

ANNUAL REPORT  
1976 - Water Year  
Irrigation Division No. 4



December 16, 1976


Mr. C. J. Kuiper, State Engineer  
Division of Water Resources  
1313 Sherman Street  
Denver, Colorado 80203

Dear Mr. Kuiper:

On behalf of the office and field personnel of Irrigation Division Four, I submit herewith the annual report for 1976.

Special recognition is made for highly competent Division Four staff from which the various responsibilities of water management have been attended to in a professional manner.

Respectfully submitted,

  
Ralph V. Kelling, Jr.  
Division Engineer

RVK:mm



TABLE OF CONTENTS

	Page
I. Introductory Statement .....	1-6
II. Personnel .....	7-11
III. Water Supply .....	11-32
A. Snow Pack .....	11-14
B. Precipitation .....	14-15
C. Floods .....	16
D. Water Budget .....	16
E. Underground Water .....	16-17
F. Trans-mountain and Trans-basin Diversions .....	18-21
G. Reservoir Storage .....	22-32
Special Note .....	22
IV. Agriculture .....	33-35
V. Compacts and Court Stipulations .....	36
VI. Dams .....	36-38
Reservoir Stop Orders .....	38
Livestock Water Tanks .....	38
VII. Water Rights .....	39
A. Tabulation .....	39
B. Referee Findings and Decrees .....	39
VIII. Organizations .....	40-43
IX. Water Commissioner's Summary .....	44-51
Division's Summary .....	50-51
A. Direct Flow Diversions .....	50
B. Storage Report .....	51
Miscellaneous Reports and Tables .....	52-60
1. Budget Workload and Statistical Indicators .....	52
2. Uncompahgre Project 1976 Season .....	53
3. Water Supply Outlook - May, 1976 .....	54-57
4. Table of Organization .....	58
5. Areas of Responsibility-Field Personnel .....	59
6. Hydrometeorological Data Blue Mesa Reservoir .....	60



ANNUAL REPORT

IRRIGATION DIVISION NUMBER FOUR

MONTROSE, COLORADO

I. INTRODUCTORY STATEMENT

Division Four is located in West Central Colorado and its boundaries include the following drainage basins: Gunnison River and its tributaries, San Miguel River, Little Dolores River, Coates Creek, and Dolores River in Montrose and Mesa Counties. Larger communities in the division include Gunnison, Montrose, and Delta; and the smaller communities include Ouray, Norwood, Nucla, Naturita, Cedaredge, Hotchkiss, Paonia, Uravan, and Crawford. The total population for the division is approximately 60,000 people. The Gunnison River basin encompasses the largest portion of Division 4 with a drainage area in excess of 8,000 square miles. The San Miguel River basin is the second largest with a drainage area of approximately 2,000 square miles, a total of 12,000 square miles (7,680,000 acres) of area in Division 4. Several other small basins make up approximately 2,000 square miles. Four hundred and forty four thousand (444,000) acres are irrigated in the division, and there is less than 3,000 dry land acres farmed in Division 4. The agricultural averages are almost

identical to the 1975 season. Major crops are hay, sugar beets, corn, grains, and various types of fruits (peaches, pears, plums, apricots, cherries, apples). Beef cattle and sheep are the primary livestock products with some interest being shown in pork production this past season. Eleven former water districts are located in Division 4.

Elevations range from 4,500 feet to an excess of 14,000 feet in the San Juan mountain range. The climate is semi-arid with annual precipitation varying from 8 inches to 15 inches in much of the agricultural area. In most parts of the division below average precipitation occurred in 1976, and in some locations average existed.

Summer moisture was limited in most of Division 4. This year's (November 1975 - October 1976) accumulative precipitation in Montrose was 8.53 inches which is 0.9 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. The largest mining operation in the division, Idarado Mining Company, cut their work force by one-half in order to reduce expenses with the hope of showing a profit. Uranium exploration and development has begun a significant comeback in the western section of the division and used core drilling rigs are selling at a premium. Coal, silver,



copper, and zinc are major mineral resources with oil and gas exploration having continued activities. Minor exploration drilling has been taking place in several areas of the division and a boom of seismic exploration is also taking place in the western area of the division.

Tourism plays a major role in the division's economy and 1976 was a good year for all aspects of this industry.

The following activities continue to effect the division's economy:

1. The U. S. Bureau of Reclamation's construction of Crystal Dam. This structure was topped out in the late summer and should be storing water by spring, 1977.
2. The continued operation of Russell Stover Candy Company in Montrose.
3. Continued expansion of the ski resort complexes in Crested Butte and Telluride, and this year's reservations greatly exceeding the last few years.
4. The processing and packaging of agricultural products from mid-July until after the first of the year with this year looking and running far ahead of the last few years.

5. Active coal resources investigation including the acquisition and development of water rights by major energy and industrial companies.
6. Continued oil and gas exploration activities with large acreages being investigated and brought under mineral leases.
7. Continued mining and milling activities in the Ouray-Telluride areas, west end and the Gunnison areas.

The economy is agriculturally dominated and because of this 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. Most of the large reservoirs are located on major rivers, and long canals and tunnels are required to transport water to the point of use. The Curecanti Unit Reservoirs of the Colorado River Storage Project use approximately two million acre feet of water in the production of electrical power. The hydro-power plants of the three reservoirs will have a combined capacity of 200,000 kilowatts at the completion of Crystal Dam.

Operating water resource projects within Division 4 are the Uncompahgre Project, which includes Taylor Park Reservoir and the Gunnison Tunnel, Fruitgrowers Reservoir, Fruitland Mesa Project, Paonia Project, Crawford

Project, and the Bostwick Park Project, which includes Silverjack Reservoir. Blue Mesa and Morrow Point Reservoirs of the Curecanti Unit are part of the Bureau of Reclamation Projects. Crystal Dam, which is now approximately 90% completed, is also part of the Curecanti Unit. Additional Bureau projects that are in various study phases are Fruitland Mesa, Dallas Creek, San Miguel, Upper Gunnison, and the Uncompahgre Extension. The Dallas Creek Project appears to be closer to the beginning than anytime since its inception. Field offices are being located and field personnel continue to increase their planning and preconstruction activities. A more comprehensive statement of the Uncompahgre Project is included later in this report. Land use planning is a subject of continued concern throughout the division. The extent of Division 4's involvement in land use planning has been to act as consultant to the Division of Water Resources planning section. Areas of greatest activity remain similar to those of last year's annual report. Subdivision development in Water Districts 59, 60, 62, and 40 contain the bulk of land development activity. Development continues in the Gunnison-Crested Butte area with increased construction taking place. The general economy seems to have picked up the construction pace somewhat. The Telluride area and along the San Miguel River are also active development areas and in both locations there is contact between local planning commissions and the Denver planning office.

The coal resources along the North Fork of the Gunnison and the Cedaredge areas are beginning to actually increase land development in those parts of Water District 40. Housing is at a premium in the Paonia area and development is planned for many locations in these areas. Surface flows in these locations are over appropriated which will produce many problems concerning water supply as this land is developed. The towns of Hotchkiss, Cedaredge, and Paonia are planning the development of additional water supplies:

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	305,976	434,169	0	2,335
Montrose	434,246	995,740	474	2,500
Mesa	554,504	1,562,040	220	3,556
Ouray	182,711	160,920	1,920	49
San Miguel	302,672	497,994	19,854	600
Gunnison	420,553	1,640,757	13,388	750
Hinsdale	28,999	637,599	9,377	505
Saguache	581,650	1,320,622	109,708	180

## II. PERSONNEL

Division 4 was involved in the disability retirement of Russell Bertram, Water Commissioner A in Water District 40. It was evident at the beginning of the irrigation season that Mr. Bertram's health would prevent him from being able to perform his duties on Grand Mesa. Wayne Wiseman of Cedaredge was hired in an "S" position to replace Russell Bertram, and has done a fine job for such short training and notice. At this writing, PERA has yet to approve Mr. Bertram's retirement application; however, we anticipate no problem and when this action becomes final, normal Civil Service channels will be utilized in filling this vacancy.

The vacant Water Commissioner B position in Water District 61 was filled by Mr. Clinton Oliver. The recruitment for this position was difficult because of the limited qualified candidates and the remoteness of the district. We feel very fortunate that a man of Mr. Oliver's abilities was available for this position. There was an official protest to Mr. Oliver's appointment and some outside pressures were exerted by one of the unsuccessful candidates; however, after various hearings and interviews, Mr. Oliver was appointed to this position and has proven to be a very effective employee.

In the late spring, Ed Blank was transferred to Durango as the Division 4 and 7 cooperative hydrographer. This is the fourth hydrographer in this position in the past four years, and we are looking forward to a long, fruitful tenure with Mr. Blank.

We continue to acknowledge and recognize the high qualifications and abilities of our Division 4 field and office staff. We were able to successfully process two promotions for this staff during the past report year.

The following is a list of personnel in the division for the year 1976. Mileage listed is for the calendar year 1976, with November and December being estimated on the basis of 1975.

