

DIVISION OF WATER RESOURCES

STATE ENGINEERS OFFICE

IRRIGATION DIVISION NO. 4

ANNUAL REPORT

1974 Water Year

December 9, 1974

Mr. C. J. Kuiper, State Engineer  
Division of Water Resources  
1845 Sherman Street  
Denver, Colorado 80203

Dear Mr. Kuiper:

On behalf of the staff and field personnel of Irrigation  
Division Four, I submit herewith the annual report for  
1974.

Respectfully submitted,

  
Ralph V. Kelling, Jr.  
Division Engineer

RVK:ak

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ANNUAL REPORT  
IRRIGATION DIVISION NUMBER FOUR  
MONTROSE, COLORADO

I. INTRODUCTORY STATEMENT

Division four is located in Southwestern Colorado and is defined within the following drainage basins: Gunnison River, San Miguel River, Little Dolores River, Coates Creek, and Dolores River in Montrose and Mesa Counties. Larger cities in the area include Gunnison, Montrose, and Delta, with a number of small towns including Ouray, Norwood, Nucla, Naturita, Cedaredge, Hotchkiss, Paonia, and Crawford. The Gunnison River basin encompasses the largest portion of Division 4 with an area in excess of 8,000 square miles. The San Miguel Basin is the second largest with an area of approximately 2,000 square miles. Several other small basins make up approximately 2,000 square miles of the total 12,000 square miles (7,600,000 acres) of area in Division 4. Four hundred twenty five thousand (425,000) acres are irrigated in the division. There is very limited dry land farming in Division 4, perhaps 2,000 acres. Major crops are hay, sugar beets, corn, small grains and tree bearing fruits. Beef cattle and sheep are the primary stock products. Twelve former water districts are defined in Division 4.

Elevations range from 4,500 feet to in excess of 14,000 feet in the San Juan mountain range. The climate is semi-arid with annual precipitation varying from eight to fifteen inches in much of the agricultural area. In most parts of the Division, below normal precipitation occurred in 1974, and in some locations even drought conditions existed. This years cumulative precipitation in Montrose was 6.86 inches, which is 1.09 inches below normal.

Agriculture and ranching are the main industries of the division's economy with fruit ranching, lumbering, and mining being important areas of employment. Uranium, coal, and silver are major mineral resources with oil and gas exploration having increased activity. Tourism is of great importance to the division's economy and did not seem to be greatly reduced this year by the increased cost of travel. Adequate supply of gasoline was available during all of the tourist season. As indicated in Division Four's 1973 annual report, the following activities continuing to effect the division's economy:

1. Continued development of major ski facilities and associated complex at Telluride.
2. Completion of a major plant of Russell Stover Candy Company at Montrose. This facility is now running at near full capacity.
3. Continued expansion of the ski resort complex at Crested Butte.

4. Very active coal resources investigations including water rights by major coal and oil companies.
5. Continued oil and gas exploration activities with considerably acreage being investigated and brought under mineral leases.

The economy is agriculturally dominated, and consequently the major water usage is for irrigation. Farms and ranches are oriented to the regions drainage systems, and related water diversions are tied to the irrigable lands. Many major reservoirs are located on major rivers, and long canals and tunnels are required to transport available water to the point of use. Recently greatly increased usage of water in the division furnishes electrical power, as generated at the Curecanti Unit reservoirs of the Colorado River Storage Project. Hydropower plants of the three dams will have a combined total installed capacity of 200,000 kilowatts.

Operating water resource projects within Division 4 are the Uncompahgre, which includes Taylor Park and the Gunnison Tunnel, Fruit Growers Reservoir, Fruitland Mesa Project, Paonia Project, Crawford Project, and the Bostwick Park Project, which includes the Silver Jack Reservoir. Blue Mesa and Morrow Point Reservoirs of the Curecanti Unit are part of the Bureau of Reclamation Projects, and Crystal Dam, which is now approximately one-third completed.

Additional bureau projects that are in various study phases

are Grand Mesa, Fruitland Mesa, Dallas Creek, San Miguel, Upper Gunnison, and the Uncompahgre Extension. A more comprehensive report of the Uncompahgre Project is included in this report.

Land use planning is a subject of continued concern throughout the division. To date, the extent of Division 4's involvement has been to act as consultant to the Division of Water Resources planning section. Areas of the greatest activity remains similar to those of last years annual report. Initial concern has been with adequate water supply related to subdivision development in Water Districts 59, 62, 60, and 40. Development continues in the Gunnison-Crested Butte area with considerable construction taking place. Construction seems to be even greater than the past year. The Telluride area and along the San Miguel River are also active development areas and we believe in both instances (Gunnison - Telluride) there seems to be considerable contact between local planning commission's and the Denver planning office. Large deposits of low sulphur coal along the North Fork of the Gunnison and the Cedar-edge area continue to precipitate rumors of heavy land development in those parts of Water District 40. Surface flows in these locations are heavily over appropriated which will indicate many problems concerning water supply as this land is developed. The towns of Hotchkiss, Cedar-edge, and Paonia are already feeling the water supply pinch.

Land ownership by county is as follows:

Ownership in Acres				
<u>County</u>	<u>Private</u>	<u>Federal</u>	<u>State</u>	<u>County and Municipal</u>
Delta	364,580	396,264	0	2,335
Montrose	512,679	1,241,684	70,345	157
Mesa	555,531	1,497,735	0	3,556
Ouray	208,183	160,390	1,920	49
San Miguel	384,539	476,240	16,479	0
Gunnison	426,501	1,624,900	13,388	200
Hinsdale	32,577	648,683	1,218	505
Saguache	590,693	1,329,876	95,195	180

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## II. PERSONNEL

Division 4 was involved in the retirement and replacement of five (5) water officials during the 1974 irrigation season. Silas Freshour, Chalmer Garber, Douglas Gilbreath, Frank Peterson, and Howard Noble, are all now retired. In addition to these retirements, Grover Shaw, resigned as Deputy Water Commissioner in Water District 59. Each official left after many years of productive and faithful service. At the beginning of this year it seemed to be almost an impossible task to replace so many qualified people in one season. However, we feel that those men selected as replacements are potentially of the same high caliber as those retired. New personnel are as follows: Willard Bull, Jim Hoganson, Jack Raine, Steve Mansker, and Robert Drexel. One additional man is still needed to replace



Frank Peterson. We believe all the field personnel of Division 4 are of high caliber and feel fortunate to work with such qualified people.

The following is a list of personnel in the division for the year 1974. Mileage listed is for the calendar year 1974 with December 1974 mileage being estimated on the basis of December 1973:

PERSONNEL - 1974

Name	Position	District	Months worked/ budgeted		Mileage
			Budgeted	Worked	
Clifford Aldridge	DWC	40	7 mos.	6-3/4 mos.	3,777
Richard Belden	DWC	40	6 mos.	6 mos.	8,930
Russell Bertram	DWC	40	7 mos.	6 1/4 mos.	2,574
Willard Bull (new '74)	DWC	40	6 mos.	4 1/2 mos.	2,829
Lyman Campbell "	WCI	60	6 mos.	5 1/2 mos.	3,458
James Carr	DWC	40	7 mos.	7 mos.	8,753
Buck L. Catt	DWC	42	6 mos.	5 1/4 mos.	6,660
Ken Cooper	WREII	Staff	Annual		--
Lloyd Connell	DWC	40	7 mos.	5 1/2 mos.	6,999
Richard Drexel	WCIII	40	Annual		5,009
Robert Drexel	DWC	59	7 mos.	6 1/4 mos.	4,385
Chalmer Garber (retired)	WCI	61	10 mos.	6 mos.	2,511
Doug Gilbreath "	DWC	42	6 mos.	5-3/4 mos.	2,298
Ralph Glendening	WCI	41	Annual		10,507
Mack Gorrod	DWC	40	7 mos.	6 1/2 mos.	4,938
Edwin Hofmann	WCI	59,62	Annual		9,991
James Hoganson (new '74)	WCI	61	10 mos.	8 mos.	10,900
Audrey Keep "	Clk	Staff	8 mos.	6 mos.	--
R. V. Kelling, Jr.	DE	"	Annual		9,859
Thomas A. Kelly	ADE	"	"		13,469
Dwayne C. Mansker	WCI	1042	"		9,786
Melita Maten	ACT	Staff	"		--
John McHugh	DWC	40	6 mos.	6-3/4 mos.	6,682
Howard Noble (retired)	WCI	1042	Annual		10,799
H. Roger Noble	WCI	68	"		9,820
Frank Peterson (retired)	DWC	40	7 mos.	6 mos.	5,402

Personnel - 1974 continued

Name	Position	District	Months worked/ budgeted		Mileage
			Budgeted	Worked	
Jack Raine (new '74)	DWC	42	6 mos.	5-3/4 mos.	3,234
William Rhodes	WCI	28	8 mos.	8 mos.	6,162
*Woodrow Saunders	WCIII	42,63, 73,74	Annual		--
Paul Stockemer	DWC	40	6 mos.	5-3/4 mos.	8,008
Stephen Tuck	DWC	40	6 mos.	6-3/4 mos.	5,430
Elton J. Watson	WCI	40	Annual		18,486
**John R. Welcher	DWC	28	None	2 1/4 mos.	3,584
Charley Woolley	DWC	40	6 mos.	6-3/4 mos.	5,238
David Woolley	DWC	40	6 mos.	6 1/2 mos.	2,629
TOTAL.....					213,107

\* Services shared with Division 5. Mileage recorded in Division 5.

\*\*Temporary employee during the illness of Bill Rhodes.

