.
MISC. USE OR CORRECTIONS	400.
TOTAL DEPLETION	41010.

SUMMARY FOR WATER DISTR 44 IN ACRE-FT

IRRIGATION DEPLETION	24480.
RESERVOIR EVAPORATION	2231.
CHANGE IN RESERVOIR STORAGE	-454.
OUT OF BASIN DIVERSIONS	148.
MUNICIPAL+INDUSTRIAL CONSUMPTION	900.
MISC. USE OR CORRECTIONS	300.
TOTAL DEPLETION	27605.

SUMMARY FOR WATER DISTRICT 47 IN ACRE-FT

IRRIGATION DEPLETION	61709.
RESERVOIR EVAPORATION	5767.
CHANGE IN RESERVOIR STORAGE	-1496.
OUT OF BASIN DIVERSIONS	680.
MUNICIPAL+INDUSTRIAL CONSUMPTION	100.
MISC. USE OR CORRECTIONS	600.
TOTAL DEPLETION	67360.

SUMMARY FOR WATER DISTRICT 54 IN ACRE-FT

IRRIGATION DEPLETION	7020.
RESERVOIR EVAPORATION	195.
CHANGE IN RESERVOIR STORAGE	-8.
OUT OF BASIN DIVERSIONS	0.
MUNICIPAL+INDUSTRIAL CONSUMPTION	0.
MISC. USE OR CORRECTIONS	50.
TOTAL DEPLETION	7258.

SUMMARY FOR WATER DISTR 55 IN ACRE-FT

IRRIGATION DEPLETION	2344.
RESERVOIR EVAPORATION	0.
CHANGE IN RESERVOIR STORAGE	0.
OUT OF BASIN DIVERSIONS	0.
MUNICIPAL+INDUSTRIAL CONSUMPTION	0.
MISC. USE OR CORRECTIONS	50.
TOTAL DEPLETION	2394.

SUMMARY FOR WATER DISTR 56 IN ACRE-FT

IRRIGATION DEPLETION	3762.
RESERVOIR EVAPORATION	116.
CHANGE IN RESERVOIR STORAGE	-99.
OUT OF BASIN DIVERSIONS	0.
MUNICIPAL+INDUSTRIAL CONSUMPTION	0.
MISC. USE OR CORRECTIONS	50.
TOTAL DEPLETION	3829.

SUMMARY FOR WATER DISTRICT 57 IN ACRE-FT

IRRIGATION DEPLETION	15594.
RESERVOIR EVAPORATION	440.
CHANGE IN RESERVOIR STORAGE	1009.
OUT OF BASIN DIVERSIONS	1155.
MUNICIPAL+INDUSTRIAL CONSUMPTION	4700.
MISC. USE OR CORRECTIONS	100.
TOTAL DEPLETION	22998.

SUMMARY FOR WATER DISTRICT 58 IN ACRE-FT

IRRIGATION DEPLETION	24928.
RESERVOIR EVAPORATION	3576.
CHANGE IN RESERVOIR STORAGE	-680.
OUT OF BASIN DIVERSIONS	-447.
MUNICIPAL+INDUSTRIAL CONSUMPTION	600.
MISC. USE OR CORRECTIONS	250.
TOTAL DEPLETION	28227.

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DIVISION 6 BREAKDOWN BY RIVER BASIN

	YAMPA	LITTLE SNAKE	GREEN	WHITE	N PLATTE	COLORADO
IRRIG DPLTN	65002.	9365.	3762.	33934.	61709.	112065.
RES EVAP	6248.	195.	116.	1322.	5767.	7882.
CHG STORAGE	-125.	-8.	-99.	-147.	-1496.	-379.
MUN-IND	6200.	0.	0.	5500.	100.	11700.
TRANS-MTN	856.	0.	0.	0.	680.	856.
MISC	650.	100.	50.	400.	600.	1200.
OUTFLOW	358200.	103200.	3000.	223100.	89910.	687500.
BASIN YIELD	437032.	112853.	6829.	264110.	157270.	820825.
CONS USE	78832.	9653.	3829.	41010.	67360.	133325.
PCT CONS	0.1803	0.0855	0.5607	0.1552	0.4283	0.1624

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DIVISION 6 TOTAL IRRIGATION DEPLETION IN ACRE FT. 173774.

IRRIGATED ACRES 208614.

ACRE FT. PER ACRE 0.832

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Notes:
1. Yampa River outflow includes estimated return flow around the Maybell gage.
2. Little Snake River does not include depletions in Wyoming.
3. Green River outflow does not include the main stem of the Green.
4. North Platte outflow does not include tributary water below the gage at Northgate.

IRRIGATION SUMMARY COMPARISON OF 1976 & 1977 WATER YEARS

	Irrigated Acres			Acre Feet Diverted			Acre Feet Consumed			Average Overall Irrigation System Efficiency	
	1976	1977	1976/1977	1976	1977	1976/1977	1976	1977	1976/1977	1976	1977
White River	30,505	24,371	.80	294,504	264,478	.90	41,224	33,934	.82	14%	13%
Yampa, Green, Little Snake Rivers	102,384	73,762	.72	433,536	349,240	.81	115,215	78,128	.68	27%	22%
North Platte	120,199	110,481	.92	564,273	211,523	.37	99,601	61,709	.62	18%	29%

	Basin Yields		
	1976	1977	1976/1977
White River	505,198	264,110	.52
Yampa River	944,699	437,032	.46
Little Snake	395,806	112,853	.29
North Platte	296,202	157,270	.53

E. Ground Water

The dry weather conditions produced a high demand for ground water in the Division. Well permits for the construction of new wells were being asked for daily. Replacement permits for existing wells that were going dry were also being processed at a greater number than ever before. The requests for these additional permits caused a back-log to occur in the Denver Ground Water Section and often verbal approval had to be given for the construction of the wells.

Although the majority of the ground water being used in the Division is in shallow alluvium aquifers, the exploration for coal has uncovered possibilities of new deeper aquifers of ground water. One of these is the Twenty Mile Sandstone which is producing artesian flow of 50 gpm to 450 gpm. New ground water supplies are also being reported in the North Park Basin with some shallow wells (60 feet) producing artesian flows. Work needs to be done in the North Park area to further define these potential sources of ground water.

