

RICHARD D. LAMM
Governor



C. J. KUIPER
State Engineer

DIVISION OF WATER RESOURCES

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January 10, 1979

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

Dear Mr. Kuiper:

Attached herewith is our Annual Report for the period
November 1, 1977 through October 31, 1978.

Very truly yours,

Daries C. Lile
Division Engineer

DCL:alf

CONTENTS

	<u>PAGE</u>
I. INTRODUCTORY STATEMENT	1
II. PERSONNEL	2
III. WATER SUPPLY	
A. SNOW PACK	3
B. PRECIPITATION	3
B-1 COMPARATIVE STREAM FLOW DATA	4
C. FLOODS	3
D. WATER BUDGET	7
E. UNDERGROUND WATER	8
F. TRANSMOUNTAIN DIVERSIONS	8
G. RESERVOIR STORAGE	9
IV. AGRICULTURE	12
V. COMPACTS AND COURT STIPULATIONS	
A. GENERAL	12
B. SAN JUAN-CHAMA DIVERSION PROJECT	13
C. LA PLATA RIVER COMPACT	13
C-1 LA PLATA RIVER COMPACT MONTHLY SUMMARY	14
VI. A. DAMS	13
B. LIVESTOCK WATER TANKS	13
VII. WATER RIGHTS	
A. TABULATIONS	15
B. REFEREE'S FINDINGS AND DECREES	15
VIII. ORGANIZATIONS	
A. WATER CONSERVATION AND CONSERVANCY DISTRICTS	15
B. INCORPORATED DITCH COMPANIES	16
IX. WATER COMMISSIONERS' SUMMARIES	17
X. DIVISION ENGINEER'S SUMMARIES BY DISTRICTS	
A. DIRECT FLOW DIVERSIONS	28
B. STORAGE REPORT, ACRE FEET	29
C. WORKLOAD AND STATISTICAL INDICATORS	30
D. DIVISION VII ANNUAL SUMMARY	31
XI. DIVISION ENGINEER'S RECOMMENDATIONS AND SUGGESTIONS	32

I. INTRODUCTORY STATEMENT

Irrigation Division 7 is located in the southwest corner of Colorado. The drainage basins include the San Juan and the Dolores Rivers which are both tributaries of the Colorado River system. The geography consists of high mountain ranges, mesas, and valleys. The mountain areas are used for mining, grazing, timber production, and recreational purposes. The mesas and valleys support a large agriculture economy with both irrigated and dry land farming being practiced.

The basin also has potential for becoming one of the state's most energy productive areas. The Mesa Verde formation contains large deposits of coal which is easily available for both open pit and underground mining. The major problems associated with mining, however, include the transportation of the coal to power plants and the availability of water for the location of the power plants near the coal deposits. Until these problems are solved, only limited coal production will be possible.

Presently, there is an increase of subdivisions in the basin. The cost of housing is very high, which in turn, provides an incentive for additional developments of subdivisions. In some instances prime agricultural irrigated lands are being broken up into small ranchett type subdivisions, and timbered and wooded lands are being developed for housing. There seem to be numerous new subdivisions being applied for and this process does require assurances that adequate water be available before lots can be platted or sold. This creates some problems for the Division staff since often the most desirable lands for development do not have water legally or physically available. To solve these problems requires a proceeding through the water court, and often extensive water delivery systems.

The Division does have three operating Bureau of Reclamation projects. In two of these - Pine River Irrigation District and the Jackson Reservoir system - there were provisions for domestic water. However, the Florida River project or Lemon Reservoir system did not allow for domestic water to be supplied. Consequently, senior irrigation water is being transferred for domestic purposes.

There is an additional Bureau project in the planning stage which is the Animas-La Plata Project. This project has been given \$600,000 for planning this fiscal year. To date the draft of the definite plan report is completed, and draft of the Environmental Impact Statement report is nearly finished. The project has been modified to improve the cost benefit ratio and it is hoped that it will receive funding for a construction start by Congress this year.

The Dolores Project is out of the planning phase and into construction status. A contract has been completed for access road construction. In addition, bids are being let for earth work on the dike and further road development. Plans are also being completed for the construction of an office facility to house the Bureau personnel during the construction process. When this project is completed there will be water available for supplemental use, new lands under irrigation, and additional domestic supplies in the Cortez and Dove Creek areas.

II. PERSONNEL

<u>NAME</u>	<u>POSITION</u>	<u>MONTHS BUDGETED/</u>		<u>MILEAGE</u>
			<u>WORKED</u>	
Daries C. Lile	Division Engineer	6	6	1,014 P 5,308 S*
Orlyn J. Bell	Asst. Division Engineer	12	12	1,070 P 4,771 S*
Edward W. Blank	Hydrographer	12	12	18,097 S
Ann-Louise Fauth	Secretary	12	12	--

FULL TIME EMPLOYEES IN FIELD

<u>NAME</u>	<u>POSITION</u>	<u>DISTRICT</u>	<u>MONTHS BUDGETED/</u>		<u>MILEAGE</u>
				<u>WORKED</u>	
E. Ivan Danielson	Water Comm. B	Dist. 30	12	12	7,881 P
George E. Davis	Water Comm. B	Dist. 30	12	12	778 P 8,016 S
George Edmonson ^{1/}	Water Comm. A	Dist. 32	12	12	11,525 P
Glen E. Humiston	Water Comm. C	Dist. 34	12	12	12,557 S
J. Russell Kennedy	Water Comm. B	Dist. 33	12	12	12,717 P
William P. Lynn	Water Comm. C	Dist. 29	12	12	10,280 P
Larry Nielsen	Water Comm. B	Dist. 77	12	12	10,978 P
Avrit G. Sparks	Water Comm. B	Dist. 31	12	12	9,972 P 3,665 S
Wilford E. Speer	Water Comm. B	Dist. 69,71	12	12	16,449 P

PERMANENT PART TIME EMPLOYEES IN FIELD ***

Roy M. Brown, Jr.	Water Comm. A	Dist. 29,78	6.4	6.5	11,615 P
Ronald Robinson ^{2/}	Water Comm. A	Dist. 78	2.3	2.1	570 P
Bob R. Shahan	Water Comm. A	Dist. 77	3.0	3.0	2,117 P
Lawrence J. Shock	Water Comm. A	Dist. 31,46	9.2	9.5	7,142 P 1,584 S
John J. Taylor ^{3/}	Water Comm. A	Dist. 78	<u>2.1</u>	<u>2.1</u>	<u>1,791 P</u>
Totals			173.0	173.2	105,899 P <u>53,998 S</u>
TOTAL MILEAGE FOR PERIOD					<u>159,897</u>

* Vehicle #5313 used by Division Engineer, Assistant, and Dam Section personnel

** 25,410 miles less than driven in 1976-1977 period

^{1/} George Edmonson retired as of January 31, 1979

^{2/} Ronald Robinson resigned March 1, 1978

^{3/} John Taylor Provisional Appointment July 25, 1978, Probationary Status October 1, 1978 to replace Ronald Robinson

P - Personal vehicle

S - State vehicle

*** Permanent Part Time Employees received additional budget time for tabulation work. Also, some time was redistributed due to resignation of Ronald Robinson.

III. WATER SUPPLY

A. SNOW PACK (Winter 1977-1978)

The San Juan Basin received an above-normal snow pack for this year which resulted in an above-average runoff. Stream flows were generally low at the beginning of the year due to the short water supply the previous year, but picked up with the increased winter precipitation. The April first snow pack and runoff forecasts were excellent and are listed below. The tabulated figures give a good indication of the water supply in representative drainages throughout the Division.

<u>SNOW PACK</u>	NO. OF COURSES AVERAGED	THIS YEAR'S WATER CONTENT AS A PERCENTAGE OF	
		<u>LAST YEAR</u>	<u>AVERAGE</u>
ANIMAS RIVER	6	486%	137%
DOLORES RIVER	4	652%	159%
SAN JUAN RIVER	5	385%	115%
LA PLATA RIVER	1	1,082%	154% (12 years)
MANCOS RIVER	1	658%	137% (4 years)

<u>WATER SUPPLY</u>	APRIL THRU SEPT. (1000 A.F.)		15 YEAR <u>AVERAGE</u>	THIS <u>YEAR</u>	% OF <u>LAST YEAR</u>
	<u>FORECAST</u>	% OF <u>AVERAGE</u>			
ANIMAS RIVER AT DURANGO	575	136	423	552	253
DOLORES RIVER AT DOLORES	325	140	232	325	516
LA PLATA RIVER AT HESPERUS	34	142	24	14	555
PIEDRA RIVER AT ARBOLES	225	122	185	204	443

B. PRECIPITATION (Summer 1978)

Precipitation during the winter and spring months was well above normal as recorded at the Durango weather recording station, however, the normal summer precipitation failed to materialize. As a result, stream flows were lower than forecast and non-irrigated agriculture failed to produce as expected. Demand for irrigation water was high during the late summer months and reservoirs had to be pulled down further than desired to fill the demand for water.

The total precipitation for the 1978 water year at the Durango weather recording station was 20.15 inches or 114.5% of normal. The following tables and graphs indicate the comparative stream flows on four representative river gaging stations for water year 1978.

C. FLOODS

Cool temperatures moderated the snow pack runoff such that the stream flows remained below flood stage even at the peaks. There was an absence of flash flooding as there were few summer rains and they were of short duration and generally light.