Water Commissioners Annual Mileage Review:

Year	Total Annual Mileage
1963	180,550
1964	172,358
1965	168,162
1966	168,598
1967	176,164
1968	167,174
1969	149,862
1970	135,195
1971	143,852
1972	160,070
1973	157,709
*1974	181,838

\* December 1974 mileage is estimated.

### III. WATER SUPPLY

#### A. Snow Pack

Water supply forecasts for the Gunnison and San Miguel water sheds were considered from good to excellent at the beginning of the winter snow season. Above average snow fell during December, 1973, and January, 1974, and all drainage areas were forecasted as average or above average summer stream flows. Much below normal snow pack occurred during the remainder of the snow season and early stream forecasts were scaled down accordingly. The final SCS snow survey indicated neary average water supply. However, by the middle of the irrigation season limited shortages in many of the Gunnison tributaries and the San Miguel River were being experienced. Peak flows on the major rivers of the division occurred during the last of May and the second week of June.

The Durango office of the Bureau of Reclamation continued its contract with E. G. & G. Services, with the cloud seeding research program in the San Juan mountains. Seeding occurred on selected days that were considered suitable. To date this program has seeded on many less days than originally anticipated and it is possible one more year will be added to the original five (5) year contract. This office is not aware of any comprehensive report being made relative to this program. No other weather modifications have been attempted in Division 4 during the past season. (Copies of May, 1974, snow survey are found at the end of this report).

Summary of Snow Measurements - May 1, 1974:

<u>Basin or Watershed</u>	<u>Number of Courses Averaged</u>	<u>This years snow water as per cent of:</u>	
		<u>Last Yr.</u>	<u>Average</u>
Gunnison	12	74	116
Surface Creek	3	70	103
Uncompahgre	3	65	105

Streamflow Forecasts (1000 A.F. - Apr-Sept):

<u>Forecast Point</u>	<u>Forecast</u>	<u>% of Avg.</u>	<u>Avg.</u>
Gunnison River in- flow to Blue Mesa	730	92	793
Gunnison River near Grand Junction	1275	108	1184
Surface Creek near Cedaredge	15	94	16
Uncompahgre River at Colona	130	97	134

Soil Moisture - May 1, 1974:

<u>River Basin</u>	<u>No. of Stations</u>	<u>This year's moisture as per cent of:</u>	
		<u>Last Yr.</u>	<u>Average</u>
Gunnison	1	83	100
Surface Creek	1	74	85
Uncompahgre	2	79	93

B. Precipitation - Summer

The water year began with near average precipitation through January, 1974. From January to the writing of this report, below normal precipitation has been experienced throughout the division. In Montrose, during the month of May, no form of precipitation was recorded. From May through October, 2.84 inches of moisture was recorded. It is reported from the

Precipitation - Summer (continued)

Paradox, Colorado weather station, that February through the middle of July, less than one inch of moisture fell in this area. We must have well above average winter precipitation in order to begin 1975 with a potentially average water supply.

No hail suppression work is being conducted in Division 4.

Figures of a general nature relating to effective water supply are as follows:

<u>County</u>	<u>Average Mean Temperature, F.</u>	<u>Average Annual Rainfall, In.</u>	<u>Average Ann. Snowfall, In.</u>
Delta	51.0	7.75	18.5
Mesa	52.5	9.06	27.3
Montrose	49.6	9.11	28.4
Ouray	44.5	23.27	146.0
San Miguel	39.5	23.79	165.7
Gunnison	38.5	10.67	50.2
Hinsdale	36.5	20.00	145.0
Saguache	43.6	8.10	26.3

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C. FLOODS

No flows in any area of the division were considered to approach flood conditions in 1974. To the very opposite in several locations near record minimum flows were recorded.

D. WATER BUDGET

The water budget will be completed when stream flow records are received from the U.S.G.S.

## E. UNDERGROUND WATER

Aquifers of significance in the division are not well known at this time due to scarcity of ground water literature and very scattered regional drilling, much of which has been confined to alluvial valleys. A few deep water wells, including oil well dry holes, exist in addition to shallow seismic survey drill holes, but it is probable that water logs of only very few of these holes have been retained. Potentially all formations may prove productive, with the shale sections having a minimal water content and sands, especially of the Dakota and Entrada formations, capable of containing large volumes of water. A number of good water wells in the Grand Junction area produce from Morrison sands; in the Montrose area the Dakota formation is the primary aquifer. At this time, most wells are for domestic and stockwater purposes, and as such do not contribute effectively to the area economy.

Colorado Geological Survey Bulletin 33, Bibliography of Hydrogeologic Reports in Colorado, by Richard H. Pearl, published in 1971, is the most recent publication on water resources in Colorado West. This bulletin is a welcome and necessary compilation of all published literature in the field, and should serve as an excellent reference for those interested in Colorado's water resources.

The computer print-out of registered wells in Division 4, dated March 5, 1974, breaks down as follows:

<u>Type of Wells</u>	<u>Number of Wells</u>	<u>GPM</u>	<u>CFS</u>
Domestic	1,078	22,857	49.79
Livestock	73	1,747	3.89
Domestic & Livestock	90	2,174	4.84
Commercial	99	5,981	13.32
Industrial	14	3,956	8.81
Irrigation	59	18,428	41.04
Domestic & Irrigation	6	1,872	4.16
Municipal	18	6,815	15.17
Other	1	15	0.033

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TOTAL REGISTERED WELLS .... 1,438

F. TRANS-MOUNTAIN AND TRANS-BASIN DIVERSIONS - 1974

Trans-Mountain Diversions:

<u>Name</u>	<u>Source</u>	<u>Recipient and/ or Claimant</u>	<u>Amount A. F.</u>
Red Mountain Ditch	Mineral Cr.	Ouray Ditch Co. Montrose, Colo.	137
Carbon Lake Ditch	" "	" "	181
St. John Ditch	E. Fk. of Animas River	Charles, Gunn, & % W. Worley Olathe, Colorado	No Diversion
Mineral Pt. Ditch	Burrows Cr., tr. N. Fk. Animas River	W. Gibbs Ouray, Colorado	No Diversion
Larkspur Ditch	Tr. of Tomichi Cr.	Rocky Ford High- line Canal Co. Rocky Ford, Colo.	432
Tabor	Spring Cr. tr.	Colo. Div. of Wildlife Alamosa, Colorado	208
Tarbell	Cochetopa	Saguache Land & Water Company Saguache, Colo.	64
Divide Cr. Highline Feeder Ditch	Divide Creek	F. M. Starbuck, Mgr. Silt, Colorado	962
Leon Lake	Leon Creek	Sam Oaks Eckert, Colorado	1802

Trans-Basin Diversions:

Leopard Cr. Ditch	Leopard Creek	Harry McClure Ridgway, Colorado	870
N. Fk. of the Paxton Ditch	Cottonwood and Horsefly Creeks	William Hofmann Montrose, Colorado	No Diversion
Cimarron Feeder of the Garnet Ditch	W. Fk. of the Cimarron	Unc. Valley Water Users Association Montrose, Colo.	2694
Gunnison Tunnel	Gunnison River	" "	305,521
Head & Ferrier Ditch	Soap Creek	H. Head & Ferrier Delta, Colorado	461
Lake Brennand	Lake Brennand	Town of Crested Butte, Colorado	544
Meek Tunnel	Crystal Creek	Carton Meek Maher, Colorado	364
Mesa Creek Ditch	Mesa Creek	" "	310



G. RESERVOIR STORAGE

With the less than average snow pack and much less than average rain fall during the reservoir filling season, Division 4 was very fortunate in having nearly all of its reservoirs full for this irrigation season. Blue Mesa Reservoir was one of the few major reservoirs that did not fill to the expected level.

Listed below is a tabulation of reservoir and storage in the division:

<u>Water District</u>	<u>Name of Reservoir</u>	<u>Amount, A.F. 11-1-73</u>	<u>Amt.,A.F. Start of Irr. Season</u>	<u>Amt.,A.F. 10-31-74</u>
28	Hot Springs Reservoir		603.00	97.5
28	McDonough Reservoir #1		805.20	264.90
28	McDonough Reservoir #2		812.90	29.0
28	Needle Creek Reservoir		505.80	186.40
28	Upper Cochetopa Reservoir		276.46	77.61
28	Vouga Reservoir		492.90	10.80
41	Buckhorn Reservoir		205.00	29.0
41	Citizens Reservoir		120.00	118.00
41	Garnet Mesa (Sweitzer) Reservoir		1332.60	156.00
41	Wenger #1 Reservoir		48.00	0.00
42	Anderson #1 Reservoir		505.00	94.20
42	Bolen Reservoir		536.00	19.00
42	Bolen Anderson & Jacobs Reservoir		293.00	0.00
42	Carson Reservoir		637.00	608.72
42	Chambers Reservoir		153.70	0.00
42	Deep Creek Reservoir #2		350.00	118.98
42	Flowing Park Reservoir		618.00	100.46
42	Grand Mesa #1 Reservoir		468.00	100.82
42	Grand Mesa #6 Reservoir		201.00	21.16
42	Grand Mesa #9 Reservoir		143.00	0.00

