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DIVISION NO. 6
1974 ANNUAL REPORT

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DIVISION OF WATER RESOURCES
DIVISION NO. 6

1974 ANNUAL REPORT

I. Introductory Statement

The Yampa, North Platte, Green, Little Snake and White River drainage basins comprise Division No. 6 which includes the major portion of the Northwestern corner of Colorado. Elevations range from 14,000 feet in the Eastern portion to around 5,000 feet in the West including rugged mountains, irrigated valleys, farmed mesas, desert ranges and the beautiful canyon country of the Yampa and Green River. The annual precipitation varies from seven inches annually in the western winter ranges to over 40 inches in the high mountains with about 20 inches in the crop producing portions of the Division. The bulk of precipitation is in the form of snow during the winter months with some areas having summer precipitation enough to support small grains and some 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 - 37,000 acres and 120,000 acres for the North Platte drainage. Dry farming in the North Platte drainage is practically nonexistent 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 50 per cent 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 cities of Craig and Meeker are 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 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.

The major industry in the Division is still agriculture, mainly livestock production. However, the area is rich in coal and oil deposits which are contributing to the growth of the economy. Recreational development is still very essential to the Divisions economic stability and at the present is still one of the major sources of income.

Development of subdivisions during the past year has been on the decrease as a result of the national economic situation. There are plans for new subdivisions in the Craig area which will provide the necessary dwelling for the influx of people expected during the construction of the new power generating plant.

II. Personnel

A.

NAME	POSITION	DISTRICT	FY 73-74		FY 73-74 MILEAGE
			MONTHS WORKED	BUDGETED	
Wesley E. Signs	Division Engineer		Full Time		\$297.84
Daries C. Lile	Asst. Division Engineer		Full Time		\$437.52
W. Kent Holt	Hydrographer		Full Time		\$109.56
Linda L. Fox	Secretary		Full Time		None
Roy D. Steffen	1042 Water Commissioner		Full Time		\$344.52
William Murray	Deputy Water Commissioner	43	4	4	\$1047.00
Joe E. Brown	Deputy Water Commissioner	43	2	1	\$540.46
Clarence Johnson	Water Commissioner 1	43	Full Time		None
Ben E. Cordle	Water Commissioner 1	44	7 1/2	8	\$1751.52
Neil Black	Water Commissioner 1	47	Full Time		\$666.48
Samuel Ray	Deputy Water Commissioner	47	0	3	None
Donald C. Gilroy	Water Commissioner 1	54	6	6	\$705.96
Jack Leonard	Water Commissioner 1	55-56	3 1/4	6	\$668.76
James E. Sellers	Water Commissioner 1	57	8 1/2	7	\$1194.24
Charles Gregory	Water Commissioner 1	58	8 1/2	8	\$928.08
Billy Milner	Water Commissioner 1	58	7	8	\$427.08
Eric H. Wagner	Water Commissioner 1	58	5	3	\$365.04
R. Wayne Light*	Water Commissioner 1	58	1	1	None

* Contract Agreement for Professional Services

III. Water Supply

A. Heavy winter snows in most of Division 6 accounted for average to heavy spring runoffs. The area from Steamboat Springs to Craig along the Yampa and the Little Snake drainage experienced near record to record peak flows. These flood peaks were considerably earlier than normal due to warm weather in conjunction with high snow packs at the lower elevations. Flood damage in some regions was moderately extensive. The Corp of Engineers was called upon to help two of the areas water and sewer plants threatened by high water and river bank erosion.

Summer and fall unlike the early part of the year were drier than normal with several areas having little or no precipitation reported for many weeks. Many near record low flows were reported during these periods. The runoff predications and corresponding actual flows expressed as per cent of average are as follows:

	May 1 Forecast For Apr.-Sept.	Actual Flow 1974 Water Year
Yampa River at Steamboat	142 %	131 %
Yampa River at Maybell	132 %	--
White River near Meeker	119 %	--
Little Snake at Lily	154 %	--

Accurate forecasting for the 1975 water year is impossible at this time. However, the fall precipitation and soil moisture figures as of December 1 are both down indicating a possible low water year unless the snowpack increases at a greater than normal rate during the winter months.