B-1 COMPARATIVE STREAM FLOW DATA

LA PLATA RIVER AT HESPERUS (ACRE FEET)

<u>MONTH</u>	<u>TEN YEAR MONTHLY AVERAGE STREAMFLOW</u>	<u>1978 MONTHLY STREAMFLOW</u>	<u>PERCENT OF MONTHLY AVERAGE</u>	<u>PERCENT OF CUMULATIVE MONTHLY AVERAGE</u>
October	1,241	394	31.7	31.7
November	751	286	38.1	34.1
December	560	295	52.7	38.2
January	451	263	58.3	41.2
February	466	215	46.1	41.9
March	896	363	40.5	41.6
April	2,966	4,990	168.2	92.8
May	8,179	9,450	115.5	104.8
June	7,057	10,340	146.5	117.8
July	2,698	2,200	81.5	114.0
August	1,266	757	59.8	111.4
September	1,187	378	31.8	108.0

LA PLATA RIVER AT COLORADO-NEW MEXICO STATE LINE (ACRE FEET)

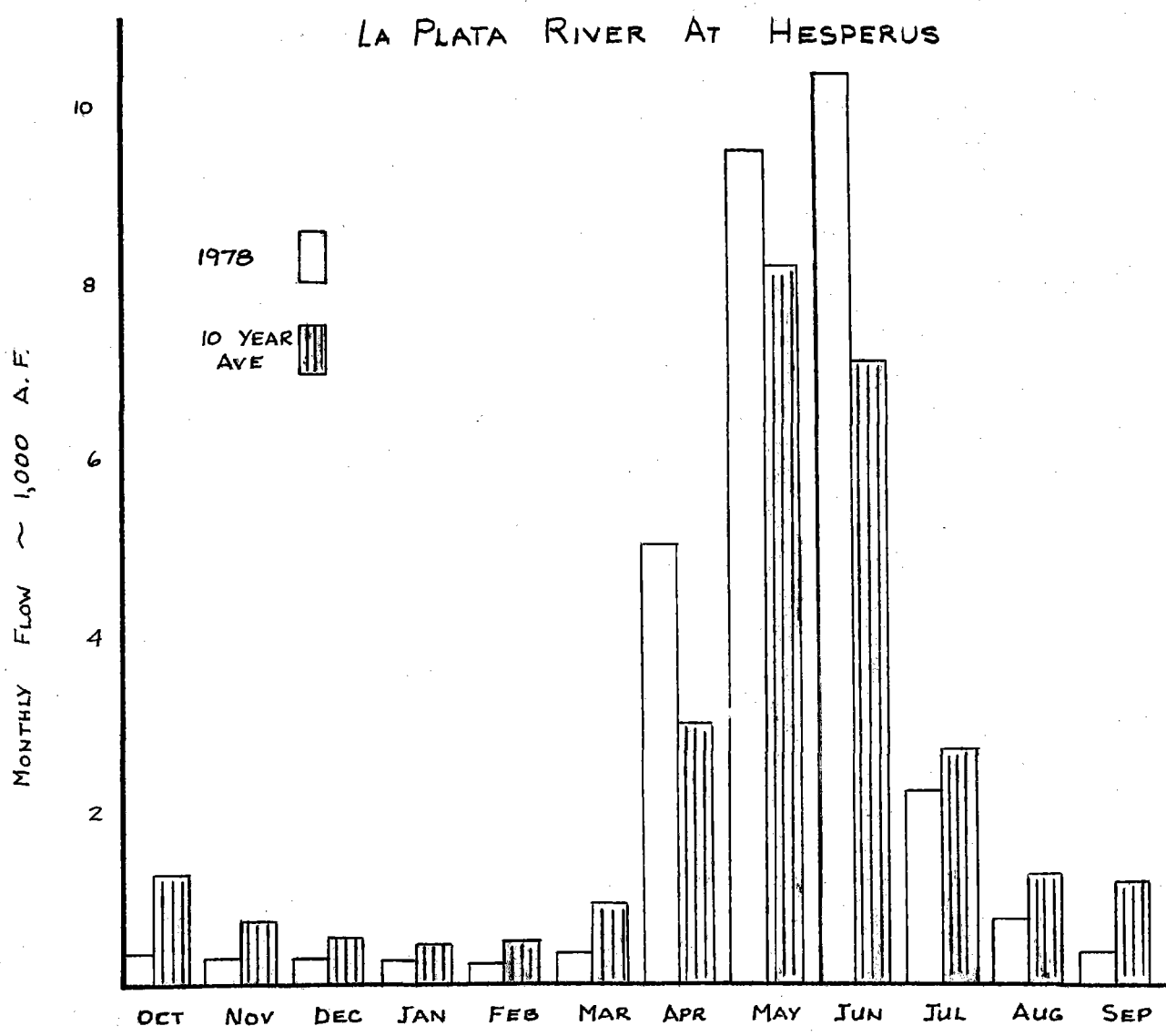
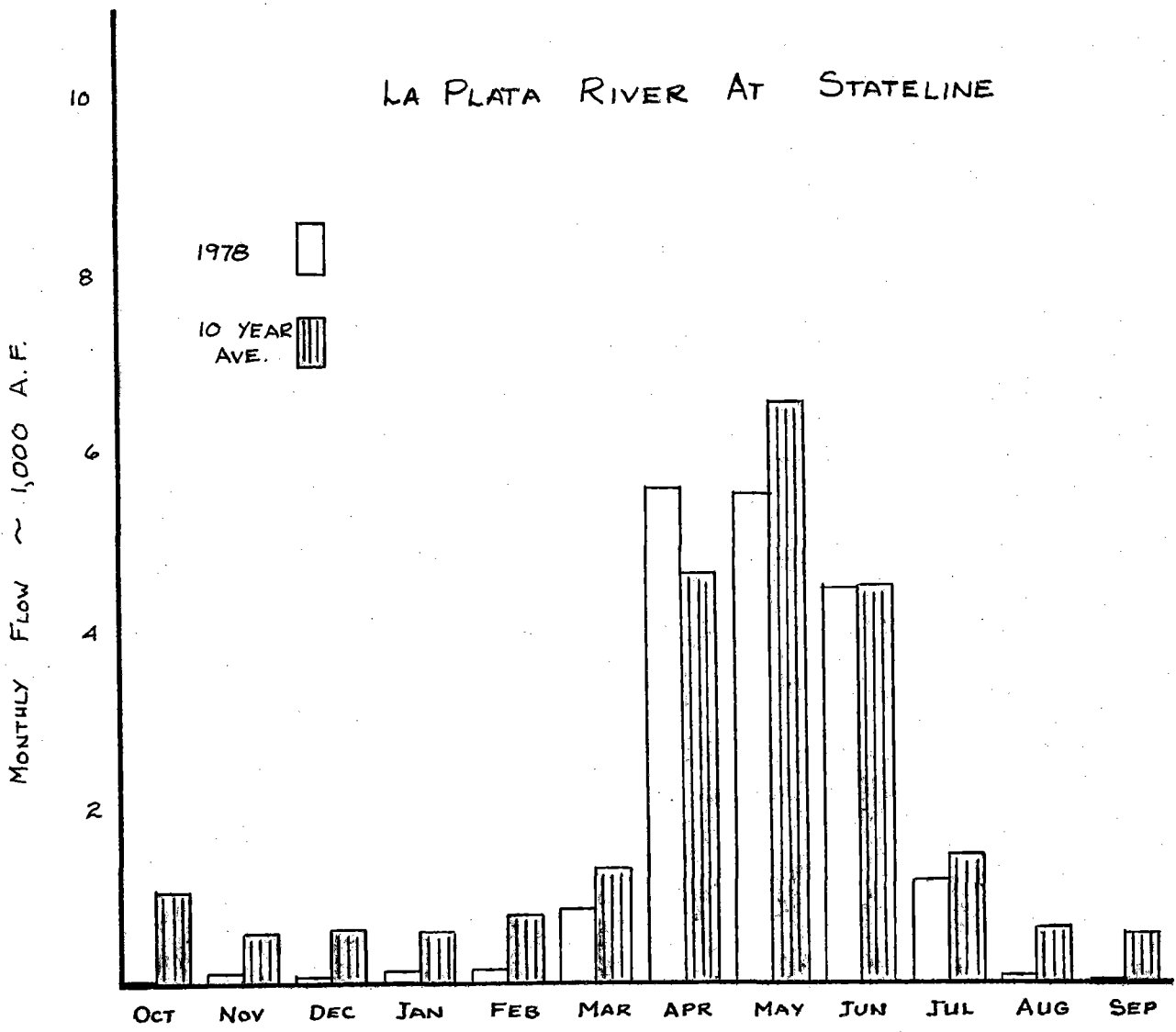
October	1,057	10	0.9	0.9
November	575	110	19.1	7.4
December	619	76	12.3	8.7
January	600	153	25.5	12.2
February	787	187	23.8	14.7
March	1,289	836	64.9	27.8
April	4,615	5,580	120.9	72.8
May	6,528	5,490	84.1	77.4
June	4,451	4,430	99.5	82.2
July	1,424	1,160	81.5	82.2
August	624	52	8.3	80.1
September	562	3	0.5	78.2

NAVAJO RIVER AT BANDED PEAKS (ACRE FEET)

