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Governor



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DIVISION OF WATER RESOURCES
WATER DIVISION VII

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January 25, 1982

Dr. Jeris A. Danielson
State Engineer
1313 Sherman Street
Denver, Colorado

Dear Dr. Danielson:

Attached herewith is the Division 7 Annual Report
for the irrigation year 1980-1981.

Respectfully submitted,

Daries C. Lile, P.E.
Division Engineer

DCL:alf
Enclosure

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I. INTRODUCTORY STATEMENT

Irrigation Division 7 is comprised of the drainage basins of the San Juan and Dolores Rivers; both of which are tributaries of the Colorado River. The geography consists of varied terrain including the San Juan Mountain Range, with peaks of 14,000 feet which feed the waters of both drainages annually with melt from the snow pack. The valleys and mesas provide vast areas of agricultural lands suitable for both irrigated and dry land farming practices.

The region is experiencing a steady growth in population as the result of the energy resources found on the edge of the San Juan Basin. Coal, oil, CO₂ and natural gas are being developed extensively, particularly in the Cortez and Durango areas. Several pipelines and transmission lines have been built during the last year and more are being proposed. To date, most of the energy is being transported out of the Basin for uses in other areas.

The U.S.B.R. is on schedule with the construction of the Dolores Project. The bypass tunnel and abutments have been completed for McPhee Dam; Great Cut dike is nearing completion; and the Bureau plans to open bids for the Dolores Tunnel in January of 1982. Some problems have developed with respect to funding from Congress, however, the project engineer foresees no major delays.

The Animas-La Plata Project has moved several steps forward during the last year. A big hurdle was removed when Judge Fred Emigh ruled in favor of formation of the Animas-La Plata Conservancy District. Once the District was formed, negotiations were begun on the repayment contract. To date the contract has been 90% finalized and an election will be held by the District to authorize the repayment.

The Colorado Water Conservation Board approved a resolution requesting the State Legislature to appropriate fifteen million dollars of cost sharing monies for the Project to be utilized in conjunction with Federal funds to allow for a construction start.

The Bureau of Indian Affairs, in an effort to resolve the Federal Reserved Claims now pending in Division 7 on behalf of the Ute Mountain Utes and the Southern Ute Indian Tribes, has provided to the Colorado Division of Water Resources copies of maps showing the potential arable lands on the Reservations. These maps have been reviewed by the Division staff and a tabulation of those maps appears on the following page. It is hoped that through waters being made available for the Indians in the Dolores and Animas-La Plata Projects that the problem of reserved claims can be settled without a lengthy court suit.

INDIAN CLAIMS

ALL FIGURES IN ACRES

<u>STREAM NAME</u>	<u>W.D.</u>	<u>POTENTIAL INDIAN ACRES</u>		<u>PRESENT IRRIGATED LAND</u>		<u>PRESENTLY IRRIGATED NON-INDIAN</u>		<u>REMARKS</u>
		<u>UTE MT.</u>	<u>SO. UTE</u>	<u>UTE MT.</u>	<u>SO. UTE</u>			
SAN JUAN (WEST)	32	21,684						
MC ELMO	32	1,286		34		39,400		Non-Indian lands irr. by transbasin from Dolores River
SAN JUAN (EAST)	34	1,023						
MANCOS	34	42,391	423	335		13,300		286 Mancos & 49 acres Navajo Wash (M.V.I.)
LA PLATA	33	3,482	13,280			10,000		
ANIMAS	30		2,711			14,200		
FLORIDA	30		1,464		835 ^{1/}	21,500		
SAN JUAN	31&46		2,201			2,100		
LOS PINOS	31				13,130 ^{2/}	43,200		Original decree awarded max. 16,966 acres to be irrigated
PIEDRA	78		1,446		433	7,800		
SAN JUAN	29		1,499		126	13,700		
NAVAJO	77		161			4,000		
DOLORES	71					2,200		Primary lands irrigated by Dolores R. are in McElmo drainage
TOTALS		69,866	23,185	369	14,524	171,400		

^{1/} Lemon Reservoir supplies 2,100 A.F. annually
^{2/} Part of Pine River Decree