The exploration for coal has also caused some problems in the Division with unplugged exploration holes being drilled. Several coal companies are doing extensive exploration work in the area and often test holes are left open without proper casing or plugging measures.

F. Transmountain Diversions (Transbasin)

Structure	Acre Feet
Stillwater Ditch	644.0
Sarvis Ditch	0.0
Rich Ditch	1303.0
Morgan Creek	148.0
Dome Creek	24.8
Michigan Ditch	466.0
Cameron Pass Ditch	214.0

Total water exported from Yampa River to Colorado River Drainage: 668.0
Total water exported from N. Platte River to S. Platte Drainage: 680.0

III. Water Supply
G. Reservoir Storage

NAME OF RESERVOIR	SOURCE	AMT. IN STORAGE 11/1/76	FILL DURING SEASON	RELEASE + EVAPORATION	AMT. IN STORAGE 10/31/77	TOTAL CHANGE IN STORAGE
DISTRICT NO. 43						
Baxter Reservoir	Evacuation Creek	60.0	4.64	4.64	60.0	0.
Big Beaver Creek Reservoir	Big Beaver Creek	6,202.0	1,311.	1,082.	6,431.	+ 229.0
Big Lick Reservoir	Big Beaver Creek	503.0	0.	303.0	Est.200.0	- 303.0
Black Gulch Reservoir	Black Gulch	41.0	0.	0.	41.0	0.
Johnny Johnson Reservoir	White River	1,036.0	0.	0.	1,036.0	0.
Keystone Reservoir No. 3	Price Creek	21.0	0.	11.	10.0	- 11.0
Larson Reservoir	Nineteen Mile Creek	62.0	0.	0.	62.0	0.
Lunney Reservoir	Nine Mile Draw	21.0	61.12	67.12	15.0	- 6.0
McHatton Reservoir	Coal Creek	64.2	0.	49.2	15.0	- 49.2
Procter Reservoir	Curtis Creek	6.66	0.	.66	6.00	- .66
West Miller Reservoir	West Miller Creek	38.8	21.2	30.0	30.0	- 8.8
West Stewart Reservoir	West Stewart Creek	10.0	17.6	14.6	13.0	+ 3.0
Wilson Reservoir	East Flag Creek	0.	0.	0.	0.	0.
TOTALS (All Figures in Acre Feet)		8,065.66	1,415.56	1,562.22	7,919.0	- 147.
DISTRICT NO. 44						
Anderson Reservoir	Cottonwood Creek	0.	0.	0.	0.	0.
B and B Reservoir	Flume Gulch	21.7	0.	11.7	10.0	- 11.7
Bennett Reservoir	Spring Creek	7.11	0.	3.61	3.5	- 3.61
Big Bottom Reservoir	Unnamed Tributary	20.0	0.	20.0	0.0	- 20.0
Biskup Reservoir	Biskup Gulch	0.	0.	0.	0.	0.
Blake Stock Pond 1	Elk Head Creek	.40	0.	0.	.40	0.
Blake Stock Pond 2	Elk Head Creek	.02	0.	0.	.02	0.
Bunker Lake Reservoir	Bunker Creek	97.0	0.	7.0	90.0	- 7.0
Cove Lake Reservoir	Morapos Creek	0.	37.	28.0	9.0	+ 9.0
Cove Reservoir	Morapos Creek	0.	48.	48.	0.	0.
Culverwell Reservoir	Sand Spring Gulch	0.	0.	0.	0.	0.
D.D. & E. Reservoir	Hullett Draw	408.0	200.0	408.0	200.0	- 208.0
Dresher Reservoir	Long Gulch	.2	39.8	40.0	.0	- .2
Dunkley Dubeau Reservoir	Willow Creek	82.9	30.0	80.0	32.9	+ 50.0
Elgin Reservoir	Bell Rock Gulch	64.0	0.	39.0	25.0	- 39.

NAME OF RESERVOIR	SOURCE	AMT. IN STORAGE 11/1/76	FILL DURING SEASON	RELEASE + EVAPORATION	AMT. IN STORAGE 10/31/77	TOTAL CHANGE IN STORAGE
District 44 Cont.						
Elgin Reservoir No. 2	McLernon Draw	0.	0.	0.	0.	0.
Elk Head Reservoir	Elk Head Creek	13,574.0	0.	0.	13,574.0	0.
Flat Top (Gill) Reservoir	Unnamed Tributary	25.2	0.	17.2	8.0	- 17.2
Fredrickson No. 1 Reservoir	Tributary to Elk Head	5.23	0.	0.	5.23	0.
Fredrickson No. 2 Reservoir	Tributary to Elk Head	2.64	0.	0.	2.64	0.
Fredrickson No. 3 Reservoir	Tributary to Elk Head	4.5	4.86	0.	9.36	+ 4.86
Fredrickson No. 4 Reservoir	Tributary to Elk Head	2.81	0.	0.	2.81	0.
Freeman Reservoir	Little Cottonwood Creek	137.09	0.	0.	137.09	0.
Gerber Reservoir	Sand Spring Gulch	2.5	0.	0.	2.5	0.
Konopik Reservoir	Clear Creek	13.3	0.	0.	13.3	0.
Leftwich Reservoir	Boone Gulch	35.6	0.	0.	35.6	0.
Malburg Pond	Brown's Gulch	2.2	0.	0.	2.2	0.
Morin Reservoir	Dayton Creek	7.13	0.	0.	7.13	0.
Morton Reservoir	Deacon Gulch	9.2	0.	0.	9.2	0.
Pitney Reservoir	Corral Gulch	11.23	0.	0.	11.23	0.
Poose Creek Reservoir	Poose Creek	277.09	0.	0.	277.09	0.
Ralph White Reservoir	Fortification Creek	924.61	0.	0.	924.61	0.
Roby Reservoir	Morapos Creek	0.	18.0	18.0	0.	0.
Sagebrush Reservoir No. 1	Butler Creek	4.5	0.	1.5	3.0	- 1.5
Sagebrush Reservoir No. 2	Butler Creek	3.0	0.	1.0	2.0	- 1.0
Sellers Crowell Reservoir	Willow Creek	75.0	25.6	80.0	20.6	- 54.4
Shafer Reservoir	Willow Creek	81.4	0.	81.4	0.0	- 81.4
Velanzas Reservoir No. 1	Jeffway Gulch	7.6	0.	0.	7.6	0.
Velanzas Reservoir No. 2	Jeffway Gulch	3.8	0.	0.	3.8	0.
Waddle Creek Reservoir	Waddle Creek	7.0	32.18	26.18	13.0	+ 5.0
Wilson Reservoir	Good Springs Creek	68.4	0.	23.4	45.0	- 23.4
Wyman Reservoir	Beaver Creek	5.0	90.	45.0	50.0	+ 45.0
TOTALS (All Figures in Acre Feet)		15,991.36	525.44	978.99	15,537.81	- 453.55