PERSONNEL

Name	Position	District	Months Worked/ Budgeted		Mileage
			Budgeted	Worked	
Richard L. Belden	WCA	40	6 mos	6½ mos	8,524
*Russell Bertram	WCA	40	7 mos	5½ mos	215
**Ed Blank	Hydro	Div 4/7	Annual		--
Willard Bull	WCA	40	7 mos	7 mos	7,044
Lyman D. Campbell	WCB	60	11 mos	9½ mos	10,166
James E. Carr	WCA	40	7 mos	8½ mos	9,440
Lloyd E. Connell	WCA	40	7 mos	6½ mos	7,606
Richard L. Drexel	SRWC	40	Annual		6,157
Robert Drexel	WCA	59	6 mos	7¼ mos	5,582
Ralph Glendening	WCB	41	Annual		9,144
Mack A. Gorrod	WCB	40	7 mos	6-3/4 mos	4,904
Edwin S. Hofmann	WCB	59,62	Annual		12,537
C. Crandall Howard	WCB	28	7 mos	7¼ mos	8,529
Audrey M. Keep	CAB	Staff	6 mos	7 mos	--
Ralph V. Kelling, Jr.	SWRE	Staff	Annual		9,112
Thomas A. Kelly	SRWRE	"	"		10,348
Dwayne C. Mansker	WCB	1042	"		6,523
Melita Maten	S-1A	Staff	"		--
John L. McHugh	WCA	40	6 mos	8 mos	6,638
James A. Miller	WCA	40	6 mos	6 mos	8,181
H. Roger Noble	WCB	68	Annual		7,616
Clinton L. Oliver	WCB	61	7 mos	8 mos	10,337
Jack Raine	WCA	73	6 mos	6 mos	2,490

Name	Posi- trict	Dis- trict	Months Worked/ Budgeted		Mileage
			Budgeted	Worked	
W. W. Saunders (share w/Div. 5)	SRWC	42,63, 73,74		Annual	recorded/ in Div.5
Marvin Stephens	WCA	40	6 mos	6½ mos	2,402
Paul Stockemer	WCA	40	7 mos	6-¾ mos	6,456
Stephen Tuck	WCA	40	6 mos	7¼ mos	5,926
Elton J. Watson	WCC	40		Annual	14,296
Lester E. Whiting	WCA	42	6 mos	6¼ mos	8,235
***Wayne Wiseman	"S"	40	none	5¼ mos	2,527
Charley Woolley	WCA	40	6 mos	7 mos	6,659
David E. Woolley	WCA	40	6 mos	7 mos	2,650

\*Disability retirement pending

\*\*Shared with Division 7 - mileage recorded in Division 7

\*\*\*Temporary "S" position - possible replacement/Russell Bertram

This report is for the period December, 1975, through November, 1976.



Water Commissioners Annual Mileage Review:

<u>Year</u>	<u>Total Annual Mileage</u>
1967	176,164
1968	167,174
1969	149,862
1970	135,195
1971	143,852
1972	160,070
1973	157,709
1974	189,865
1975	194,997
*1976	180,784

\*November and December 1976 mileage estimated from 1975.

III. WATER SUPPLY

A. Snow Pack

Water supply forecasts for the Gunnison and San Miguel water-sheds were reported from average to slightly in excess of average. Average moisture fell during the winter season at all higher measuring locations, snow depths at lower elevations (8,000 feet and below) was much below normal with some areas being without cover most of the winter. All drainage areas surveyed recorded slightly more than a hundred per cent of average for the final SCS snow survey. High water was not predicted on any major rivers and no flooding was reported throughout the division. The fluctuating spring temperatures resulted in

Snow Pack (continued)

limited high flows and most streams reached peak flow the first week of June. The absence of low snow, high winds in May, and dry soil moisture conditions worked together to produce a below normal surface water supply, and many junior priorities were without water. Reservoirs were called upon much earlier this year for supplemental water and only high carry over levels enabled the reservoirs to adequately supplement the direct flow needs.

The cloud seeding weather modification program in the San Juan mountains directed by the Bureau of Reclamation was completed at the end of the 1975 and final evaluations are still pending. The following is quoted from a letter to this office from Dr. Archie Kahan, the USBR Chief of Division of Atmospheric Water Resources Management, relative to this project:

"The field activities of the Colorado River Basin Pilot Project, a 5-year research program in Colorado's San Juan mountains, are completed and the final analysis are well underway. Preliminary analysis from the project indicate:

1. Mountain snowfall increases can be caused by selective seeding of the warmer winter clouds.
2. With protective restraints implemented during the project, no adverse environmental effects were found.

Snow Pack (continued)

3. Downwind increases in precipitation are indicated rather than often presupposed decreases.
4. Airflow patterns near the mountains are complex which make targeting of seeding plumes difficult.

Recent studies estimate the water supplies of the Colorado River could be increased an average of some 1.3 million acre-feet annually at a cost of about \$2.50 per acre-foot."

The Grand Mesa Water Users Association and Grand Mesa Conservancy District continue to have a contract with the Water Resources Development Corporation of Palm Springs, California for cloud seeding on the south side of the Grand Mesa water shed area. We are not aware of any reports available on this project, however, it was active during the 1976 winter season. The success or failure of cloud seeding to help the snow pack is a controversial subject in Grand Mesa area and remains a topic of concern for conservationists in this area. Copies of the May, 1976, snow surveys are found at the end of this report.

Snow Pack (continued)

Summary of Snow Measurement - May 1, 1976

<u>Basin or Water Shed</u>	<u>Number of Courses Averaged</u>	<u>This years snow water as per cent of: Last Year</u>	<u>Average</u>
Gunnison	12	55	93
Surface Creek	3	75	107
Uncompahgre	3	51	105

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

<u>Forecast Point</u>	<u>Forecast</u>	<u>% of Avg.</u>	<u>Average</u>
Gunnison River in- flow to Blue Mesa	840	106	793
Gunnison River near Grand Junction	1250	106	1184
Surface Creek near Cedaredge	16	100	16
Uncompahgre River at Colona	150	172	134

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Soil Moisture - May 1, 1976:

Rated as fair.

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B. Precipitation - Summer

The water year began with average precipitation through April, 1976. Below normal precipitation has been experi-

enced from May through October, excepting September which was above normal. Some limited summer thunder storms occurred throughout the division, however, the majority of summer water usage came from snow melt and high storage levels. The fall season in Division 4 has been unusually dry with exceptionally good conditions for crop harvesting. Carry over storage is much below average and soil moisture is below average. Above normal winter precipitation will be needed if the water outlook for 1977 is to be favorable. No hail suppression work is being conducted in Division 4.

Climatological Data 1975:

<u>County</u>	<u>Avg. Annual Temp., F<sup>o</sup></u>	<u>Departure</u>	<u>Total Precipitation, In.</u>	<u>Departure</u>
Delta (Cedaredge)	47.0	-2.2	7.89	-4.03
Mesa	50.2	-2.5	9.18	+0.77
Montrose	47.5	-1.6	7.36	-2.31
Ouray	42.5	-	24.02	-
San Miguel	38.6	-1.2	22.20	-1.21
Gunnison	32.8	-4.9	9.00	-2.24
Hinsdale	36.3	-	13.10	-
Saguache	37.7	-5.4	7.84	-.65

#### C. Floods

No flows in any area of the division were considered to approach flood conditions in 1976. Most of the rivers did not reach stages of any consequences. There was no damage reported in Division 4.

#### D. Water Budget

Average annual flow on Gunnison River at Grand Junction is 1,856,000 acre feet. Throughout Division 4 direct flow diversions total 4,119,080 acre feet with approximately 250,000 acre feet being diverted and used in other drainages. The beneficial use of the water resources in Division 4 would exceed more than 3 times the total supply. The two major uses and reuses are for agriculture and power production. The Gunnison River contributes approximately 44% of the total Colorado River discharges into Utah.

#### E. Underground Water

There is limited information relative to the underground water supply in Division 4. Ground water studies and literature are limited to a minimum number of bulletins and reports. A few deep water wells exist, however, the bulk of the ground water activity is concerned with domestic and household use only wells. Potentially all formations may prove productive with the shale section having minimal water content and sands, especially of the Dakota and

Entrada formations, capable of containing large volumes of water. A number of water wells in the Grand Junction area produce from the Morrison sands.

Registered wells in Division 4, dated April 13, 1976, breaks down as follows:

<u>Type of Wells</u>	<u>Number of Wells</u>	<u>GPM</u>	<u>CFS</u>
0 - Household Only	168	2,520	5.0
2 - Livestock	210	3,150	7.0
1 - Domestic	1,354	20,310	45.13
4 - Commercial	123	6,150	13.66
5 - Industrial	35	7,000	15.55
6 - Irrigation	103	30,900	68.66
7 - Stock & Irrigation	47	10,575	23.5
8 - Municipal	35	10,500	23.33
9 - Other	6	70	1.5
3 - Domestic & Stock	160	2,400	5.33

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Total Registered Wells .....2,241

F. Trans-mountain and Trans-basin Diversions - 1976

Trans-mountain Diversions:

<u>Name</u>	<u>Source</u>	<u>Recipient and/ or Claimant</u>	<u>Amount A.F.</u>
Red Mountain Ditch	Mineral Creek	Ouray Ditch Co. Montrose, Colorado	218
Carbon Lake Ditch	" "	" "	356
St. John Ditch	E. Fk. Animas River	Charles, Gunn, & Worley % W. Worley Olathe, Colorado	No Diversion
Mineral Pt. Ditch	Burrows Creek, tr. N. Fk. Animas River	W. Gibbs Ouray, Colorado	No Diversion
Larkspur Ditch	Tr. Tomichi Cr.	Rocky For Highline Canal Co. Rocky Ford, Colorado	226
Tabor	Tr. Cebolla Cr.	Colo. Div. of Wildlife Alamosa, Colorado	540
Tarbell	Cochetopa	Saguache Land & Wtr. Co. Saguache, Colorado	662
Divide Cr. Highline Feeder Ditch	Divide Creek	F. M. Starbuck, Mgr. Silt, Colorado	579
Leon Lake	Leon Creek	Sam Oaks Eckert, Colorado	1764

Trans-basin Diversions:

Leopard Cr. Ditch	Leopard Creek	Harry McClure Ridgway, Colorado	707
N. Fk. of Paxton D.	Cottonwood and Horsefly Creeks	William Hofmann Montrose, Colorado	No record
Cimarron Feeder of the Garnet Ditch	W. Fk. of Cimarron	Unc. Valley Water Users Association Montrose, Colorado	3440
Gunnison Tunnel	Gunnison River	" "	384,352
Head & Ferrier	Soap Creek	H. Head & Ferrier Delta, Colorado	279
Lake Brennand	Lake Brennand	Town of Crested Butte, Colorado	512
Meek Tunnel	Crystal Creek	Carton Meek Maher, Colorado	112
Mesa Creek Ditch	Mesa Creek	" "	98.0



The 1976 season marked the second full year in which Division 4 participated in the Computer Data Bank program in recording and summarizing annual diversion records. At this time there is still some editing necessary for the 1975 record print outs and the three districts used as a "pilot program" in 1974, are yet to be processed.