Division tabulation of reservoir and storage - continued

<u>Water District</u>	<u>Names of Reservoir</u>	<u>Amount, A.F. 11-1-73</u>	<u>Amt., A.F. Start Irr.</u>	<u>Amt., A.F. 10-31-74</u>
42	Hollenbeck #1 Reservoir		552.00	0.00
42	Hollenbeck #2 Reservoir		466.00	0.00
42	Juniata Reservoir		1839.00	491.00
60	Alexander Reservoir		90.00	0.00
60	Gurley Reservoir		9302.00	275.50
60	Lilylands Reservoir		494.03	34.64
60	Lone Cone Reservoir		1840.00	90.00
60	Miramonte Reservoir		7699.00	7699.00
60	Mosca Livestock Reservoir #2		10.0	0.00
60	Mosca Livestock Reservoir #3		4.0	0.00
60	Palmer Reservoir		8.0	0.00
60	Palmer Reservoir #2		6.0	0.00
60	Rice Reservoir #2		4.8	0.00
60	Sheats Reservoir #1-2-3-4		30.0	0.00
60	Paxton Reservoir		898.37	210.96
60	Trout Lake Reservoir		3520.00	743.00
61	Buckeye Reservoir		796.16	93.12
62	Blue Mesa Reservoir	505,900.00	578,400.00	578,400.00
62	Fish Creek Reservoir	600.00	0.00	0.00
62	Lake San Cristobal	9786.00	9786.00	9786.00
62	Morrow Point Reservoir	116,200.00	112,300.00	112,300.00
62	Montrose (Cerro) Reservoir	100.00	700.00	700.00
62	Silverjack Reservoir	6050.00	4040.00	4040.00
59	Spring Creek		1700.00	1700.00
59	Taylor Reservoir		103,600.00	57,590.00
63	No Records		--	--
73	No Records		--	--
74	No Records		--	--

Division tabulation of reservoir and storage - continued

<u>Water District</u>	<u>Name of Reservoir</u>	<u>Amount, A.F. 11-1-73</u>	<u>Amt., A.F. Start Irr.</u>	<u>Amt., A.F. 10-31-74</u>
68	Carrol Brown Reservoir		40.0	0.50
68	Elephant Reservoir		35.0	4.00
68	Jacques Reservoir #1-2-3-4		45.0	1.00
68	Victor Reservoir		30.0	0.00
40	Alexander Lake Reservoir		145.00	116.20
40	Arch Slough Reservoir		65.60	0.00
40	Ault Reservoir		116.00	0.00
40	Bailey Reservoir		414.00	0.00
40	Bald Mountain Reservoir		120.00	0.00
40	Barren Lake Reservoir		759.04	337.58
40	Basin #1 Reservoir		87.00	0.00
40	Basin #2 Reservoir		38.00	0.00
40	Battlement Mesa #1 Reservoir		79.50	79.50
40	Battlement Mesa #2 Reservoir		668.00	518.00
40	Baxter Reservoir		150.00	150.00
40	Beaver Dam Reservoir (Escalante)		396.53	0.00
40	Beaver Reservoir (Minnesota Creek)		1031.00	32.00
40	Bonita Reservoir		169.52	3.14
40	Bottle Stomp Reservoir		17.00	0.00
40	Boulder Lake #1 Reservoir		17.10	0.00
40	Brockman # 1 Reservoir		18.40	0.00
40	Brockman #2 Reservoir		41.00	0.00
40	Bruce Park Reservoir		535.00	31.50
40	Bull Finch #1 Reservoir		78.80	0.00
40	Bull Finch #2 Reservoir		17.21	0.00
40	Cabin Lake Reservoir		36.20	0.00
40	Calumet Reservoir		13.00	0.00
40	Carbonate Camp #2 Reservoir		9.40	0.00
40	Carbonate Camp #6 Reservoir		129.58	0.00
40	Carbonate Camp #7 Reservoir		98.73	0.00
40	Carl Smith Reservoir		396.00	246.00
40	Cedar Mesa Reservoir		925.80	0.00
40	Clark Reservoir		39.00	0.00

Division tabulation of reservoir and storage - continued (WD 40)

<u>Water District</u>	<u>Name of Reservoir</u>	<u>Amt., A.F. 11-1-73</u>	<u>Amt., A.F. Start Irr.</u>	<u>Amt., A.F. 10-31-74</u>
40	Cole Reservoir #1		19.40	0.00
40	Cole Reservoir #2		42.00	0.00
40	Cole Reservoir #3 (Cherry Lane)		31.10	0.00
40	Cole Reservoir # 4		15.04	0.00
40	Cole Reservoir #5		112.77	0.00
40	Columbine #1 Reservoir		176.00	0.00
40	Crawford Reservoir		14,382.00	2720.00
40	Cyphers Reservoir		21.00	21.00
40	Daniel Slough Reservoir (Reed)		205.80	23.00
40	Davenport Reservoir		10.00	10.00
40	Deep Slough Reservoir		498.00	32.00
40	Deep Ward Lake Reservoir		1573.00	456.20
40	Delta City #1 Reservoir		14.30	0.00
40	Delta Control Reservoir		30.00	30.00
40	Deserted Park Reservoir		24.00	0.00
40	Dog Fish Lake Reservoir		243.00	0.00
40	Don Meek #1 Reservoir		45.00	0.00
40	Donnelly Slough Reservoir		275.00	9.90
40	Doughty #1 Reservoir (Chipmunk)		42.00	0.00
40	Doughty #3 Reservoir (Sliderock)		19.30	0.00
40	Dowdy Reservoir		264.00	0.00
40	Dreyfus Reservoir		44.20	0.00
40	Dugger Reservoir		212.00	101.00
40	East Beckwith #1 Reservoir		565.00	169.00
40	Eggleston Lake Reservoir		2600.00	1091.00
40	Elk Park Reservoir		97.00	0.00
40	Elk Wallows Reservoir		218.00	0.00
40	Ella Reservoir		109.00	0.00
40	Ellington & Cook Reservoir		31.00	0.00
40	Fairmount Reservoir (No Record)		--	--
40	Fairmount Park Reservoir		30.00	0.00
40	Fish Lake Reservoir		62.00	0.00
40	Fisher Reservoir		10.00	0.00
40	Forrest Reservoir (Finney)		43.90	0.00

Division tabulation of reservoir and storage - continued (WD 40)

<u>Water District</u>	<u>Name of Reservoir</u>	<u>Amt., A. F. 11-1-73</u>	<u>Amt., A. F. Start Irr.</u>	<u>Amt., A. F. 10-31-74</u>
40	Fruitgrowers Reservoir		4300.00	66.00
40	G & M Volk Fish Pond #1 Reservoir		6.00	6.00
40	Goodenough Reservoir (Kiser Reservoir)		148.80	9.70
40	Goodenough Reservoir (Leroux Cr.)		812.00	0.00
40	Granby # 6 Reservoir		36.00	0.00
40	Granby # 7 Reservoir		60.00	5.0
40	Granby #11 Reservoir		775.00	557.00
40	Granby #12 Reservoir		750.00	339.00
40	Gray Reservoir		423.00	0.00
40	Green Mountain Dam Reservoir		9.10	0.00
40	Greenwood Reservoir		60.00	0.00
40	Gregg #1 Reservoir		20.00	0.00
40	Gregg #2 Reservoir		5.00	0.00
40	Hale Reservoir		33.90	0.00
40	Hanson #2 Reservoir		210.00	0.00
40	Holy Terror Reservoir		102.00	0.00
40	Hotel Lake Reservoir		537.00	307.60
40	Howard Lake Reservoir		71.37	9.90
40	Island Lake Reservoir		1593.00	415.50
40	Kehmeier Reservoir		294.32	0.00
40	Kiser Slough Reservoir		472.80	76.80
40	Knox Reservoir		200.00	12.50
40	Kennicott Slough Reservoir		578.50	0.00
40	Lake Brennand Reservoir		--	--
40	Leon Lake Reservoir		21,345.00	0.00
40	Leon Park Reservoir		151.40	70.00
40	Lily Pad Reservoir (Young Cr.)		27.60	8.00
40	Little Gem Reservoir		214.50	30.10
40	Little Giant #1 Reservoir		30.00	0.00
40	Little Giant #2 Reservoir		5.50	0.00
40	Little Grouse Reservoir		42.50	0.00
40	Lone Cabin Reservoir		150.00	0.00
40	Lucky Find Reservoir		66.00	0.00

Division tabulation of reservoir and storage - continued (WD 40)

<u>Water District</u>	<u>Name of Reservoir</u>	<u>Amt., A. F. 11-1-73</u>	<u>Amt., A.F. Start Irr.</u>	<u>Amt.,A.F. 10-31-74</u>
40	Marcot Park Reservoir		448.00	0.00
40	McKoon Reservoir (Blanchard Res)		145.70	39.90
40	Military Park Reservoir		236.00	0.00
40	Miller Reservoir		204.00	0.00
40	Monument Reservoir		500.00	0.00
40	New Pond Reservoir		2.50	2.50
40	Onion Valley Reservoir		8349.00	155.70
40	Overland #1 Reservoir		3097.00	0.00
40	Owens Reservoir		92.00	0.00
40	Paonia Reservoir		20,919.00	2623.00
40	Park Reservoir		3383.00	490.00
40	Patterson #1 Reservoir		48.00	0.00
40	Patterson #2 Reservoir		140.00	0.00
40	P. C. G. #1 Reservoir (Muskrat)		12.30	0.00
40	Pedro Reservoir		176.30	110.00
40	Pine Reservoir		9.90	0.00
40	Pine Cone Reservoir		37.00	0.00
40	Pitcairn Reservoir		100.00	27.00
40	Poison Spring Reservoir		123.00	50.00
40	Porter #1 Reservoir		210.00	3.00
40	Porter #4 Reservoir		150.00	11.00
40	Prebble Reservoir		180.00	33.80
40	Rex Reservoir		27.00	0.00
40	Reynolds Reservoir		176.00	0.00
40	Rim Rock Lake Reservoir		107.30	0.00
40	Rockland Reservoir		33.00	0.00
40	Roeber #2 Reservoir		20.00	0.00
40	Round Lake Reservoir		0.00	0.00
40	Ryan Reservoir		30.00	0.00
40	Sackett Reservoir		108.00	20.00
40	Safety #2 Reservoir		16.60	0.00
40	Scotland Peak Reservoir		67.70	0.00
40	Sheep Lake Reservoir		113.00	0.00
40	Skim Milk Reservoir		90.00	0.00