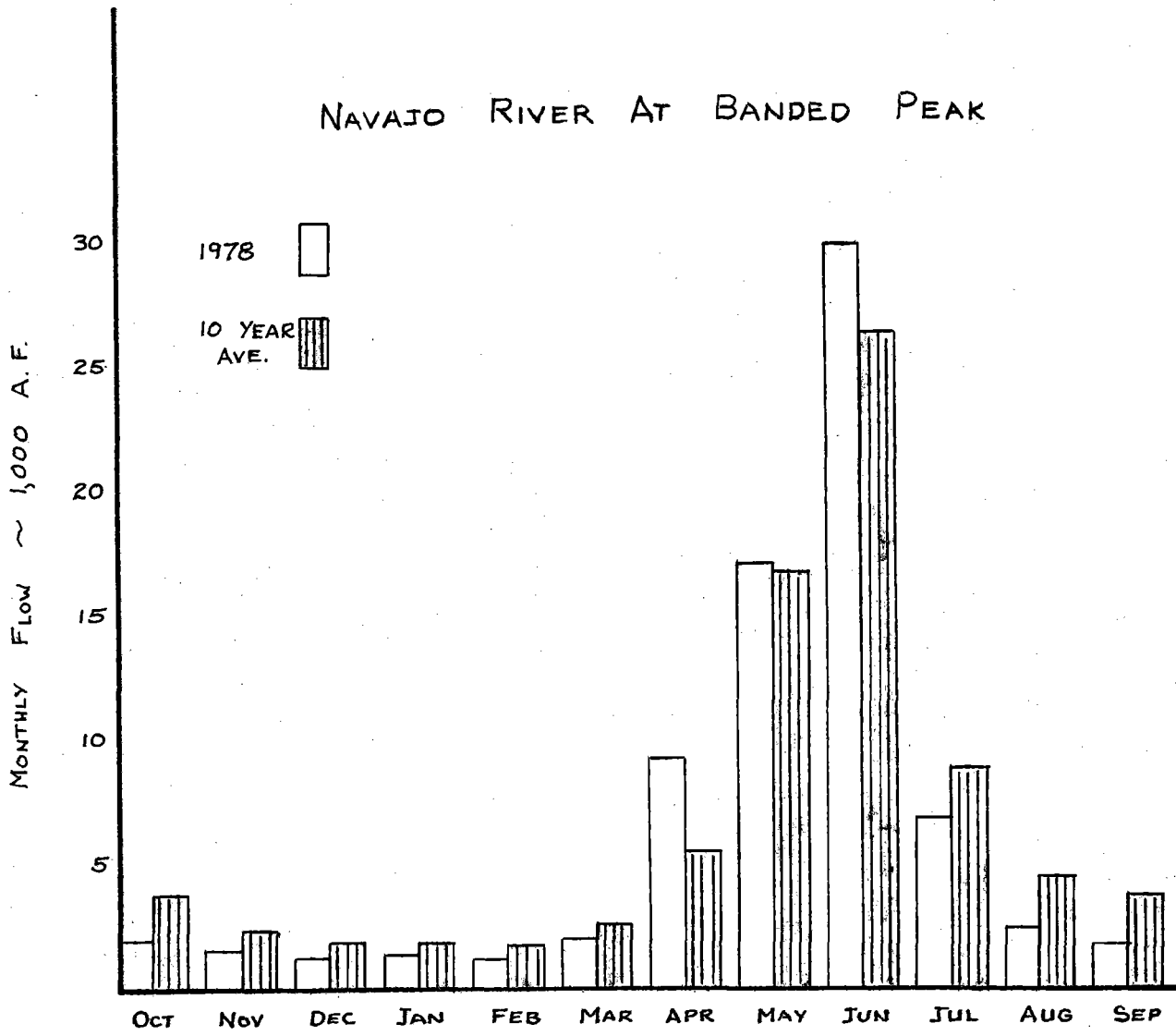
October	3,525	1,980	56.2	56.2
November	2,374	1,480	62.3	58.6
December	1,883	1,290	68.5	61.0
January	1,714	1,320	77.0	63.9
February	1,651	1,220	73.9	65.4
March	2,464	1,920	77.9	67.7
April	5,403	9,140	169.2	96.5
May	16,552	16,940	102.3	99.2
June	18,988	29,660	156.2	119.1
July	8,742	6,770	77.4	113.3
August	4,363	2,410	55.2	109.6
September	3,653	1,680	46.0	106.3

ANIMAS RIVER AT HOWARDSVILLE (ACRE FEET)

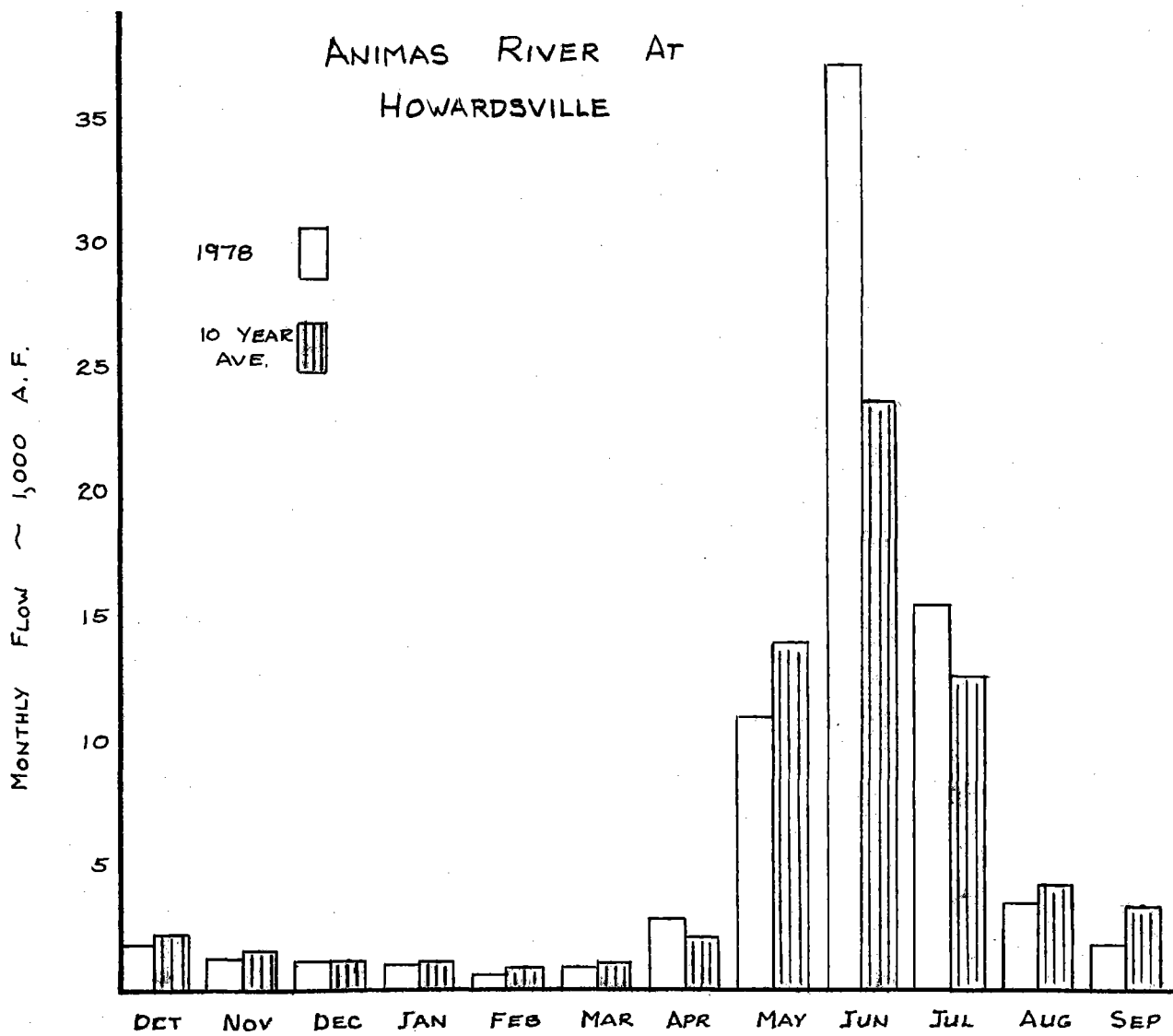
October	2,142	1,690	78.9	78.9
November	1,445	1,190	82.4	80.3
December	1,169	1,060	90.7	82.8
January	1,016	873	85.9	83.4
February	850	668	78.6	82.8
March	985	815	82.7	82.8
April	2,096	2,830	153.0	94.1
May	13,886	10,910	78.6	84.9
June	23,547	36,930	156.8	120.8
July	12,518	15,340	122.5	121.2
August	4,267	3,560	83.4	118.7
September	3,432	1,740	50.7	115.2



NAVAJO RIVER AT BANDED PEAK



ANIMAS RIVER AT HOWARDSVILLE



III. D. WATER BUDGET

FLOWS IN ACRE FEET

DRAINAGE	GAGED FLOW	ACRES IRRIGATED	EST. IRR. DEP.	EST. RES. EVAP.	EST. MUNICIPAL DEP.	FLOW BYPASSED GAGE	TRANS. MT. DEPLETION	STORAGE CORRECTION	ESTIMATED BASIN YIELD
SAN JUAN ^{1/}	372,900	20,813	22,200	2,000	450	--	97,439 ^{4/}	-27	494,962
PIEDRA	233,700	10,324	11,360	500	350	--	92	666	246,668
PINE RIVER ^{2/}	119,000	58,164	63,980	3,200	140	--	1,463	13,151	200,934
ANIMAS RIVER	614,300	39,433	43,400	1,800	1,100	8,364	152	9,671	678,787
LA PLATA RIVER	18,100	13,621	12,300	100	--	758	--	--	31,258
MANCOS RIVER	31,100	15,990	15,350	200	200	--	--	-1,353	45,497
MC ELMO CANYON	17,900	48,640	102,144	1,500	600	--	111,252 ^{5/}	-4,625	6,267
DOLORES RIVER ^{3/}	324,100	2,648	2,900	2,200	50	--	8,182 ^{6/}	2,585	340,017
DISAPPOINTMENT CREEK	13,070	1,751	2,100	--	--	--	190	--	14,980

NOTE: Figures included in this budget are based on estimates and should only be considered as such. As more accurate irrigated acres are calculated, better values of irrigation depletion can be determined. Also, reservoir evaporation and municipal depletions need additional data to improve the accuracy.