In Division 4 we were able to have all the 1975 diversion data key punched locally and various listings of this data was made in order to edit some of the more obvious errors. Key punching was accomplished by a local key punch operator with a negotiated private agreement. This arrangement was terminated when new management was installed at the local computer center. Our 1975 key punch work was of high quality and Division 4 reviewed this work as best could be, and then monthly transmittals to the Denver ADP section were made. The cost of 1975 key punching was 10 cents per card with approximately 12,000 cards being punched. The initial return of this work from the Denver ADP section was some time in mid to late winter, 1976.

The 1976 records were key punched by the computer center at Valley Federal Savings and Loan Association in Grand Junction, Colorado. The initial cost of 10 cents per card was retained, however, it was determined that considerable editing and computations could be made at the 10 cents per card cost. A limited program was developed to analyze and compute various editing processes

which were of invaluable assistance in identifying diversion record errors. Additional requests were made of the computer center with the hope of obtaining the most error free "deck" of punched cards possible to submit to the Denver ADP section. At the same time certain computations were requested to help the field water commissioner in the compilation and processing of his field records. Monthly totals were computed, days used, visits made, acre feet diverted, and an analysis of various types of water diverted was also included. Because of the uncertainty of the Data Bank Processing and the need for current diversion records, Division 4 has continued to use commissioner field books with preliminary values being computed the same as in past years. This additional record is also necessary to compute budget statistical indicators as requested as part of the Annual Report. These various computer edits have been of great help in the preparation of 1976 annual record and report. It should be noted that the work done by the Valley Federal Savings and Loan computer center has not been without some problems (bugs), however, it is our hope with another season, the utilization of this facility can produce a higher grade of records than in past years.

It is our feeling that computerized diversion record keeping can eventually be of significant assistance to the field commissioner in the performance of his responsibilities. We feel that local control over the basic raw data is important to effectively pursue this program.

#### G. Reservoir Storage

The majority of irrigation reservoirs in Division 4 had considerably more storage in the fall of 1975 than the previous year. With only average winter precipitation some doubt was noted as to the filling of all division reservoirs. Blue Mesa Reservoir lacked several feet of filling and Taylor Park did not fill. Most of the smaller reservoirs were able to store water until the latest possible date with cooperation between the senior downstream rights and the reservoirs. This arrangement helped to fill most of all the smaller reservoirs and adequate reservoir supply resulted. The 1976 fall reservoir levels are much lower than 1975, and above normal winter snow is needed to bring these reservoirs up to full capacity.

#### Special Note

The storage diversion data presented in this report has been compiled from the water officials field book notes, diaries, and special edit listings of key punch cards for 1976. It is significant to point out that in order to have accurate data for the 1976 irrigation season Annual Report, it is necessary that various sources of data be utilized. Even with these sources all of the diversion and storage records should be considered preliminary and subject to correction.

Listed below is a tabulation of storage in the division for 1976:

<u>Water District</u>	<u>Name of Reservoir</u>	<u>Amt., A.F. 11-1-75</u>	<u>Amt., A.F. Start of Irr. Season</u>	<u>Amt., A.F. 10-31-76</u>
28	Hot Springs Reservoir	603.00	571.00	483.10
28	McDonough Reservoir #1	805.20	654.80	805.20
28	McDonough Reservoir #2	101.00	283.20	201.80
28	Needle Creek Reservoir	129.00	550.10	202.30
28	Upper Cochetopa Res.	201.00	312.80	669.20
28	Vouga Reservoir	102.00	207.40	408.20
40	Alexander Lake Res.	73.00	163.50	.00
40	Arch Slough Reservoir	13.40	65.60	.00
40	Ault Reservoir	.00	116.00	.00
40	Bailey Reservoir	.00	414.00	.00
40	Bald Mountain Reservoir	.00	120.00	.00
40	Barron Lake Reservoir	358.40	800.00	109.60
40	Basin #1 Reservoir	.00	174.30	.00
40	Basin #2 Reservoir	.00	24.30	.00
40	Battlement #1 Reservoir	79.50	79.50	79.50
40	Battlement #2 Reservoir	537.20	738.90	.00
40	Baxter Reservoir	318.00	318.00	318.00
40	Beaver Dam Res. (Excalante)	.00	405.00	.00
40	Beaver Reservoir (Minnesota Cr)	37.00	1146.00	37.00
40	Bonita Reservoir	62.50	285.80	40.20
40	Bottle Stomp Reservoir	.00	17.00	17.00
40	Boulder Lake #1 Reservoir	.00	14.00	.00

Division tabulation of storage - continued

<u>Water District</u>	<u>Name of Reservoir</u>	<u>Amt., A.F. 11-1-75</u>	<u>Amt., A.F. Start of Irr. Season</u>	<u>Amt., A.F. 10-31-76</u>
40	Brockman #1 Reservoir	.00	22.30	.00
40	Brockman #2 Reservoir	.00	41.00	.00
40	Bruce Park Reservoir	.00	700.00	.00
40	Bull Finch #1 Reservoir	.00	78.80	.00
40	Bull Finch #2 Reservoir	.00	22.00	.00
40	Coalby Horse Park Reservoir	141.50	474.20	165.50
40	Cabin Lake Reservoir	.00	24.00	.00
40	Calument Reservoir	.00	24.10	.00
40	Carbonate Camp #3 Reservoir	.00	7.50	.00
40	Carbonate Camp #6 Reservoir	24.10	112.70	.00
40	Carbonate Camp #7 Reservoir	.00	107.60	.00
40	Carl Smith Reservoir	426.00	776.00	500.00
40	Cedar Mesa Reservoir	162.50	935.00	48.50
40	Clark Reservoir	.00	39.00	.00
40	Cole #1 Reservoir	.00	22.40	.00
40	Cole #2 Reservoir	.00	53.50	.00
40	Cole #3 Res. (Cherry Lane)	.00	41.10	.00
40	Cole #4 Reservoir	.00	29.80	.00
40	Cole #5 Reservoir	.00	116.80	.00
40	Columbine #1 Res. (Reynolds)	.00	176.00	150.00
40	Crawford Reservoir	5438.00	13059.00	2888.00
40	Cyphers Reservoir	21.00	21.00	21.00
40	Daniels Sl. Res. (Reed)	59.20	212.40	29.90
40	Davenport Reservoir	20.00	20.00	.00

Division tabulation of storage - continued

<u>Water District</u>	<u>Name of Reservoir</u>	<u>Amt., A.F. 11-1-75</u>	<u>Amt., A.F. Start of Irr. Season</u>	<u>Amt., A.F. 10-31-76</u>
40	Deep Slough Reservoir	32.00	498.00	.00
40	Deep Ward Lake Reservoir	984.40	1405.00	266.80
40	Delta City #1 Reservoir	.00	14.30	.00
40	Delta Control Reservoir	40.00	40.00	40.00
40	Deserted Park Reservoir	.00	33.80	.00
40	Dog Fish Lake Reservoir	.00	243.00	.00
40	Don Meek #1 Reservoir	.00	42.00	.00
40	Donnelly Slough Reservoir	96.00	276.90	.00
40	Doughty #1 Res. (Chipmunk)	.00	42.10	.00
40	Doughty #2 Reservoir (Cliderock)	.00	17.70	.00
40	Dowdy Reservoir	.00	264.00	.00
40	Dreyfus Reservoir	.00	44.20	.00
40	Dugger Reservoir	52.90	83.70	53.00
40	East Beckwith #1 Res.	217.00	569.00	147.00
40	Eggleston Lake Res.	1476.00	2705.00	378.00
40	Elk Park Reservoir	.00	96.80	.00
40	Elk Wallows Res.	.00	220.00	.00
40	Elk Reservoir	.00	109.00	.00
40	Ellington & Cook Res.	.00	25.00	25.60
40	Eureka Res. #2	.00	50.00	.00
40	Fairmont Reservoir	.00	87.00	.00
40	Fairmount Park Reservoir	.00	30.00	.00
40	Fish Lake Reservoir	.00	60.00	.00
40	Fisher Reservoir	.00	10.00	.00

Division tabulation of storage - continued

<u>Water District</u>	<u>Name of Reservoir</u>	<u>Amt., A.F. 11-1-75</u>	<u>Amt., A.F. Start of Irr. Season</u>	<u>Amt., A.F. 10-31-76</u>
40	Forrest Res. (Finney)	.00	64.10	.00
40	Fruitgrowers Res.	612.50	4312.40	198.30
40	G & M Volk Fish Pond #1	5.90	5.90	5.90
40	Goodenough Reservoir (Kiser)	.00	150.00	5.00
40	Goodenough #2 Res. (Leroux)	.00	736.00	.00
40	Granby #6 Reservoir	.00	36.10	.00
40	Granby #7 Reservoir	7.00	60.00	10.60
40	Granby #8 Reservoir	17.00	17.00	.00
40	Granby #9 Reservoir	30.70	54.60	.00
40	Granby #11 Reservoir	279.00	775.00	152.40
40	Granby #12 Reservoir	358.30	641.90	213.40
40	Gray Reservoir	.00	423.00	.00
40	Green Mountain Dam Res.	.00	3.00	.00
40	Greenwood Res.	.00	66.00	.00
40	Gregg #1 Reservoir	.00	27.00	.00
40	Gregg #2 Reservoir	.00	5.00	.00
40	Hale Reservoir	.00	33.60	.00
40	Hanson #2 Reservoir	.00	210.00	.00
40	Holy Terror Res.	.00	179.00	.00
40	Hotel Lake Reservoir	315.80	544.50	291.00
40	Howard Lake Res.	38.50	70.60	.00
40	Island Lake Res.	654.10	1519.00	222.30
40	Kehmeier Res.	150.00	319.50	9.70
40	Kiser Slough Res.	113.30	512.00	76.80