III. Water Supply

D. Water Budget - Water Year 1973

	<u>DRAINAGE BASINS</u>			
	<u>Yampa Riv. at Maybell</u>	<u>Little Snake Riv. at Lily Park</u>	<u>White Riv. near Watson, Utah</u>	<u>North Platte Riv. at Northgate</u>
Drainage Area Sq. Mi.	3,400	3,700	4,000	1,400
Estimated Irrigated Acres	90,000	12,000	37,000	117,000
Irrigation Diversions A.F.	270,000	39,000	280,000	810,000
Municipal Diversions A.F.	11,430	0	8,480	0
Industrial Diversions A.F.	5,270	0	7,590	0
Transmountain Diversions A.F.	2,780	0	0	2,350
Estimated Irrig. (1) Depletion A.F.	67,500	9,750	70,000	162,000
Estimated Munc. Depletion A.F.	1,000	0	500	0
Estimated Ind. Depletion A.F.	2,000	0	7,000	0
Change in Res. Storage A.F.	+1,092	+342	+418	-2,198
Surface Outflow A.F.	1,232,000	519,000	566,000	406,000
Basin Yield A.F.	1,305,000	550,000 (2)	643,000	568,000
Basin Yield AF/SQ. Mile	384	149	161	406

- Notes: 1. Estimated depletion figures on 25% consumptive use for all drainages except North Platte which is figured on 20%.
2. Basin yield for Little Snake estimated due to substantial amount of drainage being in Wyoming.

E. Ground Water - The drilling of wells for domestic purposes has slowed considerably from previous years due to enforcement of subdivision regulations and general economic conditions. Coal, oil, and gas exploration is steadily increasing with many of the core holes being cased and used for water wells. This has caused considerable confusion as connected to the ground water regulation particularly as to the definition of test wells and well permits.

Some very good information has been learned about ground water supplies through this energy exploration. Some good artesian wells with apparently good quality water are showing up in the Hayden and Craig areas out of the sandstone formations. Improper casing and plugging of test holes could, however, contaminate these aquifers with poorer quality water from adjoining strata.

About 100 wells were drilled during the year of 1974. Only two of these were for irrigation purposes. The remainder for domestic purposes.

F. Transmountain Diversion (Transbasin)	Acre Feet
Stillwater Ditch	581
Sarvis Ditch	0
Rich Ditch (Transbasin)	1,916
Morgan Creek Feeder (Transbasin)	122
Dome Creek Ditch	170
Sarvis Ditch	0
Four Counties Ditch	0
Michigan Ditch	1,790
Cameron Pass Ditch	296

III. Water Supply
G. Reservoir Storage

ACRE FEET

1973 1974 1974
NOV. 1 MAY 1 OCT. 31

NAME OF RESERVOIR SOURCE

District No. 43

Beaver Lake Reservoir	Vaughan Creek	7.45	7.45	7.45
Big Beaver Creek Reservoir	Big Beaver Creek	6,000.	7,657.86	7,657.0
Big Lick Reservoir	Big Beaver Creek	400.	361.16	291.33
Cabin Lake Reservoir	Vaughan Creek	16.06	16.06	16.06
Gregor Reservoir	Vaughan Creek	47.0	47.0	47.0
Keystone Reservoir No. 3	Price Creek	3.5	31.8	11.0
Lady Lake Reservoir	Vaughan Creek	4.41	4.41	4.41
Larson Reservoir	Nineteen Mile Creek	61.9	61.9	61.9
Lunney Reservoir	Nine Mile Draw	41.6	82.12	41.12
McHatten Reservoir	Coal Creek	Dry	Dry	Dry
Procter Reservoir	Curtis Creek	6.66	6.66	6.66
Seventh Lake Reservoir	Vaughan Creek	2.12	2.12	2.12
Stump Lake Reservoir	Vaughan Creek	10.23	10.23	10.23
West Miller Reservoir	West Miller Creek	29.8	77.8	48.
West Stewart Reservoir	West Stewart Creek	13.3	13.3	13.3
Wilson Reservoir	East Flag Creek	Dry	Dry	Dry
Black Gulch Reservoir	Black Gulch	Dry	Dry	Dry

District No. 44

Anderson Reservoir	Cottonwood Creek	10.1	20.1	0
Biskup Reservoir	Biskup Gulch	0	135.8	0
Bunker Lake Reservoir	Bunker Creek	113.0	191.48	100.0
Cove Lake Reservoir	Morapos Creek	46.2	46.2	10.0
Cove Reservoir	Morapos Creek	67.7	67.7	67.7
D.D. & E. Reservoir	Hullett Draw	0	1,408.0	324.0
Dresher Reservoir	Long Gulch	200.0	240.0	160.0
Dunkley Dubeau Reservoir	Willow Creek	112.0	112.9	40.0
Elgin Reservoir	Bell Rock Gulch	0	132.99	0
Elgin Reservoir No. 2	McLernon Draw	0	52.68	0
Freeman Reservoir	Little Cottonwood Creek	137.0	137.0	137.0
Konopik Reservoir	Clear Creek	0	13.3	0