Division tabulation of reservoir and storage - continued (WD 40)

<u>Water District</u>	<u>Name of Reservoir</u>	<u>Amt., A.F. 11-1-73</u>	<u>Amt., A.F. Start Irr.</u>	<u>Amt., A.F. 10-31-74</u>
40	Spatafore Reservoir		40.00	0.00
40	Stell Reservoir		46.00	0.00
40	Todd Reservoir		0.00	0.00
40	Tomahawk Reservoir		87.30	44.00
40	Trickle Reservoir		25.80	0.00
40	Trio Reservoir		127.60	65.70
40	Twin Lake Reservoir #1		43.50	0.00
40	Twin Lake Reservoir #2		66.70	0.00
40	Tyler Reservoir		169.30	43.00
40	Upper Hotel Lake Reservoir		113.00	0.00
40	Van Den Berg # 1 Reservoir		5.60	5.60
40	Vela Reservoir		437.00	98.30
40	Ward Creek Reservoir		284.40	62.20
40	Wash Tub Reservoir		39.70	0.00
40	Water Bug Reservoir		48.00	0.00
40	Weir & Johnson #2 Reservoir		385.00	55.70
40	Weir Park Reservoir		40.70	0.00
40	West # 1 Reservoir		450.00	0.00
40	Williams Creek Reservoir		100.00	40.00
40	Willow Reservoir		120.00	0.00
40	Womack #1 Reservoir		109.70	0.00
40	Womack #2 & #3 Reservoir		156.20	0.00
40	Womack #5 Reservoir		7.40	0.00
40	Young Creek Reservoir # 1 & #2		513.50	56.50
40	Young Creek Reservoir #3		193.40	96.10
40	Y & S Reservoir		189.00	36.60

#### IV. AGRICULTURE

The division wide agricultural production varied considerably as to the various locations of irrigated acreage. In the North Fork of the Gunnison and its tributaries, over all production was good considering a "short water year" and a severe late frost. This same frost was responsible for heavy fruit loss in the entire North Fork valley and Surface Creek (Cedaredge) drainage area. As much as 90% loss was sustained in some areas.

The Upper Gunnison hay producing agricultural lands along with the San Miguel basin lands all experienced less than average crop yields. Small grains, sugar beets, and corn along the lower Gunnison River, and the Uncompahgre valley had good yields.

Sheep production showed marked decline from last year, however, cattle production remained nearly the same or perhaps a slight increase. Prices remain good for all crops with records being set in sugar beets. Sheep prices remain good approaching last years records. The story with the cattle industry was much different. This year's calf prices were only averaging one-half of last year's record highs and it is reported that each sale of fat beef involved a considerably low.



Presented below is a brief resume by area:

<u>County</u>	<u>Average Growing Season, Days</u>	<u>Crop Production* Irrigated Land</u>			<u>Livestock**</u>	
		<u>Barley</u>	<u>Beets</u>	<u>Corn</u>	<u>Cattle/ Calves</u>	<u>Stock Sheep</u>
Delta	146	62	22.9	103	46,500	27,500
Montrose	153	62.7	22.1	84	53,000	56,000
Mesa	188	58	24.1	110.4	78,000	52,000
Ouray	48	62	---	---	16,000	5,000
San Miguel	45	40	---	---	10,000	22,500
Gunnison	49	--	---	---	36,500	14,000
Hinsdale	45	--	---	---	3,500	5,300
Saguache	105	48	---	50	46,000	13,000

\* 1972 Colorado Agriculture Statistics, Published July 1974; in bu./ac. or tons/ac.

\*\* Number of head, 1973

Several crop dollar value for 1972 are as follows:

<u>County</u>	<u>Corn</u>	<u>Sugar Beets</u>	<u>Barley</u>	<u>All other Crops</u>
Delta	1,309,500	545,700	655,700	5,698,200
Montrose	1,711,700	1,128,800	1,394,900	5,024,600
Mesa	1,953,200	1,640,500	275,700	4,443,200
Ouray	67,700	---	27,150	776,150
San Miguel	58,000	---	33,900	446,600
Gunnison	33,000	---	---	1,701,950
Hinsdale	---	---	---	59,400
Saguache	49,400	---	1,492,200	6,960,700

The above production data has been extracted from the 1974 Colorado Agriculture Statistics - Colorado Department of Agriculture

## V. COMPACTS AND COURT STIPULATIONS

A. The Colorado River Compact of 1922, and the Upper Colorado River Basin Compact of 1948 apply to waters in Division Four. The Upper Basin's share of Colorado River water is 7,5000,000 acre feet per year of which Colorado is allocated 5-3/4%. The lower basin can put a call on any series of water short years based on the long term average flow at Lee Ferry. This year there were no instances that concerned administration of water in Division 4 that relates to these compacts.

## VI. DAMS

A. Many of those reservoirs that have been problems in past irrigation seasons continue to be issues of concern in Division 4.

1. Beaver reservoir on the East Fork of Minnesota Creek developed new abutment leaks. These holes appeared on the same axis as previous seepage zones and at higher elevations of storage. The Reservoir Company secured the services of a Colorado registered professional engineer and under his supervision repair work was completed this fall.

2. Gurley reservoir in Water District 60, south of Norwood, developed several large seepage holes on the up-stream embankment. These holes were noted in the latter part of the irrigation season

and repair work was begun as soon as the fill material was dry enough to work with. All of this repair work was under the direct supervision of a registered Colorado engineer.

3. Porter No. 1 reservoir in Water District 40 had additional repair work this season and inspection was made by the Denver offices Dam Section.

4. Complaints were made on several small dams in the Pinion Mesa area, west of Grand Junction. These structures were inspected by our water officials in that area and additional action may be coming this next spring.

5. Grand Mesa No. 10 reservoir in Water District 42 was found to have several large cracks across the top of the abutment from an inspection made by our local water official. Contact and further inspection by the Denver office have resulted in repair orders being issued relative to this structure.

Of the over several hundred reservoirs and dams in the division, most are inspected and regulated by field personnel from Division 4 many times during the 1974 season. These men, without exception, have been alert to possible trouble spots and it is our desire to commend them for an excellent job in this area. Several personnel from Division 4 were involved in the dam inventory and the division is pleased to have this inventory and the extra work for the division personnel.

Reservoir stop storage orders are in effect as follows:

<u>Name</u>	<u>Water District</u>	<u>Order Date</u>	<u>Restrictions</u>
Dogfish	40	8-9-72	5' below spillway
Lone Cabin	40	"	5' below lowest embankment
Waterbug	40	"	5' below spillway
Weir & Johnson	40	"	5' below spillway
Porter #1	40	Verbal, fall '73	2' below spillway
Beaver	40	" " "	Not over 50' on gage in filled season; may fill late.
Full Moon	68	8-24-72	5' below dam crest
Hidden Treasure	62	Verbal, ball '73	Enlarge channel opening at base of dam.

B. Livestock Water Tanks - Permits Issued 1974:

<u>Name</u>	<u>Stream</u>	<u>Height</u>	<u>Cap., A.F.</u>	<u>Permit No.</u>
Decker No. 1	SE13-45N-8W	17	2.0	14567
Dunham No. 1	SE25-47N-9W	19	5.0	14607
Queenie's Gulch #1	NE34-47N-9W	15	5.0	14608
Dwight No. 1	SW18-46N-8W	12	3.0	14600
Fritzlan	NW28-14S-92W	15	3.0	14515
Hunter #3	NE35-47-9W	12	8.0	14603
Logan #1	NE14-46N-9W	15	5.0	14599
*Parson #1	SE28-50N-10	16.5	2.5	14440
Pushman #1	NW2-47N-9W	19	5.0	14452
Selbe	SE14-14S-93W	16	2.0	14474
Sorkis #1-74	NE12-51N-11W	8	1.0	14449
Wood	SE14-14S-94W	12	1.0	14492
Wright (Lynn)	SE9-13S-94W	13	2.0	14504

\* Approved 12/73 - was not reported in 1973 annual report as it was not received until report had been delivered.

## Livestock water tanks - continued

The one problem mentioned in the 1973 annual report relative to stock water tanks in Water District 68 did not develop into any concern this year. Inspections were made several times during the year and there seemed to be no evidence that senior water rights were harmed. We will continue to monitor this potential problem.

## VII. WATER RIGHTS

### A. Tabulation

Water commissioner personnel were again involved with correcting errors and making other revisions to the tabulation after completing annual reports. Mr. Walt Knudsen, met with selected personnel on several occasions to coordinate efforts in this regard. Work continued on this project throughout the winter and until the annual requirement for field was the first order of business. We still find errors in the different lists with the October, 1974, tabulation not being the exception. There were a number of protests made to the July, 1974, tabulation and some limited corrections were made for the October tabulation. With the winter season at hand we will have numerous personnel working on the tabulation again with more corrections being made and the cases recently decreed in the water court will be incorporated into such lists.