Division tabulation of storage - continued

<u>Water District</u>	<u>Name of Reservoir</u>	<u>Amt., A.F. 11-1-75</u>	<u>Amt., A.F. Start of Irr. Season</u>	<u>Amt., A.F. 10-31-76</u>
40	Knox Reservoir	9.00	241.20	136.30
40	Kennicott Slough Res.	68.80	558.60	.00
40	Lake Brennand Res.	367.00	367.00	367.00
40	Leon Lake Res.	.00	1345.00	.00
40	Leon Park Res.	.00	141.90	.00
40	Lily Pad Res. (Youngs Cr)	.00	29.90	.00
40	Little Gem Res.	130.50	214.50	99.80
40	Little Giant #1 Res.	.00	18.80	.00
40	Little Giant #2 Res.	.00	5.90	.00
40	Little Grouse Res.	7.50	42.10	.00
40	Lone Cabin Res.	.00	.00	.00
40	Lucky Find Res.	.00	.00	.00
40	Marcott Park Res.	.00	447.00	.00
40	McKoon Res. (Blanchard)	73.00	140.00	.00
40	Military Park Res.	.00	236.60	.00
40	Miller Reservoir	.00	24.00	.00
40	Monument Reservoir	.00	500.00	.00
40	Morris #2 Reservoir	16.30	16.30	16.30
40	New Pond Reservoir	.00	2.30	.00
40	Meek Reservoir	.00	29.00	.00
40	Onion Valley Reservoir	1702.00	3984.00	.00
40	Overland #1 Reservoir	.00	4039.00	.00
40	Owens Reservoir	.00	92.00	.00
40	Paonia Reservoir	52.00	18468.00	4308.00

Division tabulation of storage - continued

<u>Water District</u>	<u>Name of Reservoir</u>	<u>Amt., A.F. 11-1-75</u>	<u>Amt., A.F. Start of Irr. Season</u>	<u>Amt., A.F. 10-31-76</u>
40	Park Reservoir	624.00	3383.40	845.90
40	Patterson #1 Reservoir	.00	79.00	.00
40	Patterson #2 Reservoir	.00	135.00	.00
40	P. C. & G #1 Res. (Muskrat)	.00	15.60	.00
40	Pedro Reservoir	109.20	194.90	61.00
40	Pine Reservoir	.00	.00	.00
40	Pine Cone Reservoir	.00	37.00	.00
40	Pitcarin Reservoir	.00	100.00	.00
40	Poison Spring Res.	80.00	120.00	60.00
40	Porter #1 Reservoir	98.90	201.00	148.00
40	Porter #4 Reservoir	28.00	38.00	38.00
40	Prebble Reservoir	76.60	194.00	69.40
40	Rex Reservoir	.00	24.00	.00
40	Reynolds Res. (Reynolds Cr)	.00	50.00	.00
40	Rim Rock Lake Res.	.00	107.00	.00
40	Rockland Reservoir	2.80	32.40	.00
40	Roeber #2 Reservoir	.00	.00	.00
40	Round Lake Reservoir	.00	.00	.00
40	Ryan Reservoir	.00	29.80	.00
40	Rockwell Reservoir	.00	50.00	.00
40	Sackett Reservoir	.00	108.00	2.60
40	Safety #1 & 2 Res.	.00	21.50	.00
40	Scotland Peak Res.	22.80	73.50	.00
40	Sheep Lake Res.	88.00	153.00	.00

Division tabulation of storage - continued

<u>Water District</u>	<u>Name of Reservoir</u>	<u>Amount, A.F. 11-1-75</u>	<u>Amt., A.F. Start of Irr. Season</u>	<u>Amt., A.F. 10-31-76</u>
40	Skim Milk Reservoir	.00	90.00	.00
40	Spatafore Res.	.00	80.00	.00
40	Stell Reservoir	.00	58.40	.00
40	Todd Reservoir	.00	Not Used	
40	Tomahawk Reservoir	53.40	80.00	.00
40	Trickle Reservoir	.00	31.60	.00
40	Trio Reservoir	72.80	127.60	81.30
40	Twin Lake Res. #1	.00	63.40	.00
40	Twin Lake Res. #2	.00	78.90	.00
40	Tyler Reservoir	37.00	127.00	.00
40	Upper Hotel Lake Res.	51.80	107.00	.00
40	Van Den Berg #1 Res.	5.60	5.60	5.60
40	Vela Reservoir	201.00	437.00	119.00
40	Ward Creek Reservoir	36.00	284.40	17.10
40	Wash Tub Reservoir	.00	25.00	.00
40	Water Bug Reservoir	.00	84.00	.00
40	Weir & Johnson #2 Res.	72.90	492.00	156.40
40	Weir Park Reservoir	.00	40.80	.00
40	West #1 Reservoir	37.00	300.00	.00
40	Williams Creek Reservoir	40.00	100.00	.00
40	Willows Reservoir	.00	120.00	.00
40	Womack #1 Reservoir	.00	186.00	.00
40	Womack #2 Reservoir	.00	156.20	.00
40	Womack #5 Reservoir	.00	22.90	.00

Division tabulation of storage - continued

<u>Water District</u>	<u>Name of Reservoir</u>	<u>Amt., A.F. 11-1-75</u>	<u>Amt., A.F. Start of Irr. Season</u>	<u>Amt., A.F. 10-31-76</u>
40	Young Creek Res. #1 & #2	145.50	549.00	70.40
40	Young Creek #3 Reservoir	91.20	200.00	13.50
40	Y & S Reservoir	61.20	189.00	48.80
41	Buckhorn Reservoir	29.00	205.00	29.00
41	Citizens Reservoir	118.00	120.00	118.00
41	Garnet Mesa (Sweitzer)	156.00	1,332.60	156.00
41	Wenger #1 Reservoir	0	48.00	0
42	Anderson #1 Res.	200.00	505.00	100.00
42	Bolen Reservoir	0	536.00	0
42	Bolen Anderson	0	293.00	0
42	Carson Reservoir	677.00	677.00	600.00
42	Chambers Reservoir	0	153.70	0
42	Deep Creek Reservoir #2	0	350.00	0
42	Flowing Park Reservoir	0	618.00	0
42	Grand Mesa #1 Res.	150.00	468.00	100.00
42	Grand Mesa #6 Res.	0	201.00	0
42	Grand Mesa #9 Res.	0	143.00	0
42	Hollenbeck #1 Res.	600.00	552.00	400.00
42	Hollenbeck #2 Res.	0	466.00	0
42	Juniata Reservoir	1,200.00	1,839.00	1,200.00

Division tabulation of storage - continued

<u>Water District</u>	<u>Name of Reservoir</u>	<u>Amount, A.F. 11-1-75</u>	<u>Amt., A.F. Start of Irr. Season</u>	<u>Amt., A.F. 10-31-76</u>
59	Spring Creek	1,700.00	1,700.00	1,700.00
59	Taylor Reservoir	57,590.00	91,410.00	64,830.00
59	Kapushion Res.	0	1.45	0
59	Cunningham Res.	80.00	80.00	80.00
59	Ferris Creek Res.	0	15.11	0
59	Rainbow Lake	350.00	350.00	350.00
59	Meridian Lake	571.85	693.00	480.00
60	Alexander Reservoir	0	0	0
60	Gurley Reservoir	510.00	9,302.00	0
60	Lilylands Reservoir	47.19	494.03	40.73
60	Lone Cone Reservoir	55.00	1,840.00	30.00
60	Miramonte Reservoir	7,699.00	7,699.00	7,237.00
60	Mosca Livestock Reservoir #2	0	10.00	0
60	Mosca Livestock Reservoir #3	0	4.00	0
60	Palmer Reservoir	0	8.00	0
60	Palmer Reservoir #2	0	6.00	0
60	Rice Reservoir #2	0	4.80	0
60	Sheats Reservoir #1-2-3	0	30.00	0
60	Paxton Reservoir	139.33	804.82	102.12
60	Trout Lake Reservoir	740.00	3,520.00	1,170.00
61	Buckeye Reservoir	900.00	1,900.00	500.00

Division tabulation of storage - continued

<u>Water District</u>	<u>Name of Reservoir</u>	<u>Amount, A.F. 11-1-75</u>	<u>Amt., A.F. Start of Irr. Season</u>	<u>Amt., A.F. 10-31-76</u>
62	Blue Mesa	656,961.00	743,362.00	605,820.00.
62	Morrow Point	114,871.00	115,570.00	115,350.00
62	Fish Creek #1	50.00	150.00	46.00
62	Fish Creek #2	225.00	522.00	185.00
62	Cerro Res.	675.00	675.00	675.00
62	Silverjack Res.	5,480.00	13,520.00	2,270.00
62	Lake San Cristobal	9,786.00	9,786.00	9,786.00
63	Big Creek Reservoir	100.00	400.00	50.00
63	Burg Reservoir	0	125.00	0
63	Casement Reservoir	50.00	185.00	50.00
63	Casto Res.	0	170.00	0
63	Craig Res.	0	full	0
68	Carrol Brown	.50	40.00	.50
68	Elephant Reservoir	4.00	25.00	4.00
68	Jacques Reservoir	1.00	45.00	1.00
68	Victor Reservoir	0	30.00	0
73	No Records	0	0	0

#### IV. AGRICULTURE

Because of the great variety of agricultural lands throughout the division almost every type of farming enterprise is found within the division. Various crops range from high mountain hay meadows and range land to maximum productive low valley truck farms. Over-all production for the entire division can be estimated at this date as average to above average. Several factors worked to produce a productive agricultural year. Division-wide water supply was adequate for most all farming activities. Reservoir storage levels were such that generally adequate reservoir supplemental water was available to all subscribed lands.