- ^{1/} Includes Blanco and Navajo drainages, Dist. 29, 77.
- ^{2/} Combined flow of Pine River at LaBoca and Spring Creek gages and estimate of Siebritas flow and Rock Creek flow.
- ^{3/} Flow gaged at Town of Dolores and includes Montezuma Valley Irrigation water.
- ^{4/} Includes 97,133 A.F., San Juan-Chama into New Mexico, and 306 A.F. into the Rio Grande Basin in Colorado.
- ^{5/} Correction of imported water from District 71, Dolores River.
- ^{6/} Diverted to Summit and used in District 32.

E. UNDERGROUND WATER

Underground water is not as plentiful in the Division as it is in other areas of the State. Production is generally confined to the shallow aluvium near stream channels, gravel irrigated mesas, or deep aquifers. The yield for the shallow surface gravels is not generally high enough for irrigation, and the deeper wells are not cost effective. Consequently, very little irrigation is done with groundwater. It does, however, supply a considerable amount of the domestic, livestock, and municipal water that is being used.

The Pagosa Springs area is using groundwater presently for geothermal purposes. Many of the businesses and some of the public buildings are heated with hot water from deep wells. Recently a new well was constructed which is producing 151°F at a depth of 831 feet. This well is intended to be used in the school system primarily for heating purposes. There has been a grant of \$750,000 received from the Department of Energy for studying the feasibility of utilizing this new supply of energy.

F. TRANSMOUNTAIN DIVERSIONS

<u>NAME OF DITCH</u>	<u>WATER DISTRICT</u>	<u>SOURCE OF SUPPLY</u>	<u>RECIPIENT</u>	<u>AMOUNT A.F.</u>
Pine R. Weminuche Pass (Fuchs Ditch)	31	Pine River	Leland & Harley Fuchs Del Norte, Colorado	67.36
Weminuche Pass Ditch (Raber-Lohr Ditch)	31	Pine River	Hilde Lohr & Leon Raber Del Norte, Colorado	1,395.50
Treasure Pass Diversion	29	San Juan R.	Fred Falk, Del Norte, Co.	306.00
Williams Creek Squaw Pass Diversion Ditch	78	Piedra River	Seaborn Collins, Navajo Development Co., Creede, CO	0
Don LaFont Ditch #1 (South River Peak Ditch)	78	Piedra River	Colorado Div. of Wildlife	61.70
Don LaFont Ditch #2 (Piedra Pass Ditch)	78	Piedra River	Colorado Div. of Wildlife	30.62
Carbon Lake Ditch	30	Animas River	Ouray Ditch Co., Montrose, CO	21.50
Red Mountain Ditch	30	Animas River	Ouray Ditch Co., Montrose, CO	130.00
Mineral Point Ditch	30	Animas River	Warren Gibbs, Ouray, Colorado	No Structure
St. John Ditch	30	Animas River	Charles Gunn & W. Worley Olathe, Colorado	No Structure

III G. RESERVOIR STORAGE IN ACRE FEET

DISTRICT <u>29</u>	BEGINNING OF SEASON	MAXIMUM	END OF SEASON
BARROW DITCH AND RESERVOIR	13	13	3
BLANCO RETAINING POND	1	1	1
BORNS LAKE RESERVOIR	68	68	68
BRAMWELL RESERVOIRS, 1, 2, 3	2	4	.3
BROWN RESERVOIR	3	6	1
CRESCENT LAKE RESERVOIR	35	35	35
DRY GULCH RESERVOIR	1	1	0
ECHO CANYON RESERVOIR	2,149	2,200	1,950
ECHO RESERVOIR	1	2	0
ECHO RESERVOIR NO. 2	4	7	0
EIGHT MILE RESERVOIR	1	1	0
FAWN GULCH RESERVOIR	.3	1	0
FREEMANS LAKE AND SPRING	4	4	4
GALE RESERVOIR SYSTEM NO. 1	10	10	10
GALE RESERVOIR SYSTEM NO. 2	7	7	7
GALE RESERVOIR SYSTEM NO. 3	11	11	11
HARRIS BROS. AND BOONE RESERVOIR NO. 1	10	49	49
HARRIS BROS. AND BOONE RESERVOIR NO. 2	50	205	205
HARVEY LAKE	4	4	4
HATCHER RETAINING POND	7	7	7
HYDEAWAY RANCH RESERVOIR	2	4	1
JOE HERSCH RESERVOIR	0	2	2
MC GIRR AND GOMEZ RESERVOIR	0	0	0
PAGOSA RESERVOIR	25	25	25
SHOESTRING RESERVOIR	.3	1	0
SPILER CANYON RESERVOIR	.5	2	0
SQUAW GAP RESERVOIR	.3	1	0
SUNSET COTTAGES RESERVOIR NO. 1	18	18	18
SUNSET COTTAGES RESERVOIR NO. 2	23	23	23
THOMAS RESERVOIR	56	56	56
TOWN OF PAGOSA RESERVOIR	.3	1	0
VALLE SECO RESERVOIR	.1	.5	0
WILLOW DRAW RESERVOIR	.3	1	0
WILSONS LAKE	7	7	7
FOUR MILE RESERVOIR	8	8	8
TOTAL	2,522	2,786	2,495

DISTRICT <u>30</u>	BEGINNING OF SEASON	MAXIMUM	END OF SEASON
ANDREWS LAKE	130	131	125
CASCADE RESERVOIR	4,017	15,369	11,196
CLIFTY LODGE RESERVOIR	1	1	1
DURANGO RESERVOIR NO. 1	450	450	450
DURANGO RESERVOIR NO. 2	10	10	10
DURANGO RESERVOIR NO. 3	42	42	42
DURANGO RESERVOIR NO. 4	120	120	120

III G. RESERVOIR STORAGE IN ACRE FEET

DISTRICT <u>30 (Continued)</u>	BEGINNING OF SEASON	MAXIMUM	END OF SEASON
FLORIDA CANAL AND RESERVOIR	200	200	200
GREGG RESERVOIR	2	2	2
HAVILAND LAKE RESERVOIR	180	220	220
HENDERSON LAKE	52	58	55
HOTTER BROS. LAKE	39	39	39
ICE LAKE RESERVOIR	373	416	415
JOHANSING-VINNEL FISH RESERVOIR	4	4	4
KEELER RESERVOIR	390	487	487
LAKE CAROL	8	8	8
LAKE OF THE PINES	100	114	105
LAKE SUSAN	17	17	17
LEMON RESERVOIR	4,984	32,010	7,315
LEMON RR RESERVOIR	0	15	15
L-U LAKES	3	3	3
MACY RESERVOIR	0	11	0
PATRICIA A. SHERWOOD RESERVOIR	4	4	4
SHORT RESERVOIR	70	70	0
TURNER PUMP STATION AND PONDS	0	84	0
TURNER RESERVOIR	380	472	410
WARNER RESERVOIRS NO. 1 THRU No. 8	<u>43</u>	<u>47</u>	<u>47</u>
TOTAL	11,619	50,404	21,290

DISTRICT <u>31</u>	BEGINNING OF SEASON	MAXIMUM	END OF SEASON
BELLFLOWER RETENTION RESERVOIR	15	20	15
FITZGERALD IRRIGATION SYSTEM	3	3	1
FREDRICK RESERVOIR NO. 2	3	3	3
JEFFRIES POND NO. 1	0	1	1
JEFFRIES POND NO. 2	2	3	2
VALLECITO RESERVOIR	13,300	117,750	26,098
WILDORADO RESERVOIR NO. 26	5	14	10
WOMMER RESERVOIR NO. 1	<u>76</u>	<u>186</u>	<u>125</u>
TOTAL	13,404	117,980	26,255

DISTRICT <u>32</u>	BEGINNING OF SEASON	MAXIMUM	END OF SEASON
A M PUETT RESERVOIR	20	2,537	284
BUTTS RESERVOIR	18	18	18
DUCKS NEST RESERVOIR	0	160	0
LIVELY RESERVOIR	2	2	2
NARRAGUINNEP RESERVOIR	9,939	18,960	4,670
ROBERT LEIGHTON RESERVOIR	19	19	19
TOTTEN RESERVOIR	1,080	3,300	1,460
WEST RESERVOIR	6	6	6
WILKERSON POND NO. 1	<u>11</u>	<u>11</u>	<u>11</u>
TOTAL	11,095	25,013	6,470

III G. RESERVOIR STORAGE IN ACRE FEET

DISTRICT <u>33</u>	BEGINNING OF SEASON	MAXIMUM	END OF SEASON
RED MESA WARD RESERVOIR	253	1,176	253
TAYLOR RESERVOIR	<u>86</u>	<u>86</u>	<u>86</u>
TOTAL	339	1,262	339

DISTRICT <u>34</u>	BEGINNING OF SEASON	MAXIMUM	END OF SEASON
BAUER RESERVOIR NO. 1	54	287	134
BAUER RESERVOIR NO. 2	719	1,533	274
COPPINGER NO. 1 RESERVOIR	19	35	9
COPPINGER NO. 2 RESERVOIR	6	14	4
JACKSON GULCH RESERVOIR	3,683	9,897	2,607
L A BAR RESERVOIR	0	73	20
SELLARS & MC CLANE RESERVOIR	24	52	24
SPENCER RESERVOIR	0	13	0
WEBER RESERVOIR	<u>36</u>	<u>442</u>	<u>116</u>
TOTAL	4,541	12,346	3,188

DISTRICT <u>69</u>	BEGINNING OF SEASON	MAXIMUM	END OF SEASON
BELMAR LAKE RESERVOIR	223	409	176
DUNHAM RESERVOIR	80	111	80
GARDNER RESERVOIR	40	67	40
MORRISON RESERVOIR	80	116	85
NORTH DRAW RESERVOIR	<u>0</u>	<u>31</u>	<u>0</u>
TOTAL	423	734	381