NAME OF RESERVOIR	SOURCE	AMT. IN STORAGE 11/1/76	FILL DURING SEASON	RELEASE + EVAPORATION	AMT. IN STORAGE 10/31/77	TOTAL CHANGE IN STORAGE
DISTRICT NO. 47						
Addison Reservoir	Buffalo Creek	15.0	26.5	41.5	0.	- 15.
Aqua Fria Reservoir	Beaver Creek	0.	1100.0	1100.0	0.	0.
Bennett Reservoir	T. Beaver Creek	0.	0.	0.	0.	0.
Big Creek Lake	Big Creek	0.	1434.	1434.	0.	0.
Boettcher Lake	Lake Creek	0.	0.	0.	0.	0.
Brands Reservoir	T. N. Fk. North Platte	0.	0.	0.	0.	0.
Buffalo Reservoir	Buffalo Creek	486.	281.	281.	486.	0.
Burns Reservoir	Burns Draw	0.	39.	39.	0.	0.
Butte (South and East) Res.	Roaring Fork	0.	0.	0.	0.	0.
Carlstrom (Upper Cowdrey) Res.	Michigan River	448.	234.	234.	448.	0.
Case No. 1 Reservoir	Illinois River	0.	117.	117.	0.	0.
Case No. 2 Reservoir	Illinois River	0.	98.	98.	0.	0.
Case No. 3 Reservoir	Illinois River	45.	21.	66.	0.	- 45.
Clayton Reservoir	Buffalo Creek	0.	213.	213.	0.	0.
Cowdrey (Lower) Reservoir	Michigan River	24.	0.	0.	24.	0.
Coyte Reservoir	Arapahoe Creek	38.	28.	28.	38.	0.
Fisher Lake and Pump	Seepage T. Michigan River	40.	35.	17.	58.	+ 18.
Fuller Reservoir	Cow Creek	2.	3.	4.	1.	- 1.
Gamber Reservoir	Little Grizzly River	0.	0.	0.	0.	0.
Ginger Quill Reservoir	Three Mile Creek	38.2	0.	0.	38.2	0.
Hap Reservoir	Buffalo Creek	0.	14.	14.	0.	0.
Hecla Reservoir	Arapaho Creek	255.	255.	255.	255.	0.
House (Upper) Reservoir	Spring Creek	44.	0.	0.	44.	0.
Hunter Reservoir	Three Mile Creek	0.	0.	0.	0.	0.
Jackson Reservoir	Dry Creek	92.	146.	119.	119.	+ 27.
Kettle Reservoir	Newcomb Creek	0.	0.	0.	0.	0.
Lake John	Lake Creek	5970.	673.	1508.	5135.	- 835.
Lake Roslyn	Howd Creek	290.	0.	0.	290.	0.
Laune Reservoir	Roaring Fork	2734.	656.	2325.	1065.	- 1669.
MacFarlane Reservoir	Illinois River	191.	2914.	1155.	1950.	+ 1759.
McGowan Reservoir	Middle Fork Mexican Creek	36.	32.	29.	40.	+ 4.
Mexican Reservoir	Mexican Creek	0.	84.	74.	10.	+ 10.
Muddy Pass Reservoir	T. Grizzly Creek	58.	0.	0.	58.	0.
Ninegar Reservoir	Ninegar Creek	24.	24.	24.	24.	0.
North Michigan Reservoir	North Fk. Michigan Creek	1250.	0.	0.	1250.	0.
Petry Lake	Unnamed T. Little Grizzly	72.	0.	0.	72.	0.
Pole Mountain Reservoir	Mexican Creek	292.	214.	112.	394.	+ 102.