The Upper Gunnison hay producing lands along with the San Miguel basin hay lands all experienced average crop yields. Hay prices are as high as last year and a good demand is found throughout the division. Small grains, sugar beets, and corn grown along the lower Gunnison River and the Uncompahgre valley recorded above average yields. Prices paid for these commodities are much below previous high levels, and sugar beet farmers are struggling to stay even.

The fruit industries along the North Fork valley experienced some spring frost conditions, and average crop of peaches, pears, cherries, apricots, and apples were harvested. Hail was a problem in some locations. The fruit industry had a good market and good prices for

harvested products. Sheep production was about the same as last year with lambs still commanding good prices. Cattle production seems to be about the same as 1975, however, the cattle market still remains depressed. In some areas there are entire cattle herds being sold because of the inability of the cattle rancher to pay expenses, disregarding a profit for his business. Hog production is beginning to be more of an economic factor in Division 4. High pork prices has helped to increase hog production throughout the lower elevations of the division. Good farm land continues to be sold at a premium price with an annual inflation rate of approximately 10 percent.



Presented below is a brief resume by area:

<u>County</u>	<u>Average Growing Season, Days</u>	<u>Crop Production*</u> <u>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	80.0	21.4	109	46,000	33,000
Montrose	153	72.2	17.6	91	50,000	54,000
Mesa	188	81.6	21.7	115.0	81,000	47,000
Ouray	48	--	--	--	--	1,000
San Miguel	45	--	--	--	10,000	9,500
Gunnison	49	--	--	--	37,000	5,300
Hinsdale	45	--	--	--	4,000	1,000
Saguache	105	66.0	--	--	55,000	15,000

\*1975 Colorado Agriculture Statistics, Published July 1976; in bu./ac. or tons/ac.

\*\*Number of head, 1975

Several crop dollar value for 1975 are as follows:

<u>County</u>	<u>Corn, Grain &amp; Silage</u>	<u>Hay</u>	<u>Sugar Beets</u>	<u>Barley</u>	<u>All other Crops</u>
Delta	2,021,000	3,743,000	1,562,000	1,187,500	4,894,600
Montrose	2,277,000	3,202,600	2,830,000	1,910,000	1,323,000
Mesa	3,804,000	3,367,500	3,270,000	1,162,000	3,159,800
Ouray	--	922,000	--	--	1,400
San Miguel	--	516,300	--	--	--
Gunnison	--	2,295,000	--	--	--
Hinsdale	--	33,000	--	--	--
Saguache	--	2,267,000	--	3,142,000	2,887,700

The above production data has been extracted from the 1976 Colorado Agriculture Statistics - Colorado Department of Agriculture

## V. COMPACTS AND COURT STIPULATIONS

The Colorado River Compact of 1922, and the Upper Colorado River Basin Compact of 1948 apply to all waters in Division Four. The lower basin states can put a call on any series of water short years based on the long term average flow at Lee Ferry. This year there was no occasion that involved administration of water in Division 4 relating to these compacts.

## VI. DAMS

Many of those reservoirs that have been problems in past irrigation seasons continue to be issues of concern this year.

1. Beaver Reservoir in Water District 40, on the East Fork of Minnesota Creek, continues to be a source of attention, additional repair work was accomplished during the fall of 1975 and this work seems to have greatly limited amount of leakage. The Reservoir Company has secured the services of Mr. Raymond Schuster, Colorado Registered Professional Engineer, and under his supervision regular irrigation inspections were made in the 1976 storage season. A maximum storage level of G. H. 78 feet was reached for a short time in the spring of 1976.

Dams - continued

2. The Gurley Reservoir in Water District 60 was involved in a continual maintenance and repair program. The erosion in the concrete sections of the outlet structure and the maintenance and repair program for this portion of the structure has now been completed and was carried out under the supervision of a registered Colorado engineer.
3. Porter No. 1 Reservoir in Water District 40 has had the necessary repair work completed and the storage restriction has been removed.
4. Restriction on Granby No. 12 Reservoir in Water District 40 has been made to 7 feet below the lowest point in the crest of the dam.
5. Restriction on Miramonte Reservoir in Water District 60 was made and the Division of Wildlife is making preparation to meet this restriction.

Of the over several hundred reservoirs and dams in Division 4, most are inspected and regulated by field personnel many times during the 1976 season. These men have been alert to possible trouble spots and constant communication between the division office and field personnel keeps the division office informed of the conditions of most reservoirs within the division.

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	11-15-76	10' below lowest point of the crest of dam; most repair has been completed; restriction not lifted to date.
Lone Cabin	40	8-9-72	5' below lowest embankment.
Waterbug	40	"	5' below embankment. Repairs made no notice of restriction being lifted.
Beaver	40	Verbal, fall '73	Not over 75' on gage in filled season; may fill late.
Full Moon	68	8-24-72 7-24-75	5' below dam crest; Breach dam from crest to toe.
Hidden Treasure	62	Verball, fall '73	Enlarge channel opening at base of dam.
Granby No. 12	40	10-25-76	7' below lowest point on crest of dam.

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Livestock Water Tanks - Permits Issued 1976:

<u>Name</u>	<u>Stream</u>	<u>Height</u>	<u>Cap., A.F.</u>	<u>Permit No.</u>
Donald Meinhart No. 1	SE17-13S-103W	14	0.046	14923
Don Meinhart No. 2	SE8-13S-103W	14	0.04	14922

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Inspections were made of several livestock water tanks during the 1976 season. There were no problems of any magnitude concerning stock water tanks for this season.

VII. WATER RIGHTS

A. Tabulation

Water commissioner personnel were involved to a limited degree in the updating and correcting of errors in the Water Rights Tabulation. Errors are still being identified and corrections are made as time becomes available.

B. Referee Findings and Decrees

<u>Type of Application</u>	<u>No. Received Nov-Dec '75 (Jan-Oct '76)</u>
Underground Water Rights	14
Change of Water Rights	30
Plan for Augmentation	0
Water Rights (Surface)	137
Diligence (Conditional)	122
To Make Absolute	1
Water Storage Rights	13
Applications Received in Water Court	317
Number of Referee Consultants	317

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W-2372 was the State Engineer's case to postpone the adjudication of the October, 1974, tabulation. The General Assembly of 1975 made various revisions to the tabulation laws and Division 4 is proceeding with the corrections and updating of the tabulation in order to meet the new time table directed by the legislature. All "W" cases have been listed and key punched to early spring, 1976. These punched cards have been forwarded to the Denver office and we are now awaiting an update of the combined tabulation.

## VIII. ORGANIZATION

### A. Water Conservation and Conservancy Districts:

Upper Gunnison River Water Conservancy District, % Rial Lake,  
Chairman, Gunnison, Colorado 81230.

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

Crawford Water Conservancy District, Danny Shuss, Manager,  
Crawford, Colorado 81415.

Southwest Colorado Water Conservancy District, % Bob Tyner,  
La Plata County Court House, Durango, Colorado 81301.

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

Grand Mesa Water Conservancy District, % Bud Burgess,  
Cedaredge, Colorado 81413.

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

Fruitland Mesa Water Conservancy District, % Carton Meek,  
President, Maher, Colorado 81421.

Colorado River Water Conservation District, % Roland 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 Co., % Barbara Hood, Sec., Cedaredge, Colo. 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, Colo. 81230.

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

W. D. 40

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

Lone Pine Ditch Co., % Emil Cozzetto, Sec., Cedaredge,  
Colorado 81413.

Leroux Creek Water Users Association, % Raymond White, Sec.,  
Hotchkiss, Colorado 81419.

Bone Mesa Domestic Water Co., % Fred Vernard, Paonia, Colo.  
81428.

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

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

Orchard City Irr. District, % Wesley England, Sec., Austin,  
Colorado 81410.

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

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

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

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

Hartland Canal Co., % Kenneth Johnson, Delta, Colo. 81416.  
Relief Ditch Co., % Gess Ensley, Delta, Colorado 81416.  
Fire Mountain Canal Co., % Mrs. Ora N. Housewert, Secretary,  
Hotchkiss, Colorado 81419.  
Grand View Canal Irr. Co., % Don Reid, President, Crawford,  
Colorado 81415.  
Overland Ditch Co, % Ed Henderson, Pres., Hotchkiss, Colo.  
81419.  
Childs Ditch Co., % Willard N. Bull, Pres., Cedaredge,  
Colorado 81413.  
Crawford Clipper Ditch Co., % Henry Hamilton, Secretary,  
Crawford, Colorado 81415.  
Coalby Domestic Pipeline, Archie Peterson, President,  
Cedaredge, Colorado 81413.  
Fruitland Irr. Co., % R. C. Steckel, Sec., Crawford, Co. 81415.

W. D. 41

Uncompahgre Valley Water Users Association, % Harold  
Anderson, Manager, Montrose, Colorado 81401.  
Chipeta Water Co., % Jim Roberts, Mgr., Montrose, Colorado  
81401.  
Menoken Water Co., % Ray Weaver, Pres., Montrose, Co. 81401.