DISTRICT <u>71</u>	BEGINNING OF SEASON	MAXIMUM	END OF SEASON
BIG PINE RESERVOIR	0	460	209
BUCK PASTURE RESERVOIR	90	90	70
ETHEL BELMAR RESERVOIR	6,700	21,800	8,800
LOST CANYON RESERVOIR	20	106	60
R. B. COPPINGER RESERVOIR	0	16	0
SUMMIT RESERVOIR	<u>522</u>	<u>4,795</u>	<u>783</u>
TOTAL	7,412	27,392	9,997

DISTRICT <u>77</u>	BEGINNING OF SEASON	MAXIMUM	END OF SEASON
GARDNER LAKE	0	15	0
SPENCE RESERVOIR	<u>0</u>	<u>441</u>	<u>0</u>
TOTAL	0	456	0

III G. RESERVOIR STORAGE IN ACRE FEET

DISTRICT <u>78</u>	BEGINNING OF <u>SEASON</u>	<u>MAXIMUM</u>	END OF <u>SEASON</u>
BENNETT RESERVOIR	1	1.5	0
DEVIL RESERVOIR	0	8.0	8.0
DUNNAGAN RESERVOIR	26	94	0
G. S. HATCHER RESERVOIR	595	1,735	1,735
LAKE FOREST RESERVOIR	250	400	0
J BAR J POND	5	5	2
LINN AND CLARK RESERVOIR	975	997	997
PARK RESERVOIR	.1	.6	0
PIEDRA RETAINING POND	5	5	5
PALISADE LAKE	50	50	40
PINON LAKE RESERVOIR	106	162	98
POMA RESERVOIR	27	27	27
SCHMIEDEN RESERVOIR	36	30	36
SPRING CREEK RESERVOIR	0	46	0
STEVENS RESERVOIR AND DAM	635	635	614
TOWN CENTER LAKE RESERVOIR	600	600	416
TURKEY SPRING RESERVOIR	1	2	0
WILLIAMS CREEK RESERVOIR	<u>10,084</u>	<u>10,084</u>	<u>10,084</u>
TOTAL	13,396	14,902	14,062

IV AGRICULTURE

Agricultural prospects for 1978 in southwestern Colorado were excellent as the growing season began. There was an above-average snowpack in the mountains, and early Spring rains at the lower elevations had increased soil moisture greatly after the drought year, 1977. However, there was little summer precipitation to feed the maturing crops and non-irrigated crop production fell short of early expectations. Irrigated acreage had sufficient water available to feed the crops to maturity, but some late Fall plowing had to be delayed as the soil was too dry.

Some representative crop yields for the area are listed below:

<u>CROP</u>	<u>YIELD/ACRE</u>	<u>NORMAL YIELD/ACRE (8 yr.)</u>
dry land beans	350 lbs.	310 lbs.
dry land wheat	15 bushels	24 bushels
dry land barley	10 bushels	28 bushels
irrigated hay	2.2 tons	2.1 tons

The many springs and wells that went dry during 1977 began producing early in 1978, but the lack of summer precipitation caused them to flow at a greatly reduced rate.

V. COMPACTS AND COURT STIPULATIONS

A. GENERAL

Although the waters of Division Seven fall under the Colorado River, Upper Colorado River and Animas-La Plata Compacts, there was no requirement for administration from Division Seven.

B. SAN JUAN-CHAMA DIVERSION PROJECT

The above-normal snowpack produced some fairly high runoff flows and with the runoff came large amounts of debris. To clear diversion intake rakes, the U.S.B.R. used periodic sluicing procedures that basically dumped the debris back into the river for Colorado water users to contend with. There was a meeting with Bob Weimer of the San Juan-Chama Project, and C. J. Kuiper, State Engineer, on June 8, 1978 to discuss a modified sluicing operation that the U.S.B.R. thought would solve the debris problem. The demonstration on June 9, 1978 on the Blanco River convinced most spectators that the debris problem would not be solved by the modified sluicing operation. The search for a remedy is continuing.

The San Juan-Chama Project diverted 97,300 A.F. during water year 1978, with 44,100 A.F. from the Blanco River, 50,390 A.F. from the Navajo River and 2,810 A.F. from the Little Navajo River. This diversion gave New Mexico the opportunity to realize a portion of the water granted to them by the Upper Colorado River Compact.

C. LA PLATA RIVER COMPACT

Administration of the La Plata River Compact was fairly smooth with only an isolated incident or two of locked headgates that had to be forceably shut down.

The low altitude runoff began March 23, 1978 and New Mexico received water in excess of Compact requirements until May 25, 1978, and in excess of New Mexico requirements until June 18, 1978. From that time the Compact was administered normally until July 27, 1978 when the river dropped below 25.0 c.f.s. at Hesperus and Colorado picked up all the water as the call was considered futile.

A graph showing the monthly summary of the La Plata River Compact is on the following page.

VI. A. DAMS

A new dam construction in the Division included a 100 A.F. capacity reservoir for the town of Dove Creek. This construction is completed and water is being stored. Proposed for construction of a replacement dam on Electra Lake has been submitted to the Plans and Reservoir Branch for review. Construction on this reservoir is planned to begin in the Spring of 1979.

One dam was constructed in excess of ten feet without plans and specifications. It is located on a side tributary of Long Gulch in District 32. Presently, the owners are submitting "as built" plans for review to determine the stability of the structure.

B. LIVESTOCK WATER TANKS

There were eighteen permits issued for livestock water tanks and/or erosion control dams this year. Last year, twenty-four permits were issued.

V. C.1 LA PLATA RIVER COMPACT MONTHLY SUMMARY IN ACRES FEET

MONTH	HESPERUS	LA PLATA	PINE	HESPERUS	STATE LINE	ENTERPRISE	PIONEER	STATE LINE	1/2 HESPERUS
	STATION	& CHERRY CR. DITCH	RIDGE DITCH	TOTAL	STATION	DITCH (N. MEX.)	DITCH	TOTAL	TOTAL
FEBRUARY (1/2 MO.)	112	0	0	112	85	0	6	91	56
MARCH	402	0	0	402	793	0	72	865	201
APRIL	4,648	0	0	4,648	5,309	0	121	5,430	2,324
MAY	9,113	41	154	9,308	5,212	0	142	5,354	4,001 ^{1/}
JUNE	10,411	1,505	520	12,436	4,520	0	237	4,757	4,682 ^{1/}
JULY	2,198	438	41	2,677	1,170	18	136	1,324	1,338 ^{2/}
AUGUST	762	0	0	762	52	0	10	62	381
SEPTEMBER	378	0	0	378	3	0	0	3	189
OCTOBER	296	0	72	368	25	0	0	25	184
NOVEMBER	521	0	0	521	235	0	0	235	260
TOTALS	28,841	1,984	787	31,612	17,404	18	724	18,146	13,616

^{1/} Adjusted for New Mexico demand under the Compact.

^{2/} After July 27, call was considered futile.

VII. WATER RIGHTS

A. TABULATIONS

The 1978 water rights tabulation was published according to law and is available for review by any concerned persons. To date we have had very few inquiries concerning the tabulation, and it is hoped that water users will not wait until the last minute before questioning how a water right is tabulated. We are still finding corrections that need to be made and plan to update it annually.

The additional listings that are available as a result of the tabulation are extremely helpful to the Division staff and we are very pleased that the effort of tabulating the water rights has been put to such excellent use.

B. REFEREE'S FINDINGS AND DECREES

	<u>NO.</u> <u>FILED</u>	<u>INVESTIGATED</u> <u>BY</u> <u>DIVISION VII</u>	<u>REFEREE</u> <u>RULINGS</u>	<u>COURT</u> <u>DECREES</u>
1. Underground Water Rights	26	26	13	11
2. Change of Water Rights	24	24	11	10
3. Plans of Augmentation	2	2	0	0
4. Surface Water Rights	66	66	44	31
5. Due Diligence:				
Quadriennial Findings	35	35	22	26
Conditional Made Absolute	23	23	6	21
6. Water Storage Rights	<u>35</u>	<u>85</u>	<u>9</u>	<u>5</u>
TOTALS	<u>211</u>	<u>211</u>	<u>105</u>	<u>124</u>

VIII. ORGANIZATIONS

A. WATER CONSERVATION AND CONSERVANCY DISTRICTS

<u>NAME</u>	<u>ADDRESS</u>	<u>ATTORNEY</u>	<u>PRESIDENT</u>
La Plata Water Conservation	Box 497, Durango	F. S. Maynes	V. A. Paulek
Dolores Water Conservancy	16 E. Main, Cortez	George Armstrong	Bruce McAfee
Florida Water Conservancy	Box 1157, Durango	L. W. McDaniel	Loyd Hess
Mancos Water Conservancy	Cortez	Guy Dyer	Noland Alexander
Pine River Irrigation Dist.	843 Main, Durango	Robert Duthie	Frank Wommer, Jr.
San Miguel Water Conservancy	Box 497, Durango	F. S. Maynes	George M. Young
Southwest Water Conservation	Box 497, Durango	F. S. Maynes	Fred Kroeger