NAME OF RESERVOIR	SOURCE	AMT. IN STORAGE 11/1/76	FILL DURING SEASON	RELEASE + EVAPORATION	AMT. IN STORAGE 10/31/77	TOTAL CHANGE IN STORAGE
District 47 Cont.						
Ridings Reservoir	Buffalo Creek	0.	46.	46.	0.	0.
Rock Reservoir	Newcomb Creek	0.	0.	0.	0.	0.
Seymour Reservoir	Ninegar Creek	314.	736.	525.	525.	+ 211.
Shawver Reservoir	Sutton Creek	0.	40.	38.	2.	+ 2.
Slack and Weiss Reservoir	Ninegar Creek	137.	130.	130.	137.	0.
Stambaugh Reservoir	Little Grizzly	139.	0.	139.	0.	- 139.
South Arapahoe Reservoir	Arapaho Creek	0.	16.	16.	0.	0.
Three Mile Reservoir	Three Mile Creek	29.	20.	49.	0.	- 29.
Two Ledge Reservoir	T. Coyote Creek	50.	0.	0.	50.	0.
Van Valkenburg Reservoir	Van Valkenburg Draw	0.	20.	0.	20.	+ 20.
Walden Reservoir	Illinois River	2,486.	1,845.	2,853.	1,478.	- 1,008.
West Arapaho Reservoir	T. Big Grizzly	0.	152.	60.	92.	+ 92.
State Walden		15.	0.	0.	15.	0.
TOTALS (All Figures in Acre Feet)		15,614.	11,647	13,143.	14,118.	- 1,496.
DISTRICT NO. 54						
Elk Lake Reservoir	Willow Creek	0.	398.4	398.4	0.	0.
Gold Blossom Reservoir	Gold Blossom Creek	0.	0.	0.	0.	0.
Lake Fork Reservoir	Lake Fork Creek	44.3	0.	0.	44.3	0.
Lower Cogdill Reservoir	Government Corral Creek	173.44	0.	0.	173.44	0.
Martin Cull Reservoir	T. Four Mile Creek	75.0	0.	0.	Est.75.0	0.
McCargar Dam and Reservoir	Independence Creek	64.2	0.	0.	64.2	0.
Skunk Creek Reservoir	Skunk Creek	15.3	0.	7.7	7.6	- 7.7
Slater Creek Lake	T. Slater Creek	44.0			44.0	0.
Upper Cogdill Reservoir	Government Corral Creek	45.4	0.	0.	45.4	0.
TOTALS (All Figures in Acre Feet)		461.64	398.4	406.1	453.94	- 7.7
DISTRICT NO. 56						
Ainge Reservoir	Flynn Spring	0.	.1	.1	0.	0.
Bassett No. 1 Reservoir	Bull Canyon Gulch	0.	25.0	20.0	5.0	+ 5.0
Bassett No. 2 Reservoir	Bull Canyon Gulch	54.32	0.	29.32	25.0	- 29.32
Blevins Reservoir	Spring T. Vermillion Creek	4.0	0.0	2.0	2.0	- 2.0
Cove Reservoir	Cottonwood Creek	35.0	15.0	40.0	10.0	- 25.0
Dry Lake Reservoir	Pot Creek	6.0	0.	6.0	0.	- 6.0

NAME OF RESERVOIR	SOURCE	AMT. IN STORAGE 11/1/76	FILL DURING SEASON	RELEASE + EVAPORATION	AMT. IN STORAGE 10/31/77	TOTAL CHANGE IN STORAGE
District 56 Cont.						
Haunted Spring Reservoir	Haunted Spring Gulch	1.0	1.0	2.0	0.	- 1.0
Massey Reservoir	Flynn Spring	2.0	1.0	3.0	0.	- 2.0
Offield Reservoir	Pot Creek	64.0	86.0	125.0	25.0	- 39.0
TOTALS (All Figures in Acre Feet)		166.32	128.1	227.42	67.0	- 99.32
DISTRICT NO. 57						
Apple Reservoir		0.	5.00	3.00	2.0	+ 2.0
Ash Ponds	Yampa River	0.	1,013.00	507.	1,506.0	+ 506.0
Basin Reservoir	Basin & Buchanan Gulch	74.5	17.2	78.40	13.3	- 61.2
Brock Reservoir	T. Yampa River	1.0	5.84	5.84	1.0	0.0
Cozzens Walrod Reservoir	Hutchinson Gulch	30.28	12.46	42.74	0.0	- 30.28
East Signs Reservoir	Hooker Draw	2.0	0.	0.	2.0	0.0
Eckman Park Reservoir No. 1	Foidel Creek	116.8	0.	36.8	80.0	- 36.80
Eckman Park Reservoir No. 2	Foidel Creek	12.2	0.	0.	12.2	0.0
Eckman Park Reservoir No. 3	Foidel Creek	0.0	2.0	0.	2.0	+ 2.0
Elmer Reservoir	Morgan Creek	0.	30.	0.	30.	+ 30.0
Evaporation Pond	Yampa River	0.	263.0	0.	263.0	+ 263.0
F. Schaffermeyer Res. No. 3	Fiske Creek	11.58	0.	8.58	3.0	- 8.58
F. Schaffermeyer Res. No. 4	Fiske Creek	0.	2.0	0.	2.0	+ 2.0
Greasewood Flats Reservoir	Dill Gulch	0.	2.71	2.71	0.	0.0
High Quality Pond	Yampa River	0.	21.0	21.0	0.	0.0
Intermediate Quality Pond	Yampa River	0.	253.0	0.	253.0	+ 253.0
James Marion Yoast Res.	Yoast Creek	0.	147.0	147.0	0.	0.0
John C. Temple Res. No. 1	Temple Gulch	37.0	304.0	341.0	0.	- 37.0
Kowach Reservoir	Small T. Yampa River	0.0	28.0	0.0	28.0	+ 28.0
Morgan Creek No. 1 Reservoir	Morgan Creek	83.6	200.0	283.6	0.0	- 83.6
Nofstger Reservoir	Grassy Creek	300.0	42.0	302.0	40.0	- 260.0
Nofstger-Zeigler Reservoir	Grassy Creek	0.0	293.0	183.0	110.0	+ 110.0
Sage Creek Reservoir	Sage Creek	0.0	6.4	6.4	0.0	0.0
Scotchmans Gulch Reservoir #1	Scotchmans Gulch	8.0	0.0	8.0	0.0	- 8.0
Scotchmans Gulch Reservoir #2	Scotchmans Gulch	0.0	2.0	0.0	2.0	+ 2.0
Seaton Reservoir	Middle Fish Creek	0.0	10.4	10.4	0.0	0.0
Sheriff Reservoir	Trout Creek	481.0	961.3	618.2	824.1	+ 343.1
West Signs Reservoir	Miller Draw	1.0	0.0	1.0	0.0	- 1.0
Yoast No. 1, No. 2 Res.	Yoast Creek	6.0	.83	6.83	0.0	- 6.0
TOTALS (All Figures in Acre Feet)		1,164.96	3,622.14	2,613.50	2,173.6	+1008.64