W. D. 42

Relands Water & Power Co., % Jim Rankin, Secretary, 768  
North Avenue, Grand Junction, Colorado 81501.  
Grand Mesa. Res. Co., % John Whiting, Pres., Whitewater,  
Colorado 81527.



Kannah Creek Water Users Association, % W. D. Bradbury,  
President, Whitewater, Colorado 81527.

W. D. 60

Lilylands Canal & Res. Co., % Marshall Hughes, President,  
Norwood, Colorado 81423.

Farmers Water Development Co., % Roy Davis, President,  
Norwood, Colorado 81423.

Lone Cone Ditch & Res. Co., % Gordon Palmer, Secretary-  
Treasurer, Norwood, Colorado 81423.

Colorado Cooperative Ditch Co., % Roy Knickerbocker, Sec.,  
Nucla, Colorado 81424.

W. D. 61

Paradox Valley Canal & Res. Co., % Wyvonna Irish, Secretary,  
Paradox, Colorado 81429.

Ray Ditch Co., % Kermit Redd, President, Paradox, Colorado  
81429.

W. D. 62

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

W. D. 68

Alkali No. 1 Ditch Co., Inc., % Earl Wick, President,  
Ridgway, Colorado 81432.

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

IX. WATER COMMISSIONER'S SUMMARY - 1976

Division 4

Direct flow diversions (A.F.).....	1,963,120
Reservoir storage (A.F.).....	1,000,546
Amount delivered from storage.....	207,541
Acres irrigated.....	414,666
Number of ditches.....	2,971
Standard administration.....	1,906
Semi-standard administration.....	456
Number of daily ditch reports.....	44,691
Number of reservoirs served.....	509
Power diversions (A.F.).....	2,172,710

District 28

Direct flow diversions (A.F.).....	208,032
Reservoir storage (A.F.).....	3,128
Amount delivered from storage.....	1,583
Acres irrigated.....	34,672
Number of ditches.....	190
Standard administration.....	168
Semi-standard administration.....	22
Number of daily ditch reports.....	1,593
Number of reservoirs served.....	6
Average demand (flow & reservoir)AF/AC	6.04
Power diversions.....	0

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

District 40

Direct flow diversions (A.F.).....	387,926
Reservoir storage (A.F.).....	80,156
Amount delivered from storage.....	72,477
Acres irrigated.....	144,373
Number of ditches.....	1,039
Standard administration.....	754
Semi-standard administration.....	285
Number of daily ditch reports.....	2,900
Number of reservoirs served.....	162
Average demand (flow & reservoir)AF/AC	3.19
Power diversions (A.F.).....	0

District 41

*Direct flow diversions (A.F.).....	538,913
Reservoir storage (A.F.).....	2,940
Amount delivered from storage.....	1,108
Acres irrigated.....	92,757
Number of ditches.....	163
Standard administration.....	80
Semi-standard administration.....	83
Number of daily ditch reports.....	1,702
Number of reservoirs served.....	7
Average demand (flow & reservoir)AF/AC	5.82
Power diversions (A.F.).....	7,588

\*Includes 385,150 A.F. 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.).....	30,585
Reservoir storage (A.F.).....	9,187
Amount delivered from storage.....	8,350
Acres irrigated.....	9,417
Number of ditches.....	98
Standard administration.....	24
Semi-standard administration.....	74
Number of daily ditch reports.....	495
Number of reservoirs served.....	30
Average demand (flow & reservoirs)AF/AC	4.13
Power diversions (A.F.).....	487,000

District 59

Direct flow diversions (A.F.).....	300,607
Reservoir storage (A.F.).....	106,989
*Amount delivered from storage.....	26,469
Acres irrigated.....	35,220
Number of ditches.....	345
Standard administration.....	144
Semi-standard administration.....	201
Number of daily ditch reports.....	2,556
Number of reservoirs served.....	7
Average demand (flow & reservoirs)AF/AC	9.28
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 60

Direct flow diversions (A.F.).....	149,803
Reservoir storage (A.F.).....	23,721
Amount delivered from storage.....	15,372
Acres irrigated.....	28,679
Number of ditches.....	339
Standard administration.....	252
Semi-standard administration.....	87
Number of daily ditch reports.....	2,584
Number of reservoirs served.....	76
Average demand (flow & reservoir)AF/AC	5.76
Power diversions (A.F.).....	10,090

District 61

Direct flow diversions (A.F.).....	14,850
Reservoir storage (A.F.).....	1,900
Amount delivered from storage.....	1,250
Acres irrigated.....	2,900
Number of ditches.....	44
Standard administration.....	44
Semi-standard administration.....	0
Number of daily ditch reports.....	2,550
Number of reservoirs served.....	1
Average demand (flow & reservoir)AF/AC	5.55
Power diversions (A.F.).....	0

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

District 62

Direct flow diversions (A.F.).....	110,304
Reservoir storage (A.F.).....	771,270
*Amount delivered from storage.....	105,925
Acres irrigated.....	36,422
Number of ditches.....	342
Standard administration.....	259
Semi-standard administration.....	83
Number of daily ditch reports.....	1,745
Number of reservoirs served.....	23
**Average demand (flow & reservoir)AF/AC	4.26
Power diversions (A.F.).....	1,642,790

\*Less exported water.  
\*\*Includes 100,000 A.F. from Taylor Reservoir.

District 63

Direct flow diversions (A.F.).....	9,596
Reservoir storage (A.F.).....	1,080
Amount delivered from storage.....	1,080
Acres irrigated.....	2,035
Number of ditches.....	93
Standard administration.....	31
Semi-standard administration.....	62
Number of daily ditch reports.....	504
Number of reservoirs served.....	0
Average demand (flow & reservoir)...	5.25
Power diversions (A.F.).....	0

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

District 68

Direct flow diversions (A.F.).....	109,697
Reservoir storage (A.F.).....	175
Amount delivered from storage.....	175
Acres irrigated.....	24,779
Number of ditches.....	285
Standard administration.....	136
Semi-standard administration.....	149
Number of daily ditch reports.....	1,622
Number of reservoirs served.....	4
Average demand (flow & reservoir)AF/AC	4.43
Power diversions (A.F.).....	0

District 73

Direct flow diversions (A.F.).....	6,802
Reservoir storage (A.F.).....	0
Amount delivered from storage.....	0
Acres irrigated.....	3,392
Number of ditches.....	48
Standard administration.....	24
Semi-standard administration.....	24
Number of daily ditch reports.....	340
Number of reservoirs served.....	2
Average demand (flow & reservoir)AF/AC	2.00
Power diversions (A.F.).....	0

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

TABLE A

DIVISION SUMMARY - DIVISION NO. 4

Direct Flow Diversions

1976

Water District	Total Ditches Reported		Irrigation Diversions Ac. Ft.	No. of Acres Irrigated	Ac. Ft. Per Acre	Industrial, Fish Use Diversions Ac. Ft.	Dom. & Mun. Use Diversions A.F.	Recreation Use Diversions A.F.	Trans-Mtn. Diversions A. F.	Total Diversions A. F.	No. of Daily Ditch Rpts	Delivered to Compact Cmtmt. A.F.
	Active	Inactive										
28	168		208,032	34,672	6.20	882	1,459	2,572	0	212,945	1,593	0
40	754	30	387,926	144,373	2.69	11,151	20,171	0	2,040	421,288	29,000	0
41	80	2	538,913	92,757	5.81	7,588	383	1,750	0	549,634	1,702	0
42	24	3	30,585	9,417	3.25	487,000	5,777	0	0	523,362	495	0
59	144	27	300,607	35,220	8.54	780	1,151	0	0	302,538	2,556	0
60	252	29	149,803	28,679	5.22	35,332	8,762	29,847	0	223,744	2,584	0
61	44	0	14,850	2,900	5.12	0	0	1,900	0	16,750	2,550	0
62	259	2	110,304	36,442	3.02	1,642,790	1,279	0	2,440	1,756,813	1,745	0
63	31	0	9,596	2,035	4.72	0	0	0	0	9,596	504	0
68	136	3	109,697	24,779	4.43	1,022	823	42	464	112,048	1,622	0
73	14	0	6,802	3,392	2.00	0	310	0	0	7,112	340	0
Total	1916	94	1,867,115	414,666	4.50	2,186,545	40,115	36,111	4,944	4,135,830	44,691	0



TABLE B

## DIVISION SUMMARY - DIVISION NO. 4

## Storage Report - Acre Feet

1976

Water Dist- rict	Amount in Storage Acre Feet			Actual Amt. 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
	11-1-75	6-1-76	10-31-76						
28	2,464	3,128	2,770	664	1,583	0	0	3,150	0
40	22,860	80,156	13,161	57,295	72,477	0	1,973	80,156	33,262
41	1,989	2,940	1,832	1,108	881	0	383	2,988	0
42	2,827	9,187	837	6,360	8,350	0	5,626	9,187	0
59	58,788	106,989	80,520	48,201	26,469	0	0	108,689	26,469
60	8,451	23,721	8,579	15,372	15,142	10,090	16,230	22,819	12,367
61	900	1,900	650	1,000	1,250	0	0	1,900	0
62	787,994	771,270	554,078	76,386	105,925	1,642,790	2,003	770,220	76,386
63	100	1,080	0	980	1,080	0	0	400	0
68	155	175	50	175	120	0	20	20	0
73	0	0	0	0	0	0	0	0	0
TOTAL	886,528	1,000,546	662,477	207,541	233,277	1,652,880	26,235	999,529	148,484

WORKLOAD AND STATISTICAL INDICATORS

- Statistics -

<u>Description</u>	<u>1975-76</u>
Acre Feet Water Used	4,343,371
Acre Feet Diverted for Agricultural Use	1,867,115
Acre Feet Diverted for Industrial Use	2,186,545
Acre Feet Diverted for Recreational Use	36,111
Acre Feet Diverted for Urban Use (Municipal)	50,474
Acre Feet Delivered to Compact Commitment	--
Acre Feet Water Stored (Maximum)	1,000,546
Acre Feet Water Trans-basin Diversion	4,944
Acres Irrigated	414,666
Ditches, Wells & Reservoirs Administered (No Wells)	3,471
Daily Ditch Reports	44,691
Acre Feet Water Delivered from Storage	227,651

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UNCOMPAHGRE PROJECT  
1976 Report

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 the Ironton Park snow course was 114 per cent of normal on May 1, 1976.