B. INCORPORATED DITCH COMPANIES

<u>NAME</u>	<u>OFFICER</u>	<u>ADDRESS</u>
<u>DISTRICT 29</u>		
Echo Ditch Company	William Jackson, Pres.	Pagosa Springs, Colorado
Park Ditch Company	Hood Formwalt, Pres.	Pagosa Springs, Colorado
<u>DISTRICT 30</u>		
Animas Ditch Company	R. V. Bonds	Rt. 2, Box B61, Durango, CO
Animas Consolidated Ditch Co.	Lois Hood, Sec.	32446 Hiway 550, Durango, CO
Florida Canal Company	T. G. Eggleston	135 Riverview Dr., Durango
Florida Farmers Ditch Co.	Hazel Brown	505 C.R. 234, Durango, CO
Hermosa Ditch Company	Ann Myers, Sec.	C.R. 203, Durango, CO
Pioneer Ditch Company	Roy Annala	122 C.R. 510, Durango, CO
Reid Ditch Company	Althea Knowlton, Sec.	
	Animas Valley Ditch	4315 C.R. 250, Durango, CO
<u>DISTRICT 31</u>		
King Ditch Company	John Olbert, Sec.	1728 C.R. 501, Ignacio, CO
Los Pinos Ditch Company	Mrs. Frank Ludwig, Sec.	Box 245, Bayfield, CO
Robert Morrison Ditch Company	Rex Richmond, Sec.	399 C.R. 315, Ignacio, CO
Schroder Irrigation Ditch Company	Jim Sitton, Pres.	40644 Hiway 160, Bayfield, CO
Spring Creek Ditch (Pine River Canal Co. & Spring Cr. Ext.)	Carl Rainwater, Sec.	Rt. 2, Ignacio, CO
Sullivan Ditch Company	David Sullivan, Sec.	Rt. 2, Ignacio, CO
Thompson-Epperson Ditch Co.	Ruby Bowers, Sec.	520 C.R. 505, Ignacio, CO
Vallecito Reservoir (Pine River Irrigation District)	Earl Canby, Sec.	38717 U.S. Hiway 160, Bayfield
	Steve Newman, Sup't.	277 Vallecito Rd., Bayfield
<u>DISTRICT 32</u>		
Montezuma Valley Irrigation Co.	Les Nunn, Sup't.	Cortez, Colorado
<u>DISTRICT 33</u>		
Big Stick Ditch Co.	Grant Paulek	Hesperus, Colorado
Hay Gulch Ditch Co.	Lawrence Huntington	Hesperus, Colorado
H.H. Ditch Company	Bob Willis	Hesperus, Colorado
Joseph Freed Ditch Co.	Nancy Price	Hesperus, Colorado
La Plata River & Cherry Creek Ditch Company	Georgia Patcheck	Mancos, Colorado
Lightner Canal Company	V. A. Paulek	Hesperus, Colorado
Pine Ridge Ditch Company	Colo. Div. of Wildlife	Durango, Colorado
Red Mesa-Ward Reservoir & Ditch Supply Company	Nancy Price	Hesperus, Colorado
Reorganized Revival Ditch Co.	Lila Greer	Hesperus, Colorado
Slade Ditch Company	Judy Albrecht	Hesperus, Colorado
Townsite Ditch Company	Judy Albrecht	Hesperus, Colorado
Treanor Enterprise Ditch Co.	Ruth Candelaria	Marvel, Colorado
<u>DISTRICT 34</u>		
Bauer Lakes Water Company	Leroy Everett	Mancos, Colorado
Ratliff & Root Ditch Company	Lloyd Doerfer	Mancos, Colorado
Town of Mancos Ditch Company	Geraldine Wallace	Mancos, Colorado
Webber Ditch Company	Lloyd Doerfer	Mancos, Colorado
Webber Reservoir & Ditch Co.	Foster Hall	Mancos, Colorado
<u>DISTRICT 71</u>		
Summit Irrigation System	Eddie McRea	Dolores, Colorado
Groundhog Reservoir & Beaver Ditch System	Les Nunn, Sup't.	Cortez, Colorado
Montezuma Valley Irrigation Dist.	Les Nunn, Sup't.	Cortez, Colorado
<u>DISTRICT 78</u>		
Piedra Falls Ditch Company	Raymond McWhiter, Mgr.	Pagosa Springs, Colorado

IX WATER COMMISSIONERS' SUMMARY

WATER DISTRICT 29

DIRECT DIVERSIONS:	<u>ACRE FEET</u>
IRRIGATION	61,860
STORAGE	<u>194</u>
STOCKWATER	7,845
MUNICIPAL	<u>2,249</u>
DOMESTIC	942
INDUSTRIAL	<u>0</u>
RECREATIONAL	<u>0</u>
FISH	<u>2,886</u>
OTHER: Geothermal	<u>2,599</u>
TRANSMOUNTAIN - TRANSBASIN	<u>2,355</u>
INTERSTATE	<u>44,032</u>
TOTAL DIVERSIONS	<u>124,962</u>
DELIVERIES FROM STORAGE:	
IRRIGATION	<u>0</u>
DOMESTIC	<u>0</u>
MUNICIPAL	<u>0</u>
INDUSTRIAL	<u>0</u>
RECREATIONAL	<u>0</u>
TRANSBASIN - TRANSMOUNTAIN	<u>49</u>
OTHER:	<u>0</u>
TOTAL FROM STORAGE	<u>49</u>
DELIVERIES FROM TRANSBASIN:	
IRRIGATION	<u>0</u>
STORAGE	<u>0</u>
MUNICIPAL	<u>0</u>
TOTAL FROM TRANSBASIN	<u>0</u>
DUTY OF WATER:	
TOTAL TO IRRIGATION (Direct Diversion)	<u>61,860</u>
ACRES IRRIGATED	<u>17,029</u>
ACRE FEET DIVERTED PER ACRE	<u>3.6</u>
NUMBER OF STRUCTURES OBSERVED:	
ACTIVE DIVERSIONS - DAILY	<u>160</u>
INFREQUENT	<u>63</u>
INACTIVE DIVERSIONS - NO WATER AVAILABLE	<u>7</u>
NOT USED	<u>140</u>
TOTAL	<u>370</u>
NUMBER OF DITCHES	<u>289</u>
NUMBER OF RESERVOIRS	<u>52</u>
NUMBER OF WELLS	<u>29</u>
TOTAL NUMBER OF OBSERVATIONS	<u>6,216</u>

IX WATER COMMISSIONERS' SUMMARY

WATER DISTRICT 30

	<u>ACRE FEET</u>
DIRECT DIVERSIONS:	
IRRIGATION	<u>126,009</u>
STORAGE	<u>12,373</u>
STOCKWATER	<u>9,567</u>
MUNICIPAL	<u>5,536</u>
DOMESTIC	<u>2,571</u>
INDUSTRIAL	<u>19,642</u>
RECREATIONAL	<u>226</u>
FISH	<u>7,715</u>
OTHER:	<u>0</u>
TRANSMOUNTAIN - TRANSBASIN	<u>152</u>
INTERSTATE	<u>8,364</u>
TOTAL DIVERSIONS	<u>192,600</u>
 DELIVERIES FROM STORAGE:	
IRRIGATION	<u>29,880</u>
DOMESTIC	<u>0</u>
MUNICIPAL	<u>0</u>
INDUSTRIAL	<u>14,539</u>
RECREATIONAL	<u>0</u>
TRANSBASIN - TRANSMOUNTAIN	<u>0</u>
OTHER:	<u>0</u>
TOTAL FROM STORAGE	<u>44,419</u>
 DELIVERIES FROM TRANSBASIN:	
IRRIGATION	<u>0</u>
STORAGE	<u>0</u>
MUNICIPAL	<u>0</u>
TOTAL FROM TRANSBASIN	<u>0</u>
 DUTY OF WATER:	
TOTAL TO IRRIGATION (Direct and Storage)	<u>155,889</u>
ACRES IRRIGATED	<u>39,433</u>
ACRE FEET DIVERTED PER ACRE	<u>4.0</u>
 NUMBER OF STRUCTURES OBSERVED:	
ACTIVE DIVERSIONS - DAILY	<u>235</u>
INFREQUENT	<u>345</u>
INACTIVE DIVERSIONS - NO WATER AVAILABLE	<u>17</u>
NOT USED	<u>186</u>
TOTAL	<u>783</u>
NUMBER OF DITCHES	<u>488</u>
NUMBER OF RESERVOIRS	<u>55</u>
NUMBER OF WELLS	<u>240</u>
TOTAL NUMBER OF OBSERVATIONS	<u>9,365</u>

IX WATER COMMISSIONERS' SUMMARY

WATER DISTRICT 31

DIRECT DIVERSIONS:	<u>ACRE FEET</u>
IRRIGATION	<u>130,043</u>
STORAGE	<u>104,937</u>
STOCKWATER	<u>2,663</u>
MUNICIPAL	<u>463</u>
DOMESTIC	<u>86</u>
INDUSTRIAL	<u>5</u>
RECREATIONAL	<u>0</u>
FISH	<u>1,255</u>
OTHER: Commercial	<u>16</u>
TRANSMOUNTAIN - TRANSBASIN	<u>1,463</u>
INTERSTATE	<u>0</u>
TOTAL DIVERSIONS	<u>240,931</u>
DELIVERIES FROM STORAGE:	
IRRIGATION	<u>90,133</u>
DOMESTIC	<u>30</u>
MUNICIPAL	<u>222</u>
INDUSTRIAL	<u>0</u>
RECREATIONAL	<u>0</u>
TRANSBASIN - TRANSMOUNTAIN	<u>0</u>
OTHER: Commercial	<u>12</u>
TOTAL FROM STORAGE	<u>90,397</u>
DELIVERIES FROM TRANSBASIN:	
IRRIGATION	<u>0</u>
STORAGE	<u>0</u>
MUNICIPAL	<u>0</u>
TOTAL FROM TRANSBASIN	<u>0</u>
DUTY OF WATER:	
TOTAL TO IRRIGATION (Direct and Storage)	<u>220,176</u>
ACRES IRRIGATED	<u>56,033</u>
ACRE FEET DIVERTED PER ACRE	<u>3.9</u>
NUMBER OF STRUCTURES OBSERVED:	
ACTIVE DIVERSIONS - DAILY	<u>108</u>
INFREQUENT	<u>170</u>
INACTIVE DIVERSIONS - NO WATER AVAILABLE	<u>0</u>
NOT USED	<u>75</u>
TOTAL	<u>353</u>
NUMBER OF DITCHES	<u>247</u>
NUMBER OF RESERVOIRS	<u>12</u>
NUMBER OF WELLS	<u>94</u>
TOTAL NUMBER OF OBSERVATIONS	<u>17,192</u>