B. Referee Findings and Decrees:

<u>Type of Application</u>	<u>Number Received Dec.'73 (Jan-Nov 1974)</u>
Underground water rights	38
Change of water rights	35
Plan for agumentation	1
Water rights (surface)	272
Diligence (conditional decrees)	5
Water storage rights	9
Applications received in Water Court	356
Number of referee consultations	356

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W-2372 was the State Engineer's case to postpone the adjudication of the October 1974 tabulation.

Several of the change of water filings in 1974 were involving the change of surface water rights to a number of individual wells for land development.

VII. ORGANIZATIONS

A. Water Conservation and Conservancy Districts

Upper Gunnison River Water Conservancy District, % Rial Lake, Chairman, Gunnison, Colorado 81230. (See Mrs. Patricia Williams at Courthouse - Clerk of the District Court).

Tri-County Water Conservancy District, % Harold Westesen, Manager, 601 North Park Avenue, Montrose, Colorado 81401.

Crawford Water Conservancy District, % Krist Sortland, Manager, Crawford, Colorado 81415.

Southwest Colorado Water Conservancy District, % D. Lew Williams, Norwood, Colorado 81423.

Bostwick Park Water Conservancy District, % Frank Woodrow,  
Attorney, 144 South Uncompahgre Street, Montrose, Colorado 81401.

Grand Mesa Water Conservancy District, % Art Scott, President,  
Cedaredge, Colorado 81413.

North Fork Water Conservancy District, % John Neill, Secretary,  
Hotchkiss, Colorado 81419.

Fruitland Mesa Water Conservancy District, % Carton Meek, Presi-  
dent, Maher, Colorado 81421.

Colorado River Water Conservation District, % Roland C. Fisher,  
Secretary, Glenwood Springs, Colorado 81601.

#### B. Water Related Organizations

Gunnison River Water Users Association, % Jerry Goldsmith,  
Cedaredge, Colorado 81413.

Grand Mesa Water Users Association, % Barbara Hood, Secretary,  
Cedaredge, Colorado 81413.

Big Ditch Company, % Miss Barabara Hood, Secretary, Cedaredge,  
Colorado 81413.

#### W. D. 28:

Arch Ditch Co., % Deno Piloni, Gunnison, Colorado 81230.

Hot Springs Res. Co., % Taramarcaz Bros., Gunnison, Colo. 81230.

Vouga Res. Co., % Geo. Steenbergen, Gunnison, Colorado 81230.

Needle Creek Res. Co., % Ty Watson, Gunnison, Colorado 81230.

#### W. D. 40:

Surface Creek Ditch & Res. Co., % R. M. Campbell, President,  
Cedaredge, Colorado 81413

W. D. 40 cont'd

Leroux Creek Water Users Ass'n., % Raymond White, President,  
Hotchkiss, Colorado 81419.

Stewart Mesa Domestic Water Co., % Fred Vernard, Paonia, Colo-  
rado 81428.

Bone Mesa Domestic Water Company, % Albert Bailey, Paonia,  
Colorado 81428.

Sunshine Mesa Domestic Water Co., % Helen Quain, Secretary,  
Route 1, Hotchkiss, Colorado 81419.

Alfalfa Ditch Co. % Sam Oaks, President, Eckert, Colo. 81418.

Orchard City Irr. Dist., % Wesley England, Secretary, Austin,  
Colorado 81410.

Cedar Mesa Ditch & Res. Co., % Bob Phillips, Secretary, Cedar-  
edge, Colorado 81413.

Palmer & Co., % Benson Palmer, President, Cedaredge, Colo. 81413.

Bonafide Ditch Co., % Leo Ryan, Delta, Colorado 81416.

North Delta Canal Co., % James Winkler, President, Delta, Colo-  
rado 81416.

Hartland Canal Co., % Kenneth Johnson, Delta, Colorado 81416.

Relief Ditch Co., % Gess Ensley, Delta, Colorado 81416.

Fire Mountain Canal Co., % Mrs. Orin Housewert, Secretary, Hotch-  
kiss, Colorado 81419.

Grand View Canal Irr. Co., % Don Reid, Pres., Crawford, Colo. 81415.

Overland Ditch Co., % John Neill, Secretary, Hotchkiss, Colo. 81419.

Childs Ditch Co., % Willard N. Bull, President, Cedaredge, Colorado  
81413.

Crawford Clipper Ditch Co., % Henry Hamilton, Secretary, Crawford,  
Colorado 81415.



W. D. 62:

Big Cimarron Canal & Res., Co., % Frank Woodrow, Attorney,  
144 So. Uncompahgre St., Montrose, Colorado 81401.

W. D. 68:

Alkali No. 1 Ditch Co., Inc., % Darrell Kinney, President,  
Ridgway, Colorado 81432.

Dallas Ditch Company, Inc., % Henry Stanton, President, Ridgway,  
Colorado 81432.

IX. WATER COMMISSIONER'S SUMMARY - 1974

Division No. 4

Direct flow diversions (A.F.).....	2,791,673
Reservoir storage (A.F.).....	2,136,633
Amount delivered from storage.....	242,342
Acres irrigated.....	421,091
Number of ditches.....	3,149
Standard administration.....	1,760
Semi-standard administration.....	454
Number of daily ditch reports.....	39,716
Number of reservoirs served.....	509
Power diversions (A.F.).....	2,453,054

District No. 28

Direct flow diversions (A.F.).....	298,142
Reservoir storage (A.F.).....	2,845
Amount delivered from storage.....	1,508
Acres irrigated.....	34,049
Number of ditches.....	299
Standard administration.....	232
Semi-standard administration.....	30
Number of daily ditch reports.....	2,192
Number of reservoirs .....	6
Average demand(flow & reservoir) AF/Ac.	8.80
Power diversions.....	0

NOTE: Average demand AF/Ac. is adjusted to include only that water that has been used for irrigation.

District No. 40

Direct flow diversions (A.F.).....	389,672
Reservoir storage (A.F.).....	85,446
Amount delivered from storage.....	73,173
Acres irrigated.....	163,860
Number of ditches.....	1,047
Standard administration.....	628
Semi-standard administration.....	202
Number of daily ditch reports.....	22,550
Number of reservoirs served.....	295
Average demand(flow & reservoir)AF/AC.	2.82
Power diversions (A.F.).....	0

District No. 41

*Direct flow diversions (A.F.).....	536,441
Reservoir storage (A.F.).....	2,353
Amount delivered from storage.....	878
Acres irrigated.....	91,260
Number of ditches.....	162
Standard administration.....	76
Semi-standard administration.....	1
Number od daily ditch reports.....	1,688
Number of reservoirs served.....	7
Average demand(flow & reservoirs)AF/AC.	5.77
Power diversions(A.F.).....	10,702

\*Imported water from Water District 62.

NOTE: Average demand AF/AC. is adjusted to include only that water that has been used for irrigation.

District 42

Direct flow diversions (A.F.).....	561,734
Reservoir storage (A.F.).....	5,527
Amount delivered from storage.....	7,559
Acres irrigated.....	10,778
Number of ditches.....	68
Standard administration.....	24
Semi-standard administration.....	8
Number of daily ditch reports.....	464
Number of reservoirs served.....	62
Average demand(flow & reservoirs) AF/AC.	3.28
Power diversions (A.F.).....	533,922

District No. 59

Direct flow diversions (A.F.).....	230,495
Reservoir storage (A.F.).....	101,462
*Amount delivered from storage.....	60,689
Acres irrigated.....	39,050
Number of ditches.....	345
Standard administration.....	139
Semi-standard administration.....	90
Number of daily ditch reports.....	2,420
Number of reservoirs served.....	2
Average demand(flow & reservoirs)AF/AC.	7.45
Power diversions (A.F.).....	0

\*Not used in Water District 59.

NOTE: Average demand AF/AC. is adjusted to include only that water that has been used for irrigation.

District No. 60

Direct flow diversions (A.F.).....	177,791
Reservoir storage (A.F.).....	31,873
Amount delivered from storage.....	28,077
Acres irrigated.....	28,430
Number of ditches.....	306
Standard administration.....	251
Semi-standard administration.....	41
Number of daily ditch reports.....	2,508
Number of reservoirs served.....	76
Average demand(flow & reservoir)AF/AC.	5.80
Power diversions (A.F.).....	12,660

District No. 61

Direct flow diversions(A.F.).....	12,434
Reservoir storage (A.F.).....	1,758
Amount delivered from storage.....	1,607
Acres irrigated.....	2,730
Number of ditches.....	44
Standard administration.....	44
Semi-standard administration.....	0
Number of daily ditch reports.....	2,612
Number of reservoirs served.....	1
Average demand(flow & reservoir)AF/AC.	5.14
Power diversions (A.F.).....	0

NOTE: Average demand AF/AC. is adjusted to include only that water that has been used for irrigation.

District No. 62

Direct flow diversions (A.F.).....	441,858
Reservoir storage (A.F.).....	1,905,176
Amount delivered from storage.....	68,658
Acres irrigated.....	18,895
Number of ditches.....	478
Standard administration.....	155
Semi-standard administration.....	63
Number of daily ditch reports.....	1,648
Number of reservoirs served.....	6
*Average demand(flow & reservoir)AF/AC.	7.22
Power diversions (A.F.).....	1,895,430

\*Less exported water.

District No. 63

Direct flow diversions (A.F.).....	16,622
Reservoir storage (A.F.).....	0
Amount delivered from storage.....	0
Acres irrigated.....	3,143
Number of ditches.....	67
Standard administration.....	49
Semi-standard administration.....	0
Number of daily ditch reports.....	490
Number of reservoirs served.....	0
Average demand(flow & reservoirs)....	5.29
Power diversions (A.F.).....	0

NOTE: Average demand AF/AC. is adjusted to include only that water that has been used for irrigation.