Water shortage was experienced early in the season with little runoff until the middle of May. July and August were mostly 60 and 70 per cent delivery.

The Taylor Reservoir failed to fill, reaching an elevation of 9,322.50 and storage of 91,410 acre feet on June 29, 1976.

Due to the early shortage of water and low June flows, the annual summer inspection of the Gunnison Tunnel was cancelled.

The only serious operating difficulties were caused by land slides on the West Canal and M&D Canal. The West Canal was cut to approximately half flow on May 20 due to a slide at milepost 3.32 above the tunnel to Duckett Draw. The flow was brought back up to normal on May 25. A land slide started moving on the M&D Canal near milepost 4.30 on May 10. The flow in the canal was maintained; however, a large yardage of earth was hauled to the lower bank and large drains installed to bring the slide under control.

The Gunnison Tunnel R&B Program continued during the non-irrigation season. The tunnel sections, needing complete lining were finished. A total of 44 steel sets were installed and 180 feet of new concrete lining placed. New invert was placed between Station 176 & 50 to Station 183 & 15. Work started on November 3, 1975, and finished on March 1, 1976. A total of \$1,833,207 has been spent on the Gunnison Tunnel Program through September 30, 1976.

Rehabilitation of major structures included twelve reinforced concrete drop structures and a new diversion dam and sluice gate at the Loutsenhizer Canal headworks.



**STREAMFLOW FORECASTS (1000 Ac. Ft.) April—September**

FORECAST POINT	FORECAST	% of Average	Average *
Gunnison River inflow to Blue Mesa Reservoir (1)	840	106	793
Gunnison River near Grand Junction (2)	1250	106	1184
North Fork of Gunnison (3)	280	106	263
Surface Creek near Cedaredge	16	100	16
Uncompahgre River at Colona	150	112	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
Ohio Creek	Avg.	Avg.
Slate River	Avg.	Avg.
Taylor River	Avg.	Avg.
Tomichi Creek	Avg.	Avg.

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

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average *
Blue Mesa	830	431	260	308
Morrow Point	121	116	114	115
Taylor	106	57	50	62

**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	55	93
Surface Creek	3	75	107
Uncompahgre	3	51	105

\* 1958-1972 period.

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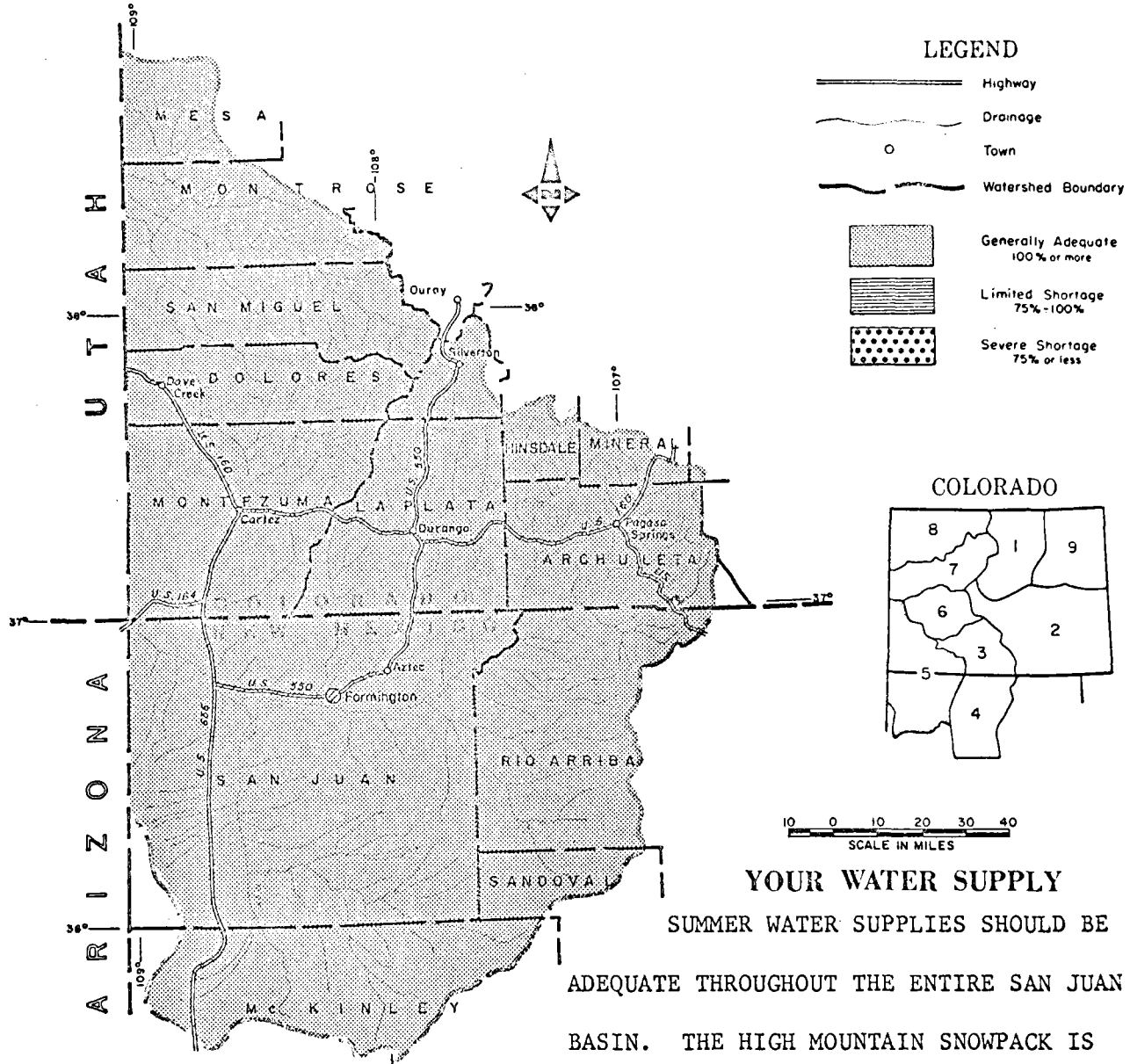


**FIRST CLASS MAIL**

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

as of  
MAY 1, 1976

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE  
STATE ENGINEERS OF COLORADO AND NEW MEXICO



**YOUR WATER SUPPLY**  
SUMMER WATER SUPPLIES SHOULD BE  
ADEQUATE THROUGHOUT THE ENTIRE SAN JUAN  
BASIN. THE HIGH MOUNTAIN SNOWPACK IS

MUCH ABOVE NORMAL. CARRYOVER STORAGE IS BETTER THAN USUAL. SOIL MOISTURE CONDITIONS IN THE IRRIGATED AREAS IS REPORTED AS ONLY FAIR. FORECASTS ARE BASED ON NORMAL CLIMATIC CONDITIONS FOR THE REMAINDER OF THE YEAR.

*This report prepared by*  
JACK N. WASHICKE—BERNARD A. SHAFER  
SNOW SURVEY UNIT, SOIL CONSERVATION SERVICE  
DENVER, COLORADO

*Issued by*  
M. D. BURDICK—STATE CONSERVATIONIST  
DENVER, COLORADO  
A. W. HAMELSTROM—STATE CONSERVATIONIST  
ALBUQUERQUE, NEW MEXICO  
U.S. DEPARTMENT OF AGRICULTURE—SOIL CONSERVATION SERVICE  
D. W. GILLASPIE—AREA CONSERVATIONIST  
ALAMOSA, COLORADO  
JAMES E. TATUM—AREA CONSERVATIONIST  
SANTA FE, NEW MEXICO

STREAMFLOW FORECASTS (1000 Ac. Ft.) April—September

FORECAST POINT	FORECAST	% of Average	Average *
Animas River at Durango	450	106	423
Dolores River at Dolores	240	103	232
La Plata River at Hesperus	24	100	24
Los Pinos River at Bayfield (1)	205	104	198
Mancos River near Towac	16	114	14
Inflow to Navajo River (1 & 2)	680	114	597
Piedra Creek at Arboles	210	114	185
San Juan River at Carracas	400	113	354
San Miguel River at Placerville	140	108	130

(1) Observed flow plus change in storage in Vallecito Reservoir. (2) April—July

**WATER SUPPLY OUTLOOK** Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow Period	
	Spring Season	Late Season
Florida River	Exc.	Avg.
Hermosa Creek	Exc.	Avg.
West Dolores River	Exc.	Avg.
Williams Creek	Exc.	Avg.

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

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average*
Groundhog	22	12	9	12
Jackson Gulch	10	8	7	7
Lemon	40	25	8	25
Navajo	1696	1120	1054	944*
Vallecito	126	74	29	68

\*Less than 15 yrs.

**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 *
Animas	6	49	102
Dolores	4	28	80
San Juan	4	70	127

\* 1958-1972 period.