IX WATER COMMISSIONERS' SUMMARY

WATER DISTRICT 33

DIRECT DIVERSIONS:	<u>ACRE FEET</u>
IRRIGATION	<u>26,464</u>
STORAGE	<u>1,103</u>
STOCKWATER	<u>2,376</u>
MUNICIPAL	<u>10</u>
DOMESTIC	<u>22</u>
INDUSTRIAL	<u>0</u>
RECREATIONAL	<u>0</u>
FISH	<u>0</u>
OTHER: Commercial	<u>5</u>
TRANSMOUNTAIN - TRANSBASIN	<u>0</u>
INTERSTATE	<u>758</u>
TOTAL DIVERSIONS	<u>30,738</u>
DELIVERIES FROM STORAGE:	
IRRIGATION	<u>956</u>
DOMESTIC	<u>0</u>
MUNICIPAL	<u>0</u>
INDUSTRIAL	<u>0</u>
RECREATIONAL	<u>0</u>
TRANSBASIN - TRANSMOUNTAIN	<u>0</u>
OTHER: Stock	<u>31</u>
TOTAL FROM STORAGE	<u>987</u>
DELIVERIES FROM TRANSBASIN:	
IRRIGATION	<u>0</u>
STORAGE	<u>0</u>
MUNICIPAL	<u>0</u>
TOTAL FROM TRANSBASIN	<u>0</u>
DUTY OF WATER:	
TOTAL TO IRRIGATION (Direct and Storage)	<u>27,451</u>
ACRES IRRIGATED	<u>13,621</u>
ACRE FEET DIVERTED PER ACRE	<u>2.0</u>
NUMBER OF STRUCTURES OBSERVED:	
ACTIVE DIVERSIONS - DAILY	<u>78</u>
INFREQUENT	<u>32</u>
INACTIVE DIVERSIONS - NO WATER AVAILABLE	<u>0</u>
NOT USED	<u>48</u>
TOTAL	<u>158</u>
NUMBER OF DITCHES	<u>128</u>
NUMBER OF RESERVOIRS	<u>8</u>
NUMBER OF WELLS	<u>22</u>
TOTAL NUMBER OF OBSERVATIONS	<u>5,785</u>

IX WATER COMMISSIONERS' SUMMARY

WATER DISTRICT 34

DIRECT DIVERSIONS:	<u>ACRE FEET</u>
IRRIGATION	27,368
STORAGE	8,784
STOCKWATER	3,028
MUNICIPAL	840
DOMESTIC	85
INDUSTRIAL	0
RECREATIONAL	0
FISH	0
OTHER:	468
TRANSMOUNTAIN - TRANSBASIN	0
INTERSTATE	0
TOTAL DIVERSIONS	<u>40,573</u>
DELIVERIES FROM STORAGE:	
IRRIGATION	8,248
DOMESTIC	0
MUNICIPAL	157
INDUSTRIAL	5
RECREATIONAL	0
TRANSBASIN - TRANSMOUNTAIN	0
OTHER: Stock	447
TOTAL FROM STORAGE	<u>8,857</u>
DELIVERIES FROM TRANSBASIN:	
IRRIGATION	0
STORAGE	0
MUNICIPAL	0
TOTAL FROM TRANSBASIN	<u>0</u>
DUTY OF WATER:	
TOTAL TO IRRIGATION (Direct and Storage)	35,616
ACRES IRRIGATED	15,990
ACRE FEET DIVERTED PER ACRE	<u>2.2</u>
NUMBER OF STRUCTURES OBSERVED:	
ACTIVE DIVERSIONS - DAILY	58
INFREQUENT	21
INACTIVE DIVERSIONS - NO WATER AVAILABLE	0
NOT USED	36
TOTAL	<u>115</u>
NUMBER OF DITCHES	96
NUMBER OF RESERVOIRS	11
NUMBER OF WELLS	8
TOTAL NUMBER OF OBSERVATIONS	<u>1,430</u>

IX WATER COMMISSIONERS' SUMMARY

WATER DISTRICT 69

DIRECT DIVERSIONS:	<u>ACRE FEET</u>
IRRIGATION	3,571
STORAGE	438
STOCKWATER	0
MUNICIPAL	.5
DOMESTIC	0
INDUSTRIAL	0
RECREATIONAL	0
FISH	0
OTHER:	0
TRANSMOUNTAIN - TRANSBASIN	0
INTERSTATE	0
TOTAL DIVERSIONS	<u>4,010</u>
DELIVERIES FROM STORAGE:	
IRRIGATION	0
DOMESTIC	0
MUNICIPAL	0
INDUSTRIAL	0
RECREATIONAL	0
TRANSBASIN - TRANSMOUNTAIN	0
OTHER:	0
TOTAL FROM STORAGE	<u>0</u>
DELIVERIES FROM TRANSBASIN:	
IRRIGATION	190
STORAGE	0
MUNICIPAL	0
TOTAL FROM TRANSBASIN	<u>190</u>
DUTY OF WATER:	
TOTAL TO IRRIGATION (Direct and Storage)	3,761
ACRES IRRIGATED	1,459
ACRE FEET DIVERTED PER ACRE	<u>2.6</u>
NUMBER OF STRUCTURES OBSERVED:	
ACTIVE DIVERSIONS - DAILY	23
INFREQUENT	1
INACTIVE DIVERSIONS - NO WATER AVAILABLE	0
NOT USED	13
TOTAL	<u>37</u>
NUMBER OF DITCHES	31
NUMBER OF RESERVOIRS	5
NUMBER OF WELLS	1
TOTAL NUMBER OF OBSERVATIONS	<u>368</u>

IX WATER COMMISSIONERS' SUMMARY

WATER DISTRICT 71

DIRECT DIVERSIONS:	<u>ACRE FEET</u>
IRRIGATION	<u>7,833</u>
STORAGE	<u>26,713</u>
STOCKWATER	<u>106</u>
MUNICIPAL	<u>2</u>
DOMESTIC	<u>219</u>
INDUSTRIAL	<u>112</u>
RECREATIONAL	<u>0</u>
FISH	<u>1,160</u>
OTHER:	<u>616</u>
TRANSMOUNTAIN - TRANSBASIN	<u>97,484</u>
INTERSTATE	<u>0</u>
TOTAL DIVERSIONS	<u>134,245</u>
DELIVERIES FROM STORAGE:	
IRRIGATION	<u>0</u>
DOMESTIC	<u>0</u>
MUNICIPAL	<u>0</u>
INDUSTRIAL	<u>0</u>
RECREATIONAL	<u>0</u>
TRANSBASIN - TRANSMOUNTAIN	<u>13,489</u>
OTHER: Stock	<u>327</u>
TOTAL FROM STORAGE	<u>13,816</u>
DELIVERIES FROM TRANSBASIN:	
IRRIGATION	<u>0</u>
STORAGE	<u>0</u>
MUNICIPAL	<u>0</u>
TOTAL FROM TRANSBASIN	<u>0</u>
DUTY OF WATER:	
TOTAL TO IRRIGATION	<u>7,833</u>
ACRES IRRIGATED	<u>2,648</u>
ACRE FEET DIVERTED PER ACRE	<u>3.0</u>
NUMBER OF STRUCTURES OBSERVED:	
ACTIVE DIVERSIONS - DAILY	<u>60</u>
INFREQUENT	<u>75</u>
INACTIVE DIVERSIONS - NO WATER AVAILABLE	<u>0</u>
NOT USED	<u>59</u>
TOTAL	<u>194</u>
NUMBER OF DITCHES	<u>133</u>
NUMBER OF RESERVOIRS	<u>17</u>
NUMBER OF WELLS	<u>44</u>
TOTAL NUMBER OF OBSERVATIONS	<u>2,904</u>

IX WATER COMMISSIONERS' SUMMARY

WATER DISTRICT 77

DIRECT DIVERSIONS:

ACRE FEET

IRRIGATION	<u>20,295</u>
STORAGE	<u>441</u>
STOCKWATER	<u>128</u>
MUNICIPAL	<u>0</u>
DOMESTIC	<u>53</u>
INDUSTRIAL	<u>0</u>
RECREATIONAL	<u>0</u>
FISH	<u>4,441</u>
OTHER: Commercial	<u>2</u>
TRANSMOUNTAIN - TRANSBASIN	<u>102</u>
INTERSTATE	<u>53,101</u>
TOTAL DIVERSIONS	<u>78,563</u>

DELIVERIES FROM STORAGE:

IRRIGATION	<u>330</u>
DOMESTIC	<u>0</u>
MUNICIPAL	<u>0</u>
INDUSTRIAL	<u>0</u>
RECREATIONAL	<u>0</u>
TRANSBASIN - TRANSMOUNTAIN	<u>0</u>
OTHER:	<u>0</u>
TOTAL FROM STORAGE	<u>330</u>

DELIVERIES FROM TRANSBASIN:

IRRIGATION	<u>0</u>
STORAGE	<u>200</u>
MUNICIPAL	<u>0</u>
TOTAL FROM TRANSBASIN	<u>200</u>

DUTY OF WATER:

TOTAL TO IRRIGATION (Direct and Storage)	<u>20,625</u>
ACRES IRRIGATED	<u>3,784</u>
ACRE FEET DIVERTED PER ACRE	<u>5.4</u>

NUMBER OF STRUCTURES OBSERVED:

ACTIVE DIVERSIONS - DAILY	<u>61</u>
INFREQUENT	<u>37</u>
INACTIVE DIVERSIONS - NO WATER AVAILABLE	<u>5</u>
NOT USED	<u>24</u>
TOTAL	<u>127</u>