III. Water Supply
G. Reservoir Storage

ACRE FEET

1973 1974 1974
NOV. 1 MAY 1 OCT. 31

SOURCE

NAME OF RESERVOIR

District No. 44

Pitney Reservoir					
Poose Creek Reservoir			11.23		11.23
Ralph White Reservoir		227.0	227.0		227.0
Roby Reservoir		605.0	605.0		605.0
Sellers Crowell Reservoir		0	26.0		0
Shafer Reservoir		22.	106.		33.
Waddle Creek Reservoir		81.	81.		81.
Wilson Reservoir		39.0	39.0		39.0
Wyman Reservoir		68.0	68.0		68.0
		95.7	95.7		95.7
	Corral Gulch				
	Poose Creek				
	Fortification Creek				
	Morapos Creek				
	Willow Creek				
	Willow Creek				
	Waddle Creek				
	Good Springs Creek				
	Beaver Creek				

District No. 47

Addison Reservoir					
Aqua Fria Reservoir			44.5		20.
Bennett Reservoir		0	550.		196.
Big Creek Lake		80.9	45.1		0
Boettcher Reservoir		668.	1,434.		1,012.
Brands Reservoir		574.	757.		757.
Buffalo Reservoir		0	24.4		0
Burns Reservoir		351.	351.		351.
Butte - East Delaney		39.3	39.3		39.3
Butte - South Delaney		56.7	116.5		116.5
Case No. 1 Reservoir		126.	275.		275.
Case No. 2 Reservoir		0	70.0		36.0
Case No. 3 Reservoir		56.	98.		56.
Clayton Reservoir		9.1	9.1		8.0
Cowdrey - Lower		164.	213.		147.
Cowdrey - Upper		72.	47.2		10.4
Coyte Reservoir		256.	448.		298.
Darcy Reservoir		38.	38.		38.
Fisher Lake & Pump		-	-		-
	Little Willow Creek				
	Seepage T. Michigan River				
	Buffalo Creek				
	Beaver Creek				
	T. Beaver Creek				
	Big Creek				
	Lake Creek				
	T. No. Fk. North Platte				
	Buffalo Creek				
	Burns Draw				
	Off Stream				
	Off Stream				
	Illinois River				
	Illinois River				
	Illinois River				
	Buffalo Creek				
	Off Stream (Michigan River)				
	Off Stream (Michigan River)				
	Off Stream				
	Little Willow Creek				
	Seepage T. Michigan River				

III. Water Supply
G. Reservoir Storage

ACRE FEET

NAME OF RESERVOIR	1973		1974	
	NOV. 1	MAY 1	NOV. 1	OCT. 31

District No. 47

NAME OF RESERVOIR	1973 NOV. 1	1974 MAY 1	1974 OCT. 31
Follett Pond No. 1	0	0	0
Follett Pond No. 2	0	0	0
Follett Pond No. 3	0	0	0
Fuller Reservoir	0	8.3	8.0
Gamber Reservoir	(300.0 Est.)	416.	325.
Ginger Quill Reservoir	(15.0 Est.)	38.2	38.2
Hap Reservoir	0	0	0
Hecla Reservoir	255.	255.	0
House - Upper	27.	44.8	32.7
Hunter Reservoir	0	58.	0
Jackson Reservoir	68.8	119.	33.7
Kettle Reservoir	18.1	18.1	0
Lake John	6,550.	8,543.	5,615.
Laune Reservoir - North Delaney	2,275.	2,056.	2,275.
McFarlane Reservoir	1,590.	5,012.	674.0
McGowan Reservoir	7.7	39.8	15.
Mexican Reservoir	0	57.	14.
Muddy Pass Reservoir	39.	58.	58.
Ninegar Reservoir	37.5	31.5	31.5
North Michigan Reservoir	1,250.	1,250.	1,250.
Petry Lake	47.5	47.5	71.9
Pole Mountain Reservoir	1,029	1,806.	1,029.
Ridings Reservoir	0	46.1	0
Rock Reservoir	30.2	54.8	0
Roslyn Lake	240.	290.	141.
Seymour Reservoir	525.	525.	314.
Shawver Reservoir	0	19.4	0
Slack & Weiss Reservoir	152.	144.	144.
Stambaugh Reservoir	60.	60.	0
South Arapaho Reservoir	0	0	0
Three Mile Reservoir	29.3	32.0	35.8
Two Ledge Reservoir	61.4	61.4	61.4
Pinkham Creek			
Pinkham Creek			
Pinkham Creek			
Cow Creek			
Little Grizzly River			
Three Mile Creek			
Buffalo Creek			
Arapaho Creek			
Spring Creek			
Three Mile Creek			
Dry Creek			
Newcomb Creek			
Lake Creek			
Roaring Fork			
Illinois River			
Middle Fork Mexican Creek			
Mexican Creek			
T. Grizzly Creek			
Ninegar Creek			
North Fk. Michigan Creek			
Unnamed Trib. Little Grizzly			
Mexican Creek			
Buffalo Creek			
Newcomb Creek			
Hound Creek			
Ninegar Creek			
Sutton Creek			
Ninegar Creek			
Spring & Flood Water			
Arapaho Creek			
Three Mile Creek			
T. Coyote Creek			