District No. 68

Direct flow diversions (A.F.).....	120,730
Reservoir storage (A.F.).....	145
Amount delivered from storage.....	145
Acres irrigated.....	26,769
Number of ditches.....	295
Standard administration.....	138
Semi-standard administration.....	5
Number of daily ditch reports.....	2,484
Number of reservoirs served.....	43
Average demand(flow & reservoirs)AF/AC.	4.49
Power diversions (A.F.).....	340

District No. 73

Direct flow diversions (A.F.).....	4,263
Reservoir storage (A.F.).....	48
Amount delivered from storage.....	48
Acres irrigated.....	1,077
Number of ditches.....	24
Standard administration.....	15
Semi-standard administration.....	5
Number of daily ditch reports.....	280
Number of reservoirs served.....	11
Average demand(flow & reservoirs)AF/AC.	4.00
Power diversions (A.F.).....	0

NOTE: Average demand AF/AC. is adjusted to include only that water that has been used for irrigation.

District No. 74

Direct flow diversions (A.F.).....	1,486
Reservoir storage (A.F.).....	0
Amount delivered from storage.....	0
Acres irrigated.....	1,050
Number of ditches.....	14
Standard administration.....	9
Semi-standard administration.....	5
Number of daily ditch reports.....	380
Number of reservoirs served.....	0
Average demand(flow & reservoir)AF/AC.	1.42
Power diversions (A.F.).....	0

NOTE: Average demand AF/AC. is adjusted to include only that water that has been used for irrigation.



NA - No water available  
 NU - Non use  
 NR - No rec

TABLE A

DIVISION SUMMARY - DIVISION NO. 4  
 Direct Flow Diversions  
 1974

Water Dist- rict	Total Ditches Reported			Irrigation Diversions Ac. Ft.	No. of Acres Irrigated	Ac. Ft. Per Acre	Industrial, Fish Use Diversions Ac. Ft.	Municipal Use Diver- sions A.F.	Recreation Use Diver- sions A.F.	Trans-mtn. Diversions A. F.	Total Diversions A. F.	No. of Daily Ditch Rpts.	Delivered to Compact Cmtmt.A.F.
	Active	Inactive	NA NU NR										
28	232	26	4	294,842	34,049	8.66	600	0	2,700	496	298,638	2,192	0
40	628	10	192	373,116	163,860	2.27	12,350	5,899	0	(fm Div. 4) 1,272 (to Div. 4) 771	391,365	22,550	0
41	76	45	1	536,441	91,260	5.88	10,702	2,687	1,500	0	551,330	1,688	0
42	24	3	5	33,339	10,778	3.09	533,922	255	0	0	567,516	464	0
59	139	33	57	230,495	39,050	5.9	4,300	1,463	1,200	0	237,458	2,420	0
60	251	14	27	155,899	28,430	5.48	24,650	1,990	31,950	0	214,489	2,508	0
61	44	0	0	16,374	2,730	5.98	0	0	1,700	0	18,074	2,612	0
62	155	23	40	*(136,538) 438,627	18,895	7.22	1,911,716	3,229	0	208.0	2,353,780	1,648	0
63	49	0	0	16,622	3,143	5.28	0	0	0	0	16,622	490	0
68	138	1	4	115,477	26,769	4.31	759	582	30	318.0	117,166	2,484	0
73	15	0	5	4,263	1,077	3.96	0	755	0	0	5,018	280	0
74	9	0	5	1,486	1,050	1.41	0	0	0	0	1,486	380	0
TOTALS	1760	155	340	1,914,892	421,091	4.54	2,498,999	16,860	39,080	3065.0	4,772,942	39,716	0

\*Water diverted in WD 62

TABLE B

DIVISION SUMMARY - DIVISION NO. 4  
Storage Report - Acre Feet  
1974

Water Dist- rict	Amount in Storage Acre Feet			Actual Am't. of Diverted to Storage During Season	Delivered from Storage to Irrigation	Storage to Industrial/ Power Use	Storage for Municipal Use	Storage for Recreation Use	Storage to Projects
	11-1-73	6-1-74	10-31-74						
28	1,117	2,368	860	1,251	1,508	0	0	2,368	0
40	28,578	85,446	12,272	56,868	71,944	0	1,230	85,446	26,709
41	2,354	3,032	1,989	678	878	0	365	3,032	0
42	4,866	10,393	2,834	5,527	7,559	0	4,866	2,693	0
59	71,390	119,477	58,788	48,087	60,689	0	0	111,378	60,689
60	11,316	37,691	9,614	21,375	15,446	5,500	2,131	31,950	0
61	610	1,700	93	1,090	1,607	0	0	1,700	0
62	659,000	645,701	705,576	381,660	68,658	958,090	1,003	958,090	68,658
68	150	300	155	150	145	0	0	0	0
63	0	0	0	0	0	0	0	0	0
73	0	48	0	0	48	0	48	0	0
74	0	0	0	0	0	0	0	0	0
TOTALS	780,699	901,156	792,181	516,686	228,482	963,590	9,643	1,196,657	156,056

## Uncompahgre Project - 1974 Season

Under the terms of the contract between the Bureau of Reclamation and the Uncompahgre Valley Water Users Association, approved August 4, 1931, the operation and maintenance of the Uncompahgre Project was taken over by the Association on January 1, 1932.

The project irrigation system includes 575 miles of irrigation canals and laterals, including 7.2 miles of tunnels and 5.1 miles of siphons. The project drainage system includes 204 miles of open drains.

The water content of the snow on the Uncompahgre River watershed, measured at Ironton Park was 187% of normal on May 1, 1974. With this snow course measurement, the stream flow forecasts looked very favorable; however, the runoff was below normal due to weather conditions. After July 4, our delivery of water was 70% to users through most of the season.

The Taylor Park Reservoir failed to fill, reaching an elevation of 9326.90 and storage of 99,830 acre feet on June 28, 1974.

The Gunnison Tunnel was shut out on June 18, at 8:00 P.M. and turned back in on June 19, at 8:00 P.M. for the annual summer inspection of the tunnel and A Canal.

Major operating difficulties was caused by flash flooding on Horsefly Creek and East Dolores Creek. A project flume over both drainages on the West Canal was badly damaged and caused interruption to the water service on the West Canal for the period from 6:30 P.M. on July 17, until 4:00 P.M. on July 20.

The work accomplished on the Gunnison Tunnel Rehabilitation and Betterment Program continued during the non-irrigation season.

A total of 85 steel sets were installed in three sections of the tunnel. New lining was placed placed from Station 187+60 to Station 185+90, from Station 210+00 to Station 208+70 and from Station 215+25 to Station 214+75. A total of 866 cubic yards of concrete were placed in the three reaches of the tunnel. Work started on November 1, 1973, and was completed on March 7, 1974.

Funds expended to September 30, 1974, amounted to \$1,484,493 on the Gunnison Tunnel R & B Program.

Rehabilitation of project structures included ten reinforced concrete drop structures and lateral headgates and 1,470 feet of motar lined 31 inch steel pipe to complete the CP Siphon.

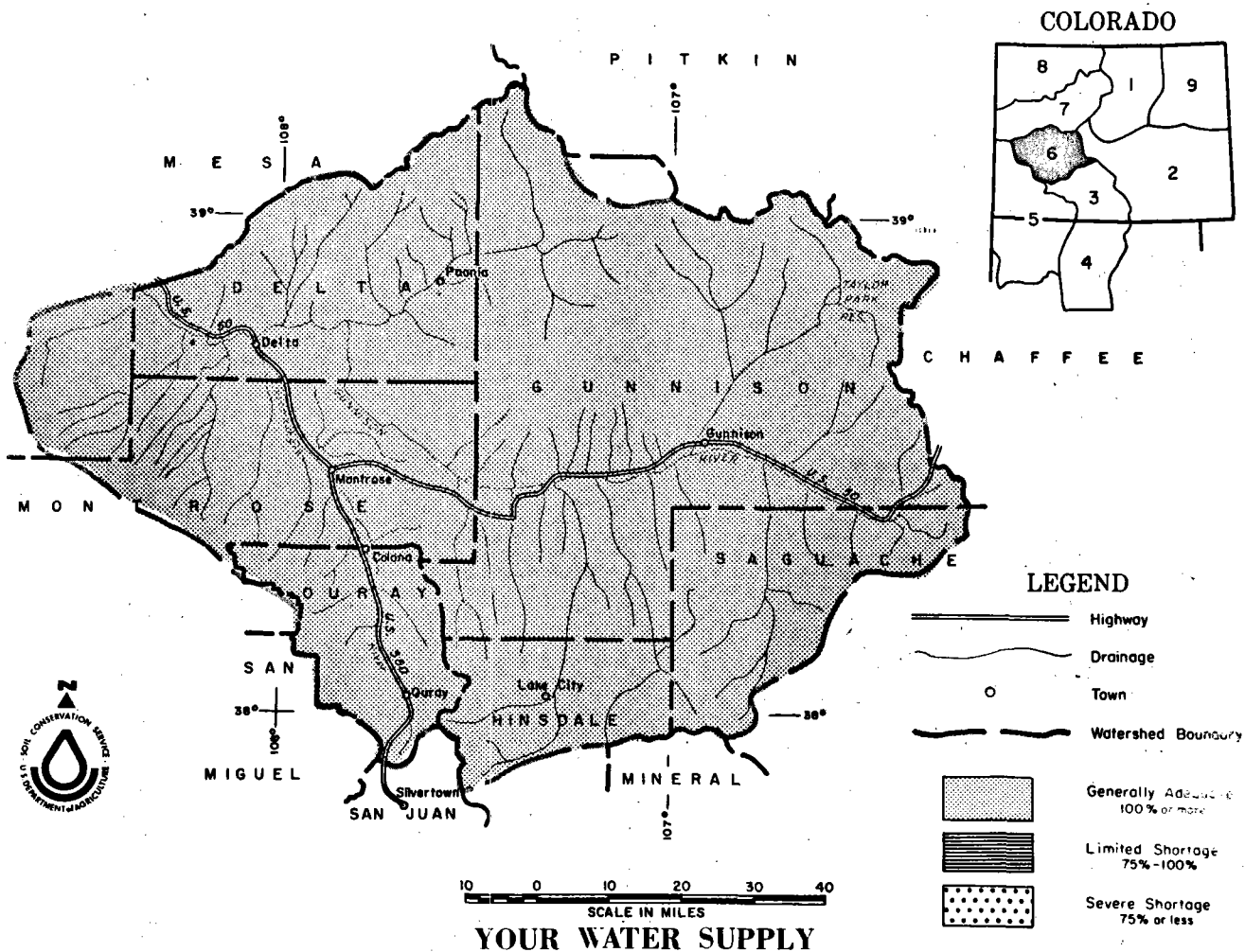
Uncompahgre Valley Water Users Assn.