NAME OF RESERVOIR	SOURCE	AMT. IN STORAGE 11/1/76	FILL DURING SEASON	RELEASE + EVAPORATION	AMT. IN STORAGE 10/31/77	TOTAL CHANGE IN STORAGE
DISTRICT NO. 58						
Allen Basin Reservoir	Middle Hunt Creek	611.0	602.0	1,169.0	44.0	- 567.0
Alma Baer Reservoir	Fish Creek	2.6	0.0	0.0	2.6	0.0
Bar Bee Lake	Beaver Creek	80.0	0.0	0.0	80.0	0.0
Bull Park No. 2 Reservoir	West Branch Watson Creek	0.0	30.0	30.0	0.0	0.0
Burnt Mesa Reservoir	South Hunt Creek	3.0	7.0	10.0	0.0	- 3.0
Chapman Reservoir	Little Oak Creek	50.0	203.0	243.0	10.0	- 40.0
Crowner Reservoir	Beaver Creek	0.0	0.0	0.0	0.0	0.0
Fish Creek Reservoir	Fish Creek	1,637.0	205.0	312.0	1,530.0	- 107.0
Fish Creek Lake No. 2	Wheeler Creek	35.0	0.0	0.0	35.0	0.0
French Reservoir	Jack Creek	4.0	0.0	0.0	4.0	0.0
Gardner Park Reservoir	Gardner Creek	728.0	0.0	726.0	2.0	- 726.0
G.R. Brenneman Reservoir	Cow Creek	2.43	0.0	0.0	2.43	0.0
Hahns Peak Reservoir	Willow Creek	600.5	0.0	0.0	600.5	0.0
Heart Lake	Watson Creek	5.0	0.0	5.0	0.0	- 5.0
Kern Reservoir	Grouse Creek	.4	0.0	0.0	.4	0.0
Lake Creek Reservoir	Wheeler Creek	261.0	0.0	0.0	261.0	0.0
Lake Windemere	Farnsworth Creek	77.0	0.0	77.0	0.0	- 77.0
Lee Reservoir	Chimney Creek	3.0	0.0	3.0	0.0	- 3.0
Lester Creek Reservoir	Lester Creek	2,742.0	1,658.0	0.0	4,400.0	+1,658.0
Long Lake	Fish Creek	396.6	297.92	297.92	396.6	0.0
Martin Reservoir	Yellow Jacket Creek	10.0	55.0	60.0	5.0	- 5.0
May Reservoir	Salt Creek	6.0	19.0	19.0	Est. 6.0	0.0
McChivvis Reservoir	Watson Creek	30.0	60.0	90.0	0.0	- 30.0
Moore Park Reservoir	Elgin Creek	0.0	20.85	20.85	0.0	0.0
Oak Creek Reservoir	Oak Creek	1.0	0.0	0.0	1.0	0.0
Overman Reservoir	French Creek	Est. 100.0	0.0	0.0	Est.100.0	0.0
Rams Horn Reservoir	Dome Creek	0.0	122.0	0.0	122.0	+ 122.0
Reed Reservoir	Chimney Rock Creek	8.21	11.79	20.0	0.0	- 8.21
Roland Reid Reservoir No. 1	Ft. Willy Gulch	45.0	0.0	0.0	45.0	0.0
Sandelin Reservoir No. 1	Big Creek	2.5	0.0	0.0	2.5	0.0
Sandelin Reservoir No. 2	Big Creek	7.0	0.0	0.0	7.0	0.0
Sandelin Reservoir No. 3	Big Creek	6.8	0.0	0.0	6.8	0.0
Simon Reservoir	Middle Hunt Creek	361.0	284.0	525.0	120.0	- 241.0
Stillwater Reservoir No. 1	Yampa River	0.0	1,676.9	1,655.95	20.95	+ 20.95
Storm Mountain Reservoir	Burgess Creek	1.74	0.0	0.0	1.74	0.0
Stukey Distribution Reservoir	Spring Creek	4.6	0.0	0.0	4.6	0.0

NAME OF RESERVOIR	SOURCE	AMT. IN STORAGE 11/1/76	FILL DURING SEASON	RELEASE + EVAPORATION	AMT. IN STORAGE 10/31/77	TOTAL CHANGE IN STORAGE
District 58 Cont.						
Summer Reservoir	Young Creek	0.0	12.0	12.0	0.0	0.
Tillquist Reservoir	Morrison Creek	5.0	0.0	0.0	5.0	0.0
Trull Creek Reservoir	Trull Creek	35.0	40.0	75.0	0.0	- 35.0
Upper Stillwater Reservoir	Roaring Fork	620.0	324.9	617.5	327.4	- 292.6
Upper Willow Creek Reservoir	Willow Creek	23,604.0	0.0	0.0	23,604.0	0.0
Wheeler Reservoir	Wheeler Creek	37.0	0.0	0.0	37.0	0.0
Whitney Nelson Reservoir	Whipple Creek	390.0	34.0	350.0	74.0	- 316.0
Willey Reservoir	Cow Creek	1.0	0.0	1.0	0.0	- 1.0
Younger Reservoir	Morrison Creek	15.0	0.0	0.0	15.0	0.0
TOTALS (All Figures in Acre Feet)		32,529.38	5,663.36	6,319.22	31,873.52	- 655.86

IV. AGRICULTURE

Crop production throughout the Division 6 area was below average as a result of the dry weather conditions. However, those irrigated crops that were supplied with adequate water on the White and Yampa Rivers did produce good crops as a result of the longer growing season.

Some drainages on the Yampa that did not supply enough water were the Yampa above the town of Yampa, Elkhead Creek, Fortification Creek, and Morapas Creek. Crops in these areas were estimated to be as low as twenty percent of normal production.

The White River, although being short above Meeker, did supply enough water to raise near average hay production. The North Platte drainage as a basin produced approximately sixty percent of the normal hay crop.

Dry land crop production was very poor with wheat production being as low as twenty percent in some areas. Also grass-fattened cattle as a whole were not as heavy this fall as previous years.

V. COMPACTS

Preliminary gaging station records show 345,700 acre feet at the Maybell gage on the Yampa River for the past water year. Although this is less than 500,000 acre feet, it is still within the requirements of the Upper Colorado River Compact with the ten year consecutive average being 1,099,258 acre feet per year for the Yampa River flow at Maybell.