III. Water Supply
G. Reservoir Storage

ACRE FEET

NAME OF RESERVOIR	SOURCE	1973	1974	1974
		NOV. 1	MAY 1	OCT. 31
District No. 47				
Van Valkenburg Reservoir	Van Valkenburg Draw	0	2.6	0
Walden Reservoir	Illinois River	3,094.0	3,746.0	2,486.0
West Arapaho Reservoir	T. Arapaho Creek	125.0	30.2	13.3
District No. 54				
Cull Reservoir	Trib. Four Mile Creek	0	250.0	250.0
Elk Lake Reservoir	Willow Creek	0	199.2	398.4
Gold Blossom Reservoir	Gold Blossom Creek	0	0	0
Lake Fork Reservoir	Lake Fork Creek	44.3	44.3	44.3
Lower Cogdill Reservoir	Government Corral Creek	173.44	173.44	173.44
Perkins Fox Reservoir	Trib. West Willow Creek			
Skunk Creek Reservoir	Skunk Creek	15.32	15.32	15.32
Upper Cogdill Reservoir	Government Corral Creek	45.4	45.4	45.4
District No. 56				
Ainge Reservoir	Flynn Spring	.5	4.46	.5
Bassett Reservoir No. 1	Bull Canyon Gulch	0	0	0
Bassett Reservoir No. 2	Bull Canyon Gulch	40.0	54.0	40.0
Dry Lake Reservoir	Pot Creek	7.0	6.0	0
Haunted Spring Reservoir	Haunted Spring Gulch	.5	8.0	0
Massey Reservoir	Flynn Spring	5.0	7.0	0
Offield Reservoir	Pot Creek	64.0	50.0	5.0
T.W. Blevins Reservoir	Spring T. Vermillion Creek	3.0	4.0	6.0
District No. 57				
Apple Reservoir	Dry Creek	Dry	10.72	1.0
Ash Ponds to Hayden Station	Yampa River	1,013.3	1,013.3	1,013.3
Basin Reservoir	Buchanan Gulches	208	208	74.5
Greasewood Flats Reservoir	Dill Gulch	Dry	24.8	Dry

III. Water Supply
G. Reservoir Storage

ACRE FEET

NAME OF RESERVOIR	SOURCE		1973	1974	1974
	NOV. 1	MAY 1	NOV. 1	MAY 1	OCT. 31

District No. 57

Brock Reservoir			6.84	6.84	2.00
J.C. Temple Reservoir No. 1		Trib. to Yampa River	87.0	553.0	70.0
J.M. Yoast Reservoir		Temple Gulch	Dry	147.0	Dry
Morgan Creek Reservoir No. 1		Yoast Creek	51.6	326.0	12.3
Sage Creek Reservoir		Morgan Creek	210.0	379.0	141.0
Seaton Reservoir		Sage Creek	Dry	20.8	Dry
Sheriff Reservoir		Middle Fish Creek	986.5	986.5	986.5
Yoast Reservoir No. 1, No. 2		Trout Creek	Dry	6.83	Dry
		Yoast Creek			