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TABLE OF ORGANIZATION - PERSONNEL

IRRIGATION DIVISION NO. 4

Division Engineer - Ralph V. Kelling, Jr.  
 Assistant Division Engineer - Thomas A. Ke...  
 Secretary I-A - Melita Maten  
 Clerical Assistant B - Audrey M. Keep  
 Hydrographer - Ed Blank \*\*\*

Water District 28  
 Water Commissioner B  
 C. Crandall Howard

Water District 41  
 Water Commissioner B  
 Ralph Glendening\*

Water District 59  
 Water Commissioner B  
 Edwin S. Hofmann\*

Water District 40  
 Sr. Water Commissioner  
 Richard L. Drexel\*  
 Water Commissioner C  
 Elton J. Watson\*

Water District 42  
 Sr. Water Commissioner  
 W. W. Saunders\* (\*\*)

Water District 60  
 Water Commissioner  
 Lyman D. Campbell

Water Commissioner A  
 Richard Beiden  
 Russell Bertram (a)  
 Willard Bull  
 Lyman Campbell  
 James E. Carr  
 Lloyd Connell  
 Mack Gorrod  
 John McHugh  
 James Miller  
 Marvin Stephens  
 Paul Stockemer  
 Stephen Tuck  
 Wayne Wiseman ("S" - 6 mos. appt.)  
 Charley Woolley  
 David Woolley

Water Commissioner A  
 Jack Raine  
 Lester Whiting

Water District 61  
 Sr. Water  
 W. W. :

Water Commissioner A  
 Robert Drexel



AREAS OF RESPONSIBILITY OF WATER COMMISSIONERS

IRRIGATION DIVISION NO. 4

Well Commissioner

Dwayne Mansker - Division Wide

Water District 28

C. Crandall Howard - Tomichi & Coche-  
(WCB) topa Creek

Water District 40

Richard Drexel - Crystal Creek; the  
(SRWC) Gunnison River from  
Mesa County line to  
Montrose County line  
& its tributaries  
except the Uncom-  
pahgre River

Elton Watson - North Fork of the  
(WCC) Gunnison River and  
Smith Fork

Water Commissioners A:

Richard Belden - Gunnison River &  
Escalante Creek

\*Russell Bertram - Granby & Battle-  
ment Reservoirs

Willard Bull - Upper Surface Creek

James Carr - Leroux Creek

Lloyd Connell - Minnesota Creek &  
Stewart Mesa

Mack Gorrod - Ward, Kiser, & Youngs  
(WCB) Creek Reservoirs

Jack McHugh - Youngs, Kiser, & Ward  
Creeks

James Miller - Muddy, Anthracite,  
& Hubbard Creeks

Marvin Stephens - Leon Reservoirs

Paul Stockemer - Dry Creek & Alfalfa  
Run

Stephen Tuck - Forked Tongue

\*\*Wayne Wiseman - Granby & Battle-  
("S" status) ment Reservoirs

Charley Woolley - Lower Surface Creek

David Woolley - Park Basin

Water District 41

Ralph Glendenning - Uncompahgre River  
from Colona to  
Delta

Water District 42

W. W. Saunders - Gunnison River below  
(SRWC) Mesa County line &  
its tributaries

Lester Whiting (WCA) - same area

Water District 59

E. S. Hofmann - Gunnison River above  
(WCB) Gunnison & tributaries  
on north side of the  
Gunnison River from  
Gunnison to Mesa Creek

Robert Drexel (WCA) - same area

Water District 60

Lyman Campbell (WCB) - San Miguel River

Water District 61

Clinton Oliver - Dolores River below  
(WCB) the San Miguel County  
line to confluence  
with San Miguel River  
(Paradox Valley)

Water District 62

E. S. Hofmann - Cimarron River, Lake  
(WCB) Fork of Gunnison &  
Cebolla Creek

Water District 63

W. W. Saunders (SRWC) - Dolores River  
below confluence  
of San Miguel R.

Water District 68

H. Roger Noble - Uncompahgre River  
(WCB) above Colona

Water District 73

W. W. Saunders (SRWC) Little Dolores River

Jack Raine (WCA) - same area

Water District 74

W. W. Saunders (SRWC) - Coates Creek

\*Disability retirement pending  
\*\*Possible replacement/Bertram

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>
<u>1974</u>												
Precip. (In.)	2.64	0.62	0.34	0.83	0.00	0.38	0.84	1.34	0.39	0.48	0.26	0.85
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	25.10
Avg. Min. Temp.	5.60	-15.30	14.90	22.90	32.30	40.50	48.10	42.60	36.80	32.20	18.00	0.70
Total Ann. Precip.	8.12 In.											
Total Ann. Dischg.	918,630 A.F.											

6 months precipitation sub total 4.81

<u>1975</u>												
Precip. (In.)	1.22	0.60	1.15	0.37	0.56	0.08	1.64	0.64	0.18	0.33	1.64	0.49
Avg. Max. Temp.	20.60	25.40	37.10	47.90	64.10	74.40	82.60	81.20	73.90	0.65	44.20	19.00
Avg. Min. Temp.	-5.90	-4.30	13.80	20.00	30.90	37.10	46.20	40.20	36.80	0.25	15.00	-1.00
Total Ann. Precip.	8.41 In.											
Total Ann. Dischg.	846,900 A.F.											

6 months precipitation sub total 3.98

<u>1976</u>												
Precip. (In.)	0.49	0.79	0.97	0.30	0.35	0.50	1.15	1.49	0.48	0.09	0.17	
Avg. Max. Temp.	19.00	17.00	27.00	36.00	57.00	77.00	86.00	80.00	74.00	60.00	46.00	
Avg. Min. Temp.	-1.00	-8.00	3.00	9.00	25.00	41.00	48.00	45.00	39.00	24.00	12.00	
Total Ann. Precip.	6.06 In.											
Total Ann. Dischg.	805,400 A.F.											

HIGH POINTS OF 1976 WATER YEAR - (Possibly some of newer personnel may not be fully aware of the function of a Div. Office; short description of Div.4 follows:)

1. WATER SUPPLY AND DISTRIBUTION: a very dry fall in 1975 with lack of snow-pack at low elevations and few seasonal rains made a short water year, however supplies stretched out over the season to alleviate the problem. (Our experience this year is that water can be stretched !) Precipitation was 2" below average at Grand Junction - 5"<sup>±</sup>.
  - A. Problems of administration - most severe for field personnel, while the Div. office has an exceptionally good year with few problems, excepting normal arguments, confrontations, etc. Public relations played a major role in management.
  - B. A very good year in general for crops, fruit, and livestock, but farmers and stockmen were hurt by a depressed economy. Irrig. thru Nov. hurt dom. & stock decrees.
11. OFFICE OPERATIONS: Work-load is continually increasing with significantly more time being required to explain water rights and administration to the public.
  - A. Division Office - public inquiries, paper involvement, and budget all increasing.
    1. Assistance to the Water Court and individuals regarding all applications.
    2. General correspondence, including legal questions - (we practice law).
  - B. Cedaredge Field Office - same as above, only moreso, and compounded by many, many, inquiries, hassles, etc., all of which take time from normal admst. duties, superv. Mileage still is 12¢, not realistic.
111. FIELD OPERATIONS: More records overall, with progressive improvement of knowledge of ditches, decrees, law; close communication and supervision; working with excellent men; 4 cabins on Grand Mesa used all season, spillways in this area shoveled each spring; records and administration do not involve many small decrees -(owners reports).
  - A. On-the-job training of field and office personnel - a continuing program.

CHANGES IN DIVISION 4 IN LAST 12 YEARS ( during Kellings employment ):

1. Basic job which is field work, remains the same, but with greatly enlarged duties and responsibilities for field personnel - (record keeping, editing, print-outs corrections, reports, inspections, communications, hearings, research of testimony, ownership, Court cases, etc., all expanding.
2. New offices - remodeled at Montrose, established at Cedaredge.
3. Personnel - 80% turnover of water commissioners; 4 new office positions; pay, part-time status, quality of personnel a continuing problem. Paradox Dep. W.C. replacement an interesting hassle- includes a 1-1/2" thick correspondence file (incl. poison pen letters), with copies to the Gov. and a State Sen. Thanks to the boss for personal interviews and support of our choice when we needed it.
4. Records - more overall, with better knowledge of diversions, problem areas, ground water, geology, etc.
  - A. Curecanti Unit reservoirs built; Dallas Project initiated.

5. 1969 Water Law -

Integration of wells - no impact in Division 4

Tabulation - appears to be an inventory by priority only, not a management tool.

New applications - open-ended opportunity to appropriate water claimed by others. (i.e., recent application to change point of diversion and use of 10 cfs from Gunnison Valley to Grand Junction - 150 miles); 2,900 applications to date; compounded by ownership, change of use problems, etc.

Referee consultation reports - vague as to form, etc.

Administration - in many cases is futile and/or counter-productive

MENTION CHANGES IN WATER LAW WHICH APPEAR DESIRABLE.

1. MORATORIUM on granting new water rights; available supply is heavily over-appropriated with few exceptions. (Nature making more people but not more water.)

2. OWNERSHIP DECLARATIONS: correct problems thereof, est. @ 5% of total.

3. TIME to assimilate existing problems regarding water rights - such as decree errors, ownership problems, locations, administration, change of use and transference etc.

(Glen Rogers knows some of our dilemma in this regard)

Suggest other desirable changes:

1. Communication - a continuing problem

1. Wells - i.e., Carns/Morehouse 3 years, Gobbo, etc.

2. Dams - storage restrictions

Inspections - include owners and Div. personnel

3. General administration complaints -

McIntyre/Overland - 25 years

Morehouse/Luster

Simineo/Paonia

2. Mileage - is not reasonable; request management support of justifiable increase.

TUNR REPORT OVER TO Tom Kelly (who actually prepared it) for additional remarks.

RVK:ak

3 File copies

Tom ✓