The Nebraska VS Wyoming Supreme Court stipulations were met with 10,973 acre feet for irrigation purposes being stored, 110,481 acres of land irrigated, and 680 acre feet of water being transported out of the North Platte River basin.

The operation of Pot Creek this past season was relatively easy since no water was available for Colorado. The majority of the water that was received by the water rights in Colorado was the result of a reservoir release being

made by Utah of water that was stored the previous year. The total flow for Pot Creek at the Colorado State line was 65 acre feet with the reservoir release accounting for 56 acre feet.

VI. DAMS

A. Since the past irrigation season was one of the driest on record, many reservoirs did not fill and there was no major problems developed by any of the reservoirs during the year.

Construction is 95 percent complete on Lake Catamount Reservoir on the main stem of the Yampa River. This reservoir will be allowed to fill as soon as the final inspection has been approved.

Lester Creek Reservoir has still not been completely filled, primarily due to lack of water availability. The Forest Service as yet has not allowed the construction of a permanent road to the dam and this could possibly cause problems for any future maintenance work that may be needed.

B. The construction of stock dams has been increasing as a result of the drought and assistance monies being made available through the Soil Conservation Service. There was a total of sixteen new stock dams approved during 1977.

VII. WATER RIGHTS

A. During the month of August, Water Referee hearings were held by the Division 6 Water Referee. Cases heard were those that had been objected to and the referee was hearing them in an attempt to resolve differences of the parties involved so that a full hearing before the Court would be avoided. In most cases, this was possible; however, those cases involving the Federal Government and a case involving the claim to a spring were not resolved.

B. Consultations with the water referees are made upon their request and are up-to-date. All water cases are field checked by a member of the Division

6 staff with the water referee unless both parties have previous knowledge of the case or the case is a conditional water right for which there would be no advantage in seeing.

	Applications	Rulings	Decrees
Underground	45	35	37
Change of Water Right	25	15	19
Plan of Augmentation	3	0	0
Water Right	118	95	86
Diligence	3	3	6
Water Storage	52	15	14
			162
Applications received in Water Court	246		
Number of Referee Consultations	163		

VIII. ORGANIZATIONS

A. Colorado River Water Conservation District, Glenwood Springs, Colorado - Mr. Roland C. Fischer, Secretary-Engineer

Upper Yampa Water Conservancy District, Steamboat Springs, Colorado - John Fetcher, Secretary; Jim Funk, President

Yellow Jacket Water Conservancy District, Meeker, Colorado - Frank Cooley, Attorney

Pot Hook Conservancy District, Baggs, Wyoming - Darwin Dunn, President

Lower Yampa Conservancy District, Craig, Colorado - Tony Angelo, Chairman

Great Northern Conservancy District, Craig, Colorado - Tony Angelo, Chairman

Northwest Colorado Water Council, Craig, Colorado - Tony Angelo, Chairman

Jackson County Water Conservancy District, Walden, Colorado - Lloyd Hampton, Secretary

B. Bear River Reservoir Company, Yampa, Colorado

Stillwater Ditch Company, Yampa, Colorado

Maybell Irrigation District, Maybell, Colorado

Miller Creek Ditch Company, Meeker, Colorado

Woodchuck Ditch Company, Steamboat Springs, Colorado

Mt. Werner Water and Sanitation District, Steamboat Springs, Colorado

Morrison Creek Water and Sanitation District, Oak Creek, Colorado

Steamboat Lake Water District, Clark, Colorado

Riverside Water and Sanitation District, Steamboat Springs, Colorado

Steamboat II Water and Sanitation District, Steamboat Springs, Colorado

Tree Haus Water and Sanitation District, Steamboat Springs, Colorado

IX. WATER COMMISSIONER'S SUMMARY

Water District No. 43

Direct Flow Diversions to Irrigation	264,332 AF
Direct Flow Diversions to Transbasin	0
Direct Flow Diversions to Municipal & Domestic	1,148 AF
Direct Flow Diversions to Industrial	5,272 AF
Direct Flow Diversions to Other Uses	14,111 AF
TOTAL DIVERSIONS	284,863 AF
Reservoir Storage (11/1/76)	8,066 AF
Reservoir Storage (10/31/77)	7,919 AF
Net Change in Storage	- 147 AF
Fill During Season	1,416 AF
Release + Evaporation During Season	1,562 AF
Direct Diversions to Irrigation	264,332 AF
Diversions from Storage to Irrigation	146 AF
TOTAL DIVERSIONS TO IRRIGATION	264,478 AF
Total Acres Irrigated	24,371 Acres
Average Demand for Irrigation	10.8 AF/Acre
Number of Active Ditches Observed	431
Number of Active Reservoirs Observed	23
Number of Active Springs Observed	230
Number of Active Wells Observed	10
Number of Inactive Structures Observed	134
TOTAL STRUCTURES OBSERVED	828
Total Number of Structures Regulated	231
Total Number of Field Observations Made	5,891

Water District 44

Direct Flow Diversions to Irrigation	148,486 AF
Direct Flow Diversions to Transbasin	148 AF
Direct Flow Diversions to Municipal & Domestic	1,810 AF
Direct Flow Diversions to Industrial	0
Direct Flow Diversions to Other Uses	523 AF
TOTAL DIVERSIONS	150,967 AF
Reservoir Storage (11/1/76)	15,991 AF
Reservoir Storage (10/31/77)	15,538 AF
Net Change in Storage	- 454 AF
Fill During Season	525 AF
Release + Evaporation During Season	979 AF
Direct Diversions to Irrigation	148,486 AF
Diversions from Storage to Irrigation	114 AF
TOTAL DIVERSIONS TO IRRIGATION	148,600 AF
Total Acres Irrigated	21,496 Acres
Average Demand for Irrigation	6.9 AF/Acre
Number of Active Ditches Observed	225
Number of Active Reservoirs Observed	49
Number of Active Springs Observed	29
Number of Active Wells Observed	3
Number of Inactive Structures Observed	87
TOTAL STRUCTURES OBSERVED	393
Total Number of Structures Regulated	55
Total Number of Field Observations Made	1,675