District No. 58

Allen Basin Reservoir		Middle Hunt Creek	1,023.	1,758.	790.
Alma Baer Reservoir		Fish Creek	0	0	2.6
Bear Lake Reservoir		Deadmans Creek	0	0	0
Bison Park Reservoir		Lawson Creek	0	30.	0
Bull Park No. 2 Reservoir		West Branch Watson Creek	0	40.	30.
Burnt Mesa Reservoir		South Hunt Creek	0	246.	50.
Chapman Reservoir		Little Oak Creek	100.	58.	0
Crowner Reservoir		Beaver Creek	0	1,842.	1,426.
Fish Creek Reservoir		Fish Creek	1,175.	35.0	35.
Fish Lake Reservoir No. 2		Wheeler Creek	35.0	7.	3.
French Reservoir		Jack Creek	Empty	1,155.	1,077.
Gardner Reservoir		Gardner Creek	1,051.	600.5	600.5
Hahns Peak Reservoir		Willow Creek	600.5	283.	0
Heart Lake Reservoir		Watson Creek	77.	2.	2.
LaForce Reservoir No. 1		Jack Creek	-	6.	4.
LaForce Reservoir No. 2		Jack Creek	-	6.	4.
LaForce Reservoir No. 3		Jack Creek	-	292.	292.
Lake Creek Reservoir		Wheeler Creek	292.	137.4	137.4
Lake Windemere		Farnsworth Creek	137.4	0	0
Lee Reservoir		Chimney Creek	0		

III. Water Supply
G. Reservoir Storage

ACRE FEET

NAME OF RESERVOIR	1973		1974	
	NOV. 1	MAY 1	NOV. 1	OCT. 31
District No. 58				
Lester Creek Reservoir	5,657.	5,657.	5,657.	5,657.
Long Lake Reservoir	112.	395.65	62.	62.
Lowry Reservoir	0	0	0	0
Martin Reservoir	20.	80.	10.	10.
May Reservoir	6.	6.	6.	6.
McChivvis Reservoir	0	191.	50.	50.
Milk Creek Reservoir	0	0	0	0
Moore Park Reservoir	0	20.	10.	10.
Oak Creek Reservoir	3.	3.	3.	3.
Osborn Reservoir	0	0	0	0
Rams Horn Reservoir	122.	0	0	0
Reynolds Reservoir	0	0	0	0
Roland Reid Reservoir No. 1	45.	45.	45.	45.
Sandelin Reservoir No. 1	2.5	2.5	2.5	2.5
Sandelin Reservoir No. 2	7.0	7.0	7.0	7.0
Sandelin Reservoir No. 3	6.8	6.8	6.8	6.8
Simon Reservoir	455.	707.	440.	440.
Stillwater Reservoir No. 1	3,711.	3,711.	3,070.	3,070.
Stillwater Reservoir No. 3	620.	620.	620.	620.
Stukey Distribution Reservoir	4.6	4.6	4.6	4.6
Summer Reservoir	0	.20	.07	.07
Tillquist Lake Reservoir	2.	5.	5.	5.
Trull Creek Reservoir	0	149.	0	0
Upper Willow Creek Reservoir	23,604.	23,604.	23,604.	23,604.
Wheeler Reservoir	37.0	37.0	37.0	37.0
Whitney Nelson Reservoir	300.	432.	300.	300.
Willey Reservoir	2.61	2.61	1.	1.
Younger Reservoir	Full	Full	Full	Full

SOURCE

Lester Creek			
Fish Creek			
Pinnacle Creek			
Yellow Jacket Creek			
Salt Creek			
Watson Creek			
Milk Creek			
Elgin Creek			
Oak Creek			
Raspberry Creek			
Dome Creek			
Bruce Creek			
Ft. Willy Gulch			
Big Creek			
Big Creek			
Big Creek			
Middle Hunt Creek			
Yampa River			
Yampa River			
Spring Creek			
Young Creek			
Morrison Creek			
Trull Creek			
Willow Creek			
Wheeler Creek			
Whipple Creek			
Cow Creek			
Morrison Creek			

IV. Agriculture

The past season has provided an excellent hay crop, but dry weather conditions did not provide adequate moisture for grain crops. What moisture received came too late to prevent shriveled kernels and to provide for stooling. The yield per acre for dry land grain is down at least 30 per cent below last year's production. Beef prices are extremely low and the cost of hay and grain are very high, thus the economic picture for the industry at the present is very gloomy. The average loss per calf sold this fall was between \$120 and \$140. The lamb market has been the most stable during the year, however, prices are somewhat lower than last year.

The White River drainage has almost twice as much irrigated land as dry crop land. Most of the irrigated land is in hay production for livestock feed. This land is probably about equally divided between wild meadow hay and alfalfa. The average production on wild hay is around two to three tons per acre with alfalfa being slightly higher. Alfalfa usually produces two cuttings of hay per season. The dry crop land is almost exclusively planted in grains, wheat, oats and barley. The crop yields vary greatly in proportion to the climatic conditions. The average for wheat is around 26 bushels per acre with oats and barley slightly higher. The bulk of the dry crop land is fallowed in alternating years, which cuts production to something over 50 per cent of the total acreage annually.