Harold C. Anderson, Manager

# WATER SUPPLY OUTLOOK FOR THE SOIL CONSERVATION DISTRICTS IN THE GUNNISON RIVER WATERSHED IN COLORADO

as of  
MAY 1, 1974

**U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE**  
COLORADO EXPERIMENT STATION, STATE ENGINEERS OF COLORADO AND NEW MEXICO



STREAMFLOW FORECASTS FOR THIS SEASON ARE NEAR AVERAGE RANGING FROM 92% TO 108%. FORECASTS WERE INCREASED FROM LAST MONTH'S WITH THE GUNNISON RIVER NEAR GRAND JUNCTION SHOWING THE LARGEST INCREASE. RESERVOIR STORAGE IN TAYLOR PARK IS 157% OF LAST YEAR AND 106% OF AVERAGE. BLUE MESA AND MORROW POINT ARE 311,000 ACRE FEET AND 114,000 ACRE FEET RESPECTIVELY, ABOUT THE SAME AS LAST YEAR. SOIL MOISTURE CONDITIONS IN IRRIGATED AREAS ARE REPORTED AS GOOD.

*This report prepared by*  
JACK N. WASHICHEK and RONALD E. MORELAND  
SNOW SURVEY UNIT, SOIL CONSERVATION SERVICE  
DENVER, COLORADO

*Issued by*  
M. D. BURDICK—STATE CONSERVATIONIST      DUANE L. JOHNSON—AREA CONSERVATIONIST  
U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE  
DENVER, COLORADO                                      GLENWOOD SPRINGS, COLORADO

**STREAMFLOW FORECASTS (1000 Ac. Ft.) Apr-Sept**

FORECAST POINT	FORECAST	% of Average	Average †
Gunnison inflow to Blue Mesa (1)	730	92	793
Gunnison nr Grand Junction (2)	1275	108	1184
N. Fork of Gunnison(3)	262	100	263
Surface Creek nr Cedaredge	15	94	16
Uncompahgre at Colona	130	97	134

(1) Observed flow plus change in storage in Taylor Reservoir. (2) Observed flow plus change in storage in Blue Mesa, Morrow Point and Taylor Reservoirs.  
 (3) Observed flow plus change in storage in Paonia Reservoir.

**WATER SUPPLY OUTLOOK**

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period	
	Spring Season	Late Season
Taylor	Exc.	Avg.

**SUMMARY of SNOW MEASUREMENTS**

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average †
Gunnison	12	74	116
Surface Creek	3	70	103
Uncompahgre	3	65	105

**SOIL MOISTURE**

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average †
Gunnison	1	83	100
Surface Creek	1	74	85
Uncompahgre	2	79	93

**RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH**

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average †
Blue Mesa	830	311	305	308
Morrow Point	121	114	115	115
Taylor	106	66	42	62

**RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH**

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average †

† 1958-1972 period.

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 DENVER, COLORADO 80217  
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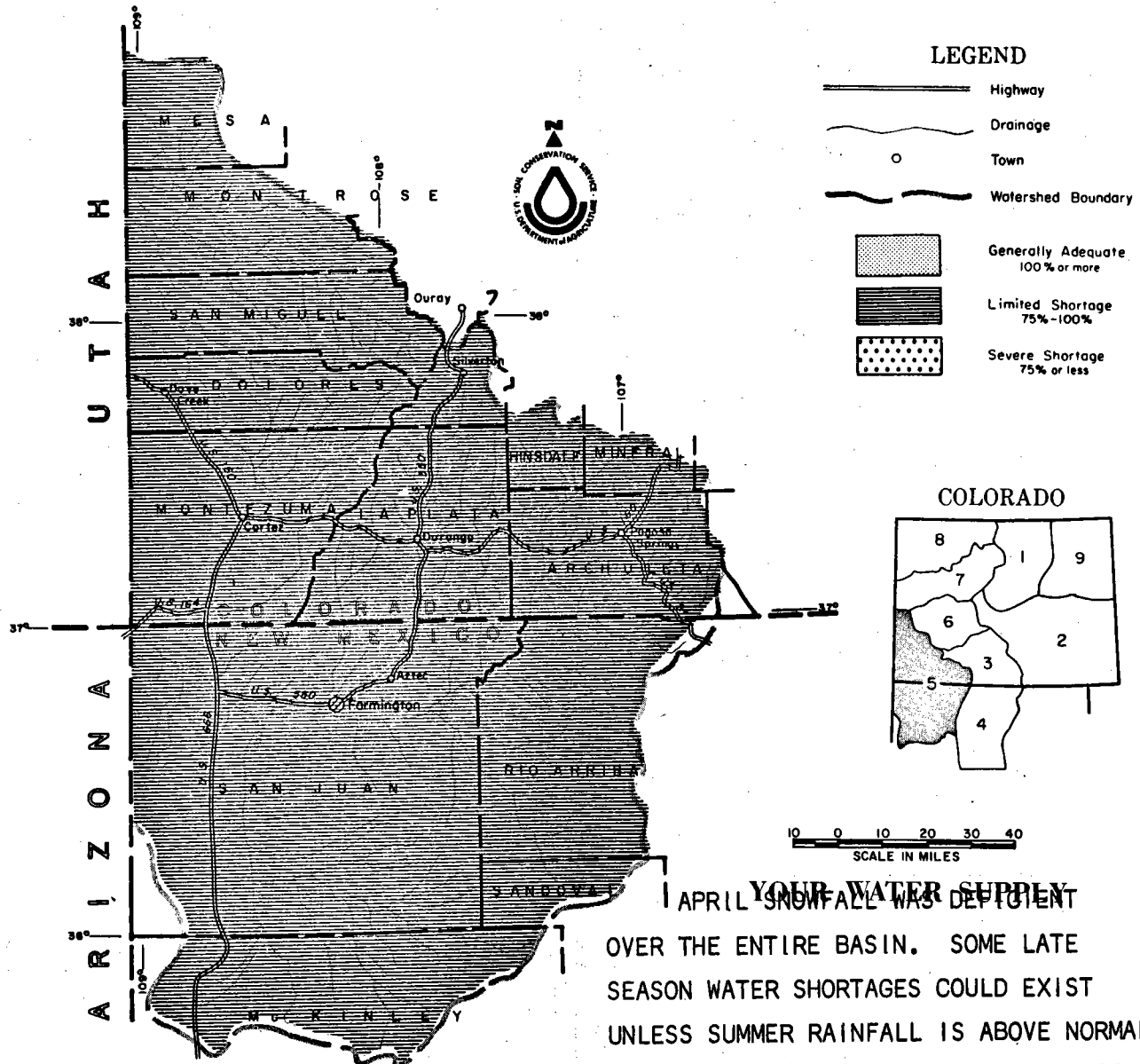
**FIRST CLASS MAIL**

*"The Conservation of Water begins with the Snow Survey"*

# WATER SUPPLY OUTLOOK FOR THE SOIL CONSERVATION DISTRICTS IN THE SAN MIGUEL, DOLORES, ANIMAS, AND SAN JUAN WATERSHEDS IN COLORADO AND NEW MEXICO

MAY 19, 1974

**U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE**  
COLORADO EXPERIMENT STATION, STATE ENGINEERS OF COLORADO AND NEW MEXICO



**YOUR WATER SUPPLY**  
APRIL SNOWFALL WAS DEFICIENT  
OVER THE ENTIRE BASIN. SOME LATE  
SEASON WATER SHORTAGES COULD EXIST  
UNLESS SUMMER RAINFALL IS ABOVE NORMAL.

STREAMS IN THIS BASIN SHOULD FLOW BETWEEN 70 AND 80% OF THE 15 YEAR AVERAGE.  
CARRY-OVER STORAGE IS SLIGHTLY ABOVE NORMAL. NAVAJO RESERVOIR IN NEW MEXICO  
CONTAINS 970,000 ACRE FEET -- A SLIGHT DROP FROM LAST YEAR AT THIS TIME.  
SOIL MOISTURE CONDITIONS ARE REPORTED AS GOOD.