Water District 47

Direct Flow Diversions to Irrigation	206,986 AF
Direct Flow Diversions to Transbasin	680 AF
Direct Flow Diversions to Municipal & Domestic	368 AF
Direct Flow Diversions to Industrial	0
Direct Flow Diversions to Other Uses	4,466 AF
TOTAL DIVERSIONS	212,500 AF
Reservoir Storage (11/1/76)	15,614 AF
Reservoir Storage (10/31/77)	14,118 AF
Net Change in Storage	- 1,496 AF
Fill During Season	11,647 AF
Release + Evaporation During Season	13,143 AF
Direct Diversions to Irrigation	206,986 AF
Diversions from Storage to Irrigation	4,537 AF
TOTAL DIVERSIONS TO IRRIGATION	211,523 AF
Total Acres Irrigated	110,481 Acres
Average Demand for Irrigation	1.9 AF/Acre
Number of Active Ditches Observed	222
Number of Active Reservoirs Observed	35
Number of Active Springs Observed	1
Number of Active Wells Observed	2
Number of Inactive Structures Observed	41
TOTAL STRUCTURES OBSERVED	301
Total Number of Structures Regulated	165
Total Number of Field Observations Made	1,214

Water District No. 54

Direct Flow Diversions to Irrigation	22,232 AF
Direct Flow Diversions to Transbasin	0
Direct Flow Diversions to Municipal & Domestic	118 AF
Direct Flow Diversions to Industrial	0
Direct Flow Diversions to Other Uses	590 AF
TOTAL DIVERSIONS	23,340 AF
Reservoir Storage (11/1/76)	462 AF
Reservoir Storage (10/31/77)	454 AF
Net Change in Storage	- 8 AF
Fill During Season	398 AF
Release + Evaporation During Season	406 AF
Direct Diversions to Irrigation	22,232 AF
Diversions from Storage to Irrigation	400 AF
TOTAL DIVERSIONS TO IRRIGATION	22,622 AF
Total Acres Irrigated	10,960 Acres
Average Demand for Irrigation	2.1 AF/Acre
Number of Active Ditches Observed	65
Number of Active Reservoirs Observed	7
Number of Active Springs Observed	3
Number of Active Wells Observed	0
Number of Inactive Structures Observed	24
TOTAL STRUCTURES OBSERVED	99
Total Number of Structures Regulated	65
Total Number of Field Observations Made	230

Water District No. 55

Direct Flow Diversions to Irrigation	9,387 AF
Direct Flow Diversions to Transbasin	0
Direct Flow Diversions to Municipal & Domestic	1
Direct Flow Diversions to Industrial	0
Direct Flow Diversions to Other Uses	130
TOTAL DIVERSIONS	9,518 AF
Reservoir Storage (11/1/76)	0
Reservoir Storage (10/31/77)	0
Net Change in Storage	0
Fill During Season	0
Release + Evaporation During Season	0
Direct Diversions to Irrigation	9,387 AF
Diversions from Storage to Irrigation	0
TOTAL DIVERSIONS TO IRRIGATION	9,387 AF
Total Acres Irrigated	1,368 Acres
Average Demand for Irrigation	6.9 AF/Acre
Number of Active Ditches Observed	11
Number of Active Reservoirs Observed	0
Number of Active Springs Observed	20
Number of Active Wells Observed	5
Number of Inactive Structures Observed	8
TOTAL STRUCTURES OBSERVED	44
Total Number of Structures Regulated	0
Total Number of Field Observations Made	126

Water District No. 56

Direct Flow Diversions to Irrigation	11,454 AF
Direct Flow Diversions to Transbasin	0
Direct Flow Diversions to Municipal & Domestic	279 AF
Direct Flow Diversions to Industrial	0
Direct Flow Diversions to Other Uses	2,719 AF
TOTAL DIVERSIONS	14,452 AF
Reservoir Storage (11/1/76)	166 AF
Reservoir Storage (10/31/77)	67 AF
Net Change in Storage	- 99 AF
Fill During Season	128 AF
Release + Evaporation During Season	227 AF
Direct Diversions to Irrigation	11,454 AF
Diversions from Storage to Irrigation	248 AF
TOTAL DIVERSIONS TO IRRIGATION	11,702 AF
Total Acres Irrigated	2,335 Acres
Average Demand for Irrigation	5.0 AF/Acre
Number of Active Ditches Observed	33
Number of Active Reservoirs Observed	8
Number of Active Springs Observed	65
Number of Active Wells Observed	4
Number of Inactive Structures Observed	25
TOTAL STRUCTURES OBSERVED	135
Total Number of Structures Regulated	0
Total Number of Field Observations Made	502

Water District No. 57

Direct Flow Diversions to Irrigation	54,895 AF
Direct Flow Diversions to Transbasin	1,072 AF
Direct Flow Diversions to Municipal & Domestic	915 AF
Direct Flow Diversions to Industrial	4,520 AF
Direct Flow Diversions to Other Uses	2,054 AF
TOTAL DIVERSIONS	63,456 AF
Reservoir Storage (11/1/76)	1,165 AF
Reservoir Storage (10/31/77)	2,174 AF
Net Change in Storage	+1,009 AF
Fill During Season	3,622 AF
Release + Evaporation During Season	2,613 AF
Direct Diversions to Irrigation	54,895 AF
Diversions from Storage to Irrigation	538 AF
TOTAL DIVERSIONS TO IRRIGATION	55,433 AF
Total Acres Irrigated	9,564 Acres
Average Demand for Irrigation	5.6 AF/Acre
Number of Active Ditches Observed	71
Number of Active Reservoirs Observed	30
Number of Active Springs Observed	107
Number of Active Wells Observed	6
Number of Inactive Structures Observed	75
TOTAL STRUCTURES OBSERVED	291
Total Number of Structures Regulated	28
Total Number of Field Observations Made	716