The Yampa drainage has about 40 per cent more dry crop land than irrigated. The dry land crops in the Yampa drainage are almost identical

to the White River drainage, with the exception that a small portion of it is in the production of hay. This dry land is mostly alfalfa and generally produces only one cutting. The wheat yield for the Yampa drainage is around 30 bushels per acre. The hay in the Yampa drainage is predominately wild hay with a yield of two to three tons per acre.

The North Platte drainage produces only wild hay with an average yield of around one ton per acre. The elevation of North Park is high and the growing season is short.

V. Compacts

The Upper Colorado River Compact was complied with by delivery of more than 500,000 acre feet in the Yampa River at Maybell.

The Supreme Court stipulations on the North Platte were met with total storage of 9,648 acre feet, 121,837 irrigated acres, and a total transbasin diversion of 2,086 acre feet.

The Pot Creek agreement with Utah has not been satisfied. The State of Utah has only delivered 45 per cent of the total water specified under the agreement as of September 30. This shortage to Colorado seems the rule rather than the exception in most years.

VI. Dams

A. During the year only one reservoir project, Elkhead Reservoir, has been under construction. Work did not start until late in the spring due to the high runoff this season. The project was held up several times due to the shortage of reinforcement steel and replacement

parts for major earth moving equipment. The project has been generally behind schedule and has resulted in having to complete the earth fill during the early winter months. This has caused some difficulty with frozen material.

The Division 6 dam roster was completed in August and submitted to the dam and reservoir section. Early snows last fall prevented work to be completed at that time. As a result, work on the roster had to be done along with the regular scheduled work during the irrigation season.

Last years very heavy snow pack resulted in a record runoff. The soil moisture was very high which resulted in several mud slides in the area. One of these slides traveled down a slope over a mile dumping into Sage Creek Reservoir and filling it with tons of debris. The outlet tube was blocked and the reservoir filled and began to spill. It was very fortunate that recently riprap had been placed on the spillway which prevented the failure of the reservoir.

Greasewood Flat Reservoir almost was lost this spring. The principle spillways were plugged with trash and the reservoir spilled through a secondary earth spillway. The spillway began to erode and cut back past the dam. Only several hours of sand bagging by the owner of the reservoir and the division staff prevented its failure. To make the situation more difficult, the only method of reaching the reservoir was by horseback.

A very interesting situation developed this spring when a road dike that was built across a stream with no outlet culvert in the bottom of

the fill. It is estimated that the dike impounded 80 acre feet of water. The reservoir behind it filled and began to run over the road way. Several high capacity pumps were used by the county and a disaster was avoided.

B. More stock dams were built this year than last. A total of 13 have been constructed.

VII. Water Rights

A. All W-Cases through December 1973 have been prepared for inclusion into the water rights tabulation list. Also several corrections have been made to the present tabulation. Because of the time limitations not all corrections which involved objections to the tabulation have been included.

B. Referee's Findings and Decrees	Rulings	Decrees
1. Underground Water Right	30	32
2. Change of Water Right	11	22
3. Plan of Augmentation	0	0
4. Water Right	112	131
5. Diligence	18	21
6. Water Storage Right	31	34
7. Applications Received in Water Court		255
8. Number of Referee Consultations		202

VIII. Organizations

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

Upper Yampa Water Conservancy District - Steamboat Springs, CO
John Fetcher, Secretary

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

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

Lower Yampa Conservancy District - Craig, CO
John Sherman,

Great Northern Conservancy District - Craig, CO
John Sherman

Northwest Colorado Water Council - Craig, CO
Sam Haslem, Chairman

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

B. Bear River Reservoir Company - Yampa, CO

Stillwater Ditch Company - Yampa, CO

Maybell Irrigation District - Maybell, CO

Miller Creek Ditch Company - Meeker, CO

Woodchuck Ditch Company - Steamboat Springs, CO

Mt. Werner Water and Sanitation District - Steamboat Springs, CO

Morrison Creek Water and Sanitation District - Oak Creek, CO

Steamboat Lake Water District - Clark, CO

Riverside Water and Sanitation District - Steamboat Springs, CO

Steamboat II Water and Sanitation District - Steamboat Springs, CO

Tree Haus Water and Sanitation District - Steamboat Springs, CO

IX. Water Commissioner's Summary

District No. 43

Direct Flow Diversions (ac.ft.) -----	322,150.0
Reservoir Storage (ac.ft.) -----	8,217.58
Amount Delivered from Storage -----	329
Acres Irrigated -----	36,489.58
Number of Ditches -----	502
Number of Daily Ditch Reports -----	463
Number of Reservoirs Served -----	21
Average Demand (ac.ft./ac.) -----	8.82