NUMBER OF DITCHES	<u>98</u>
NUMBER OF RESERVOIRS	<u>15</u>
NUMBER OF WELLS	<u>14</u>

TOTAL NUMBER OF OBSERVATIONS	<u>2,120</u>
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IX WATER COMMISSIONERS' SUMMARY

WATER DISTRICT 78

DIRECT DIVERSIONS:	<u>ACRE FEET</u>
IRRIGATION	30,233
STORAGE	<u>0</u>
STOCKWATER	165
MUNICIPAL	<u>1,769</u>
DOMESTIC	54
INDUSTRIAL	<u>0</u>
RECREATIONAL	<u>0</u>
FISH	129
OTHER: Commercial	<u>448</u>
TRANSMOUNTAIN - TRANSBASIN	<u>92</u>
INTERSTATE	<u>0</u>
TOTAL DIVERSIONS	<u>32,890</u>
DELIVERIES FROM STORAGE:	
IRRIGATION	116
DOMESTIC	<u>0</u>
MUNICIPAL	<u>0</u>
INDUSTRIAL	<u>0</u>
RECREATIONAL	<u>0</u>
TRANSBASIN - TRANSMOUNTAIN	<u>0</u>
OTHER: Commercial	<u>190</u>
TOTAL FROM STORAGE	<u>306</u>
DELIVERIES FROM TRANSBASIN:	
IRRIGATION	0
STORAGE	<u>0</u>
MUNICIPAL	<u>0</u>
TOTAL FROM TRANSBASIN	<u>0</u>
DUTY OF WATER:	
TOTAL TO IRRIGATION	30,349
ACRES IRRIGATED	<u>10,324</u>
ACRE FEET DIVERTED PER ACRE	<u>2.9</u>
NUMBER OF STRUCTURES OBSERVED:	
ACTIVE DIVERSIONS - DAILY	81
INFREQUENT	<u>43</u>
INACTIVE DIVERSIONS - NO WATER AVAILABLE	<u>16</u>
NOT USED	<u>55</u>
TOTAL	<u>195</u>
NUMBER OF DITCHES	154
NUMBER OF RESERVOIRS	<u>29</u>
NUMBER OF WELLS	<u>12</u>
TOTAL NUMBER OF OBSERVATIONS	<u>3,003</u>

X. A. DIVISION ENGINEER'S SUMMARY

DIRECT FLOW DIVERSIONS
TOTAL AMOUNTS IN ACRE FEET USED

W.D.	ACRES		A.F./ACRE	STOCK	MUN.	DOM.	IND.	REC.	FISH	COMM.	GEO THERMAL	TRANS. MTN.	TRANS. BASIN	COMPACT	OTHER
	IRR. 1/	IRR.													
29	61,860	17,029	3.6	7,845	2,249	942	--	--	2,886	--	2,599	306	2,293	44,032 ^{4/}	--
30	155,889	39,433	4.0	9,567	5,536	2,571	19,642 ^{8/}	226	7,715	--	--	152	--	8,364 ^{5/}	--
31	220,176	56,033	3.9	2,663	463	86	5	--	1,255	16	--	1,463	--	0	--
32	155,461	48,640	3.2	66	--	12	1	--	--	4	--	--	--	--	--
33	27,451	13,621	2.0	2,376	10	22	--	--	--	5	--	--	--	758 ^{6/}	--
34	35,616	15,990	2.2	3,028	840	85	--	--	--	--	--	--	--	--	468
46	6,085	2,131	2.9	--	--	--	--	610	--	--	--	--	--	--	--
69	3,761	1,459	2.6	--	--	.5	--	--	--	--	--	--	--	--	--
71	7,833	2,648	3.0	106	2	219	112	--	1,160	--	--	--	97,484 ^{7/}	--	616
77	20,625	3,784	5.4	128	--	53	--	--	4,441	2	--	--	102	53,101 ^{9/}	--
78	30,349	10,324	2.9	165	1,769	54	--	--	129	448	--	92	--	--	--
TOTAL 725,106 211,092 3.2 (Ave.) 25,944 10,869 4,044 19,760 836 17,586 475 2,599 2,013 99,879 106,255 1,084															

1/ Includes water delivered directly plus storage and/or transbasin.

2/ Diverted out of Division 7.

3/ Diverted between water districts but remained in Division 7.

4/ Delivered to New Mexico thru Blanco Tunnel and out of Colorado River Basin.

5/ Water diverted in Colorado but used in New Mexico.

6/ Diverted to New Mexico through Colorado ditches.

7/ Used in District 32 under Montezuma Valley Irrigation and Summit Systems.

8/ Includes water from storage.

9/ Delivered to New Mexico from Navajo and Little Navajo diversion tunnels.

X. B. DIVISION ENGINEER'S SUMMARY

STORAGE IN ACRE FEET

W.D.	S T O R A G E			NET CHANGE FOR SEASON	IRR.	D E L I V E R E D F R O M S T O R A G E ^{2/}			STOCK	TRANSBASIN/ TRANSMOUNTAIN		
	BEGINNING OF SEASON	MAXIMUM	END OF SEASON			INCREASE ^{1/} DURING SEASON	DECREASE DURING SEASON	DOM.			MUN.	IND.
29	2,522	2,786	2,495	264	291	0	0	0	0	0	49	
30	11,619	50,404	21,290	38,785	29,114	29,880	0	14,539	0	0	0	
31	13,404	117,980	26,555	104,576	91,425	90,133	30	222	0	12	0	
32	11,095	25,013	6,470	13,918	18,543	23,042	0	0	0	0	79	
33	339	1,262	339	923	923	956	0	0	0	0	31	
34	4,541	12,346	3,188	7,805	9,158	8,248	0	157	5	0	447	
69	423	734	381	311	353	0	0	0	0	0	0	
71	7,412	27,392	9,997	19,980	17,395	0	0	0	0	0	327	
77	0	456	0	456	456	330	0	0	0	0	0	
78	13,396	14,902	14,062	1,506	840	116	0	0	0	190	0	
TOTALS	64,751	240,929	84,777	188,524	168,498	152,705	30	379	14,544	202	884	13,538

^{1/} Decrease in storage will not equal total deliveries from storage because of loss of storage during winter season.

^{2/} Amount delivered from storage is based on diversion records and does not include evaporation and minor losses.

X. C. DIVISION ENGINEER'S SUMMARY

WORKLOAD AND STATISTICAL INDICATORS

W.D.	(TOTAL DITCHES REPORTED)		NUMBER OF OBSERVATIONS	NUMBER OF WELLS	NUMBER OF RESERVOIRS	NUMBER OF DITCHES	TOTAL NUMBER OF STRUCTURES
	INACTIVE						
	DAILY	INFREQUENT					
29	160	63	6,216	29	52	289	370
30	235	345	9,365	240	55	488	783
31	108	170	17,192	94	12	247	353
32	127	39	9,230	20	12	224	256
33	78	32	5,785	22	8	128	158
34	58	21	1,430	8	11	96	115
46	31	0	1,561	0	0	34	34
69	23	1	368	1	5	31	37
71	60	75	2,904	44	17	133	194
77	61	37	2,120	14	15	98	127
78	81	43	3,003	12	29	154	195
TOTALS	1,022	826	59,174	484	216	1,922	2,622

NA - No Water Available NU - Non Use

XI. RECOMMENDATIONS AND SUGGESTIONS

Since my assuming responsibilities as Division Engineer in July, I have been very pleased with the cooperation and attitude of the staff. They have worked with me and tried very hard to accomplish any task that was requested of them. For this I am grateful and very appreciative.

We have just completed a reorganization of the Division well file. Presently we have a current location and alphabetical file for well permits. This system in conjunction with the printouts provided by the data bank, enables us to answer efficiently and quickly, many questions from the public concerning wells. The system consists of a looseleaf binder of all permits by location, and a computerized alphabetical list by applicant's name. The file is kept current weekly which makes it very helpful.

Work is starting on two additional systems; one is the Decree index and the other is the alphabetical organization of water court applications. Historically, Decrees have been kept in books with only an index for each proceeding. This system will be kept, but also an alphabetical list on a district-wide basis is being compiled. This will be helpful in checking the water rights tabulation and diversion structures for the data bank.

The alphabetical listing that is being prepared for the water court cases will be kept by applicant's name. Presently, there is no way to locate in the W-case file an application that has not been decreed. This system is nothing more than a card file, of which the name of the applicant, W-case number, and structure is noted. It is hoped that when this is completed we will have a system that, when coordinated with the data bank tabulation, will provide an up-to-date index of all water court cases filed.

Presently the most pressing need in the Division is for additional staff which would be used in regard to groundwater and subdivision applications. The area is undergoing considerable growth and it seems that everyone wants a well permit, and/or to develop a subdivision. There are over forty plans of augmentation, or transfers, involving subdivisions. To handle the additional workload which development has created, a position on the staff is needed. This should be a full time position and the employee would need a sufficient technical knowledge of water to perform adequately.

With regard to future water development in the Division, it appears that more could be accomplished if the State of Colorado provided the means of financing small projects. Colorado should be looking for ways in which to provide funds through bonding, taxes, or other sources for conservancy districts, which could be used for construction of water facilities. It has become increasingly difficult to obtain financing through the federal government, and the requirements that are imposed often are very time consuming, hence delay in the projects and increased cost.

A few of the water districts have very good records as to the acres irrigated and crops produced, but the majority do not. It would be advantageous for aerial photos to be used to determine the actual acres irrigated. This may be expensive since we have not been able to obtain obsolete photos from other agencies. The work could be performed during the winter months and should require no additional staff, and a few districts each year could be done so that the initial cost would not be substantial.