Water District No. 58

Direct Flow Diversions to Irrigation	97,106 AF
Direct Flow Diversions to Transbasin	25 AF
Direct Flow Diversions to Municipal & Domestic	2,998 AF
Direct Flow Diversions to Industrial	0
Direct Flow Diversions to Other Uses	946 AF
TOTAL DIVERSIONS	101,075 AF
Reservoir Storage (11/1/76)	32,529 AF
Reservoir Storage (10/31/77)	31,874 AF
Net Change in Storage	- 655 AF
Fill During Season	5,663 AF
Release + Evaporation During Season	6,319 AF
Direct Diversions to Irrigation	97,876 AF
Diversions from Storage to Irrigation	3,620 AF
TOTAL DIVERSIONS TO IRRIGATION	101,496 AF
Total Acres Irrigated	30,499 Acres
Average Demand for Irrigation	3.3 AF/Acre
Number of Active Ditches Observed	351
Number of Active Reservoirs Observed	44
Number of Active Springs Observed	225
Number of Active Wells Observed	30
Number of Inactive Structures Observed	160
TOTAL STRUCTURES OBSERVED	810
Total Number of Structures Regulated	127
Total Number of Field Observations Made	3,374

X. DIVISION ENGINEER'S SUMMARY

Table A

DIVISION SUMMARY - DIVISION NO. 6
1977 -- Direct Flow Diversions

Water District	Total Ditches Reported Active	Inactive	Total Diversions for Irrigation A.F.	No. of Acres Irrigated	A.F. per Acre	Industrial Use A.F.	Municipal & Domestic A.F.	Recreational & Other Uses A.F.	Transbasin/Transmtn. Diversions A.F.	Total Diversions A.F.	No. of Structures Reported on in Dist.	Delivered to Compact Commitment A.F.
43	431	134	264,478	24,371	10.8	5,272	1,148	14,111	0	284,863	828	0
44	225	87	148,600	21,496	6.9	0	1,810	523	148	150,967	393	0
47	222	41	211,523	110,481	1.9	0	368	4,466	680	212,500	301	0
54	65	24	22,622	10,960	2.1	0	118	590	0	23,340	99	0
55	11	8	9,387	1,368	6.9	0	1	130	0	9,518	44	0
56	33	25	11,702	2,335	5.0	0	279	2,719	0	14,452	135	0
57	71	75	55,433	9,564	5.6	4,520	915	2,054	1,072	63,456	291	0
58	351	160	101,496	30,499	3.3	0	2,998	946	668	101,075	810	0
TOTALS	1,409	554	825,241	211,074	3.9 (Avg.)	9,792	7,637	25,539	2,568	860,171	2,901	0

X. DIVISION ENGINEER'S SUMMARY

Table B

DIVISION SUMMARY - DIVISION NO. 6

1977 - Storage Report - Acre Feet

Water District	Amount in Storage Acre Feet 11-1-76	Amount in Storage Acre Feet 10-31-77	Actual Amt. Diverted to Storage During Season	Delivered from Storage to Irrigation	Storage for Industrial Use	Storage for Municipal Use	Storage for Recreational Use	Storage for Projects
43	8,066	7,919	1,416	146	0	0	7,467	0
44	15,991	15,537	525	917	8,310	0	6,775	0
47	15,614	14,118	11,647	4,537	0	0	6,443	0
54	461	454	398	400	0	0	218	0
55								
56	166	67	128	248	0	0	0	0
57	1,165	3,622	2,072	538	1,022	824	0	0
58	32,529	5,663	31,874	5,286	5,000	2,034	24,248	0
			48062	12072	14332	2858	45151	

X. DIVISION ENGINEER'S SUMMARY

Table C

STRUCTURES REPORTED AND OBSERVATIONS MADE

Water District	Spgs. & Wells Reported	Reservoirs Reported	Active Ditches	Inactive Ditches	Total Structures Reported	Total Daily Observations	Total Structures Regulated
43	240	23	431	134	828	5,891	231
44	32	49	225	87	393	1,675	55
47	3	35	222	41	301	1,214	165
54	3	7	65	24	99	230	65
55	25	0	11	8	44	126	0
56	69	8	33	25	135	502	0
57	115	30	71	75	291	716	28
58	255	44	351	160	810	3,374	127
TOTALS	742	196	1,409	554	2,901	13,728	671

X. DIVISION ENGINEER'S SUMMARY

Table D

WORKLOAD AND STATISTICAL INDICATORS

Acre Feet Water Used	860,171
Acre Feet Diverted for Agricultural Use	825,241
Acre Feet Diverted for Industrial Use	9,792
Acre Feet Diverted for Recreation Use	25,539
Acre Feet Diverted for Domestic & Municipal Use	7,637
Acre Feet Diverted to Compact Commitment	0
Acre Feet Water Stored (10/31/77)	47,380
Acre Feet Water Transbasin Diversion	2,568
Acres Irrigated	211,074
Total Structures Administered	671
Total Daily Observations	13,728
Total Structures Observed or Reported	2,899

XI. RECOMMENDATIONS AND SUGGESTIONS

After a record year of water shortages, the continued need for storage becomes even more evident. With the national attitude on storage being what it is, it becomes even more important for the State to concentrate on a program of its own. The future of Colorado and its well being is going to depend on a good water supply. Especially on the Western Slope, storage is the only practical way that this can be accomplished.

The revolving fund that is in existance is probably a start, but is terribly inadequate to complete the job that needs to be done.

The age-old problem of keeping water commissioner jobs upgraded to compete with local employment is becoming more of a problem. The increasing job openings in the energy related fields in Northwestern Colorado make it harder than ever to keep personnel. Jobs in new coal mines and power plants pay ever increasing wages in non-skilled and semi-skilled fields. This makes many commissioners, particularly the younger men, wonder if it is wise to continue working for the State. It would be well if the commissioners could be upgraded to compete with non-state employment. State-furnished transportation would also be a help. With the increasing fuel costs, many men are subsidizing the State through transportation, as well as being in the lower pay scale brackets.

Ownership of water rights also continues to be a problem. Water rights, for the most part, are well defined. The problem lies in a clear-cut definition as to who owns the water. In cases where the parties involved agree to amounts of water owned by each, it seems like an application under a water case showing ownership might be an easy, inexpensive way to clarify this situation.