District No. 44

Direct Flow Diversions (ac.ft.) -----	156,665.11
Reservoir Storage (ac.ft.) -----	1,930.93
Amount Delivered from Storage -----	1,746.0
Acres Irrigated -----	35,721.
Number of Ditches -----	407
Number of Daily Ditch Reports -----	407
Number of Reservoirs Served -----	33
Average Demand (ac.ft./ac.) -----	4.38
Transbasin -----	122.
Municipalities -----	1,438.44

District No. 47

Direct Flow Diversions (ac.ft.) -----	848,727.0
Reservoir Storage (ac.ft.) -----	18,044.0
Amount Delivered from Storage -----	11,804.0
Acres Irrigated -----	121,837.0
Number of Ditches -----	533
Number of Daily Ditch Reports -----	503
Number of Reservoirs Served -----	54
Average Demand -----	6.95
Transmountain -----	2,086
Municipalities -----	394

District No. 54

Direct Flow Diversions (ac.ft.) -----	28,426.97
Reservoir Storage (ac.ft.) -----	926.56
Amount Delivered from Storage -----	0
Acres Irrigated -----	10,200.
Number of Ditches -----	95
Number of Daily Ditch Reports -----	74
Number of Reservoirs Served -----	21
Average Demand (ac.ft./ac.) -----	2.78

District No. 55

Direct Flow Diversions (ac.ft.) -----	7,279.86
Reservoir Storage (ac.ft.) -----	0
Amount Delivered from Storage -----	0
Acres Irrigated -----	1,142.
Number of Ditches -----	20
Number of Daily Ditch Reports -----	20
Number of Reservoirs Served -----	0
Average Demand (ac.ft./ac.) -----	6.37

District No. 56

Direct Flow Diversions (ac.ft.) -----	19,495.64
Reservoir Storage (ac.ft.) -----	51.5
Amount Delivered from Storage -----	0
Acres Irrigated -----	2,390.
Number of Ditches -----	78
Number of Daily Ditch Reports -----	78
Number of Reservoirs Served -----	8
Average Demand (ac.ft./ac.) -----	8.15

District No. 57

Direct Flow Diversions (ac.ft.) -----	64,609.95
Reservoir Storage (ac.ft.) -----	2,300.0
Amount Delivered from Storage -----	1,263.6
Acres Irrigated -----	14,650.
Number of Ditches -----	128
Number of Daily Ditch Reports -----	128
Number of Reservoirs Served -----	12
Average Demand (ac.ft./ac.) -----	4.11
Transbasin -----	1,916.36

District No. 58

Direct Flow Diversions (ac.ft.) -----	143,770.0
Reservoir Storage (ac.ft.) -----	38,395.0
Amount Delivered from Storage -----	7,046.0
Acres Irrigated -----	48,451.0
Number of Ditches -----	502
Number of Daily Ditch Reports -----	502
Number of Reservoirs Served -----	48
Average Demand (ac.ft./ac.) -----	3.11
Transmountain -----	751
Municipalities -----	4,691.0

X. Division Engineer's Summary
Table A

DIVISION SUMMARY - DIVISION NO. 6

1974 - Direct Flow Diversions

Water District	Active	Inactive	Total Ditches Reported	Direct Diversions Ac. Ft. (Irrig.)	No. of Acres Irrigated	Ac. Ft. Per Acre	Industrial Use Ac. Ft.	Municipal & Domestic Ac. Ft.	Recreational Use Ac. Ft.	Transbasin/Transmtn. Diversions Ac. Ft.	Total Diversions Ac. Ft.	No. of Struct. Reported on in Dist.	Delivered to Compact Cmtmt Ac. Ft.
43	502	98	600	322,150	36,490	8.82	-	946	-	-	323,096	502	-
44	407	67	474	156,665	35,721	4.38	-	1,438	-	122	158,225	440	-
47	503	30	533	846,870	121,837	6.95	-	394	-	2,086	848,727	587	-
54	74	21	95	28,427	10,200	2.78	-	-	-	-	28,427	103	-
55	20	6	26	7,280	1,142	6.37	-	-	-	-	7,280	20	-
56	78	35	113	19,500	2,390	8.15	-	-	-	-	19,500	78	-
57	128	58	186	64,610	14,650	4.11	4,918	1,300	-	1,916	82,744	209	-
58	502	128	630	143,770	48,450	3.11	-	4,691	-	-	148,461	708	-
				<u>1,588,272</u>			<u>4,918</u>	<u>8,769</u>					