*This report prepared by*  
JACK N. WASHICHEK and RONALD E. MORELAND  
SNOW SURVEY UNIT, SOIL CONSERVATION SERVICE  
DENVER, COLORADO

*Issued by*  
M. D. BURDICK -- STATE CONSERVATIONIST DENVER, COLORADO  
MARION E. STRONG -- STATE CONSERVATIONIST ALBUQUERQUE, NEW MEXICO  
U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE  
R. L. PORTER -- AREA CONSERVATIONIST ALAMOSA, COLORADO  
JAY L. RAMSAY -- AREA CONSERVATIONIST SANTA FE, NEW MEXICO

**STREAMFLOW FORECASTS (1000 Ac. Ft.) Apr-Sept**

FORECAST POINT	FORECAST	% of Average	Average <sup>+</sup>
Animas at Durango	340	80	423
Dolores at Dolores	180	78	232
La Plata at Hesperus	17	71	24
Los Pinos at Bayfield(1)	155	78	198
Piedra Cr. at Arboles	150	81	185
San Juan at Carracas	290	82	354
San Miguel at Placerville	110	85	130
Inflow to Navajo Rs.(1) (Apr-Jul)	500	84	597

(1) Observed flow plus change in storage in Vallecito Reservoir.

**SUMMARY of SNOW MEASUREMENTS**

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average <sup>+</sup>
Animas	6	48	87
Dolores	4	48	115
San Juan	5	52	83

**WATER SUPPLY OUTLOOK**

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period	
	Spring Season	Late Season
Florida	Fair	Fair
Mancos	Fair	Fair

**SOIL MOISTURE**

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average <sup>+</sup>
Animas	3	74	66
Dolores	3	86	89
San Juan	3	74	66

**RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH**

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average <sup>+</sup>
Groundhog	22	16	7	12
Lemon	40	19	16	25
Narraguinnep		16	16	--
Navajo	1696	970	1170	564
Vallecito	126	83	58	68
Jackson Gulch		7	--	7

**RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH**

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average <sup>+</sup>

+ 1958-1972 period.

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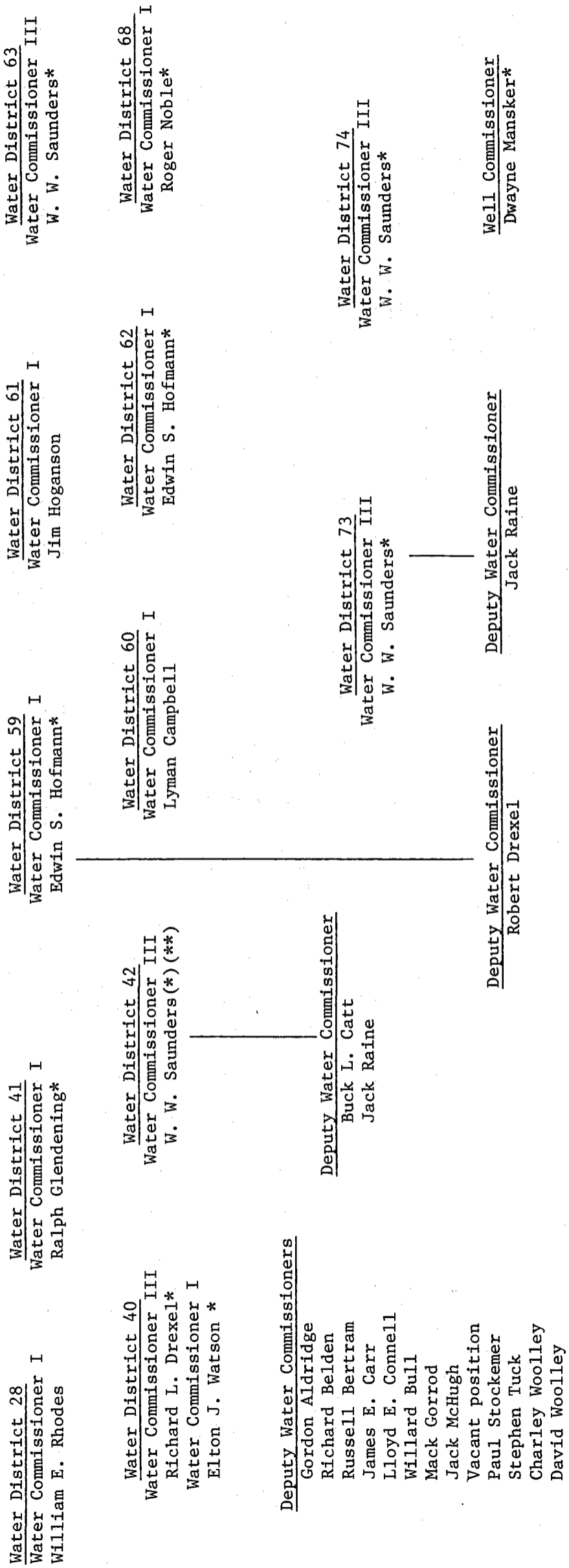


**FIRST CLASS MAIL**

TABLE OF ORGANIZATION - PERSONNEL

IRRIGATION DIVISION NO. 4

Division Engineer - Ralph V. Kelling, Jr.  
 Assistant Division Engineer - Thomas A. Kelly  
 Administrative Clerk Typist - Melita Maten  
 Clerical Staff Assistant - Audrey Keep  
 Hydrographer - Ken Cooper \*\*\*



\* Annual  
 \*\* Seasonal w/  
 \*\*\* Division 5  
 " " w/Div. 7



## AREAS OF RESPONSIBILITY OF WATER COMMISSIONERS AND DEPUTIES

## IRRIGATION DIVISION NO. 4

Well Commissioner

Dwayne Mansker - Division Wide

Water District - 28William E. Rhodes - Tomichi and Coche-  
topa CreeksWater District - 40Richard L. Drexel - Crystal Creek; the  
Gunnison River from  
Mesa County line to  
Montrose County line  
and its tributaries  
except the Uncompah-  
gre RiverElton J. Watson - North Fork of Gunnison  
River and Smith Fork

## Deputies:

Gordon Aldridge - Upper Surface Creek

Richard Belden - Gunnison River and  
Escalante CreekRussell Bertram - Granby and Battle-  
ment Reservoirs

James E. Carr - Leroux Creek

Lloyd E. Connell - Minnesota Creek  
and Stewart Mesa

Willard Bull - Beaver Creek

Jack Gorrod - Ward, Kiser, & Youngs  
Creek ReserJack McHugh - Youngs, Kiser, and  
Ward CreeksPaul Stockemer - Muddy, Anthracite,  
Hubbard CreeksVacant - Dry Creek and Alfalfa  
Run

Stephen Tuck - Forked Tongue

Charley Woolley - Lower Surface  
Creek

David Woolley - Park Basin

Water District - 41Ralph Glendening - Uncompahgre River  
from Colona to  
DeltaWater District - 42W. W. Saunders - Gunnison River below  
Mesa County line and  
its tributaries

Deputy: Buck L. Catt - (same area)

Water District - 59E. S. Hofmann - Gunnison River above  
Gunnison & tributaries  
on north side of the  
Gunnison River from  
Gunnison to Mesa Creek

Deputy: Robert Drexel - (same area)

Water District - 60

Lyman Campbell - San Miguel River

Water District - 61Jim Hoganson - Dolores River below the  
San Miguel County line to  
confluence with San Miguel  
River (Paradox Valley)Water District - 62E. S. Hofmann - Cimarron River, Lake Fork  
of the Gunnison, & Cebolla  
CreekWater District 63W. W. Saunders - Dolores River below  
confluence of San  
Miguel RiverWater District - 68Roger Noble - Uncompahgre River above  
ColonaWater District - 73

W. W. Saunders - Little Dolores River

Water District - 74

W. W. Saunders - Coates Creek

HYDROMETEOROLOGICAL DATA - BLUE MESA RESERVOIR (From U. S. Bureau of Reclamation, CRSP Power Operations, monthly reports)

	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
Precip. (In.)	1.14	.00	.09	.43	.05	.36	.36	.81	1.77	2.34	0.55	0.94
Avg. Max. Temp.	23.70	36.00	56.00	61.10	69.20	77.50	84.50	80.40	71.90	60.10	39.00	24.60
Avg. Min. Temp.	-8.20	1.20	18.00	26.40	29.00	42.70	46.10	45.80	39.90	35.90	17.60	-1.30
Total Ann. Precip.	8.84 In.											
Total Ann. Dischg.	785,050 A.F.											

6 months precipitation sub total 2.07

1973

Precip. (In.)	0.52	0.38	0.35	0.49	1.08	0.76	1.50	0.78	0.69	0.45	0.22	1.67
Avg. Max. Temp.	19.70	28.30	42.30	51.80	67.10	75.90	82.00	81.30	72.40	65.10	48.80	29.70
Avg. Min. Temp.	-8.20	.00	17.20	21.40	31.80	40.10	44.70	45.60	37.20	27.70	20.90	5.90
Total Ann. Precip.	8.89 In.											
Total Ann. Dischg.	796,190 A.F.											

6 months precipitation sub total 3.58

1974

Precip. (In.)	2.64	0.62	0.34	0.83	0.00	0.38	0.84	1.34	0.39	0.48	0.26	
Avg. Max. Temp.	18.20	15.40	45.60	55.30	72.60	80.20	82.70	79.70	74.70	64.10	42.60	
Avg. Min. Temp.	5.60	-15.30	14.90	22.90	32.30	40.50	48.10	42.60	36.80	32.20	18.0	
Total Ann. Precip.	8.12 In.											
Total Ann. Dischg.	918,630 A. F.											

6 months precipitation sub total 4.81