X. Division Engineer's Summary

Table B

DIVISION SUMMARY - DIVISION NO. 6

1974 - Storage Report - Acre Feet

Water Dist.	Amount in Storage Acre Feet			Actual Am't. Diverted to Storage During Season	Delivered from Storage to Irrigation	Storage for Industrial Use	Storage for Municipal Use	Storage for Recreation Use	Storage for Projects
	11-1-73	5-1-74	10-31-74						
43	6,636	9,117	8,218	2,481	899	-	-	-	-
44	1,823	3,816	1,931	1,893	1,886	-	-	969	-
47	20,345	29,466	18,044	9,648	11,814	-	-	9,829	-
54	278	727	927	648	0	-	-	90	-
55	-	-	-	-	-	-	-	-	-
56	120	133	52	13	82	-	-	-	-
57	2,563	3,683	2,301	1,120	1,382	1,013	986	-	-
58	39,208	42,184	38,394	2,976	3,790	5,000	1,488	24,861	-
				<u>19,853</u>		<u>6,013</u>	<u>2,474</u>	<u>25,749</u>	

X. Division Engineer's Summary

Table C

DIVISION SUMMARY - DIVISION NO. 6

1974 - ADMINISTERED WATER RIGHTS

<u>Water District</u>	<u>Number Standard Administered</u>	<u>Number Semi - Standard Administered</u>	<u>Total Water Rights</u>	<u>Total Structures</u>
43	502	783	1,285	865
44	323	241	564	451
47	236	684	920	556
54	73	67	140	121
55 & 56	38	72	110	100
57	266	53	319	242
58	622	618	1,240	801

XI. Recommendations and Suggestions

Recommendations for proposed legislation for the monumenting of structures pertaining to water diversions was recommended last year. The State Office has neither approved or disapproved the recommendation. It is still felt that this would be a good idea. Approval or disapproval on this suggestion before the long session of the Legislature would be appreciated.

There is action under way to attempt to bring new understanding to the Colorado River Compact. The most important portion of this is to determine the Virgin Flow of the river. The most discussed method of obtaining this is through the use of existing irrigated acres. This is of concern because of the method by which the acreage is determined in most of our water districts. Aerial photos have been purchased in the North Platte drainage so the Supreme Court ruling can be complied with in obtaining irrigated acreage and has been very successful.

This would be a very worthwhile occupation for the Water Commissioners during the winter months. There are many other reasons for having accurate acreage. Possibly, one of the most important would be for the allotment of water on an acreage basis if an extended water shortage was to take place. This matter was discussed during the change of water law in 1969.

Knowing the logs on wells in the Division would be very helpful. We have many questions from people desiring information on aquifers and depth to various waters. If this could be furnished, the Division office would be extremely grateful.

Coal

As new energy sources develop, it will take considerable effort to manage the associated resources such as water. There is no doubt that as the requirements for energy increase, the water administration will become more complex and more information and expertise must become available in order to solve the problems that will materialize.

Coal production in Northwest Colorado will increase dramatically within the next few years as the demand for this fuel increases. New mines are opening in several areas and with the completion of the new coal-fired generating plants at Hayden and Craig the coal production will be in high gear.

Operation of the power plants required relatively large amounts of water. It is foreseen that the consumptive use of these plants could cause the Yampa River to be put under administration during at least part of the irrigation season. Adequate storage may be the only way to alleviate this potential shortage.

Salinity problems might also appear as this energy production increases. Washing of coal and concentration of dissolved solids by evaporation could increase salts above acceptable levels.

A coal slurry pipeline into Texas is also in the planning stage. The pipeline requiring approximately 3,600 g.p.m. of water would cause further depletion of existing water supplies and would no doubt have some effect on downstream salinity due to concentration of salts.

Piceance Basin

It appears that fuel from oil shale as a major source of energy is still a long way off. The pilot projects on the government tracts are still scheduled, however, there are many planned studies associated with these leases. The Piceance basin will probably become the most heavily instrumented watershed in the world. The state is currently under contract by the USGS to study the springs in the basin. Approximately 50 new springs will be monitored in addition to the present network that has been in existence since 1958. Clarence Johnson, District 43 Water Commissioner, has been promoted for this project and will work directly for Jeris Danielson.