Total claim both tribes, 93,051 acres

II. PERSONNEL

<u>NAME</u>	<u>POSITION</u>	<u>FISCAL YEAR</u>		<u>FISCAL YEAR</u>
		<u>MONTHS BUDGETED/</u>	<u>WORKED</u>	
Daries C. Lile	Division Engineer	12	12	1,615 P 11,197 S*
Orlyn J. Bell ^{1/}	Asst. Division Engineer	12	9	2,897 P 1,032 S
Kenneth A. Beegles ^{2/}	Hydrographer	12	12	700 P 16,637 S
Ann-Louise Fauth	Secretary	12	12	

FULL TIME EMPLOYEES IN FIELD

<u>NAME</u>	<u>POSITION</u>	<u>DISTRICT</u>	<u>FISCAL YEAR</u>		<u>FISCAL YEAR</u>
			<u>MONTHS BUDGETED/</u>	<u>WORKED</u>	<u>MILEAGE</u>
William E. Baker ^{3/}	Water Comm. B	32	12	12	11,289 P
E. Ivan Danielson ^{4/}	Water Comm. C	30	12	12	6,834 P
George E. Davis ^{5/}	Water Comm. C	30	12	12	12,297 S
Glen E. Humiston	Water Comm. C	32,34,69,71	12	12	15,736 S
J. Russell Kennedy	Water Comm. C	33	12	12	13,044 P
William P. Lynn	Water Comm. C	29,77,78	12	12	8,681 P
Larry Nielsen	Water Comm. B	77	12	12	9,061 P
Avrit G. Sparks ^{6/}	Water Comm. C	31,46	12	12	11,840 P
Wilford E. Speer ^{7/}	Water Comm. C	69,71	12	12	15,608 P

PERMANENT PART-TIME EMPLOYEES IN FIELD***

Roy M. Brown, Jr. ^{8/}	Water Comm. B	29,78	7.0	8.9	10,934 P
Bob R. Shahan	Water Comm. A	77	3.0	3.1	2,001 P
Lawrence J. Shock ^{9/}	Water Comm. B	31,46	7.0	10.2	9,568 P
John J. Taylor	Water Comm. A	78	4.0	3.3	2,499 P
TOTALS			177.0	178.5	106,571 P 56,899 S
TOTAL MILEAGE FOR PERIOD					<u>163,470</u>

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

***Permanent Part-Time Employees received additional budget time for tabulation.

- 1/ Orlyn J. Bell transferred to Division 5 as of May 1, 1981.
- 2/ Kenneth A. Beegles appointed A.D.E. September 1, 1981; hydro position vacated.
- 3/ William E. Baker to "B" level 4/1/81.
- 4/ E. Ivan Danielson to "C" level 3/1/81.
- 5/ George E. Davis to "C" level 3/1/81.
- 6/ Avrit G. Sparks to "C" level 3/1/81.
- 7/ Wilford E. Speer to "C" level 11/1/81.
- 8/ Roy M. Brown, Jr. to "B" level 4/1/81.
- 9/ Lawrence J. Shock to "B" level 4/1/81.

III. WATER SUPPLY

A. SNOW PACK (Winter 1980-1981)

The San Juan seasonal accumulation during the winter months was very poor - from 20% to 40% of normal. The majority of the snowfall which did occur fell in March, leading to an early snowmelt. However, a winter storm and accompanying cool temperatures in May delayed the remainder of the runoff until June. Snow course readings and streamflow predictions were as follows:

<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	8	20	33
DOLORES RIVER	5	11	22
SAN JUAN RIVER	6	23	38
LA PLATA RIVER	1	6.9	23.2
MANCOS RIVER	1	0	0

<u>WATER SUPPLY</u>	APR. THRU SEPT. FORECAST	APR. THRU SEPT. RECORDED	15 YR. AVERAGE	APR. THRU SEPT. % OF AVERAGE
	(1,000 A.F.)	(1,000 A.F.)	(1,000 A.F.)	
ANIMAS RIVER AT DURANGO	190	294	425	69.2
DOLORES RIVER AT DOLORES	100	136	233	58.4
LA PLATA RIVER AT HESPERUS	10	14.2	23.5	60.4
PIEDRA RIVER AT ARBOLES	70	117	201	58.2

B. PRECIPITATION

The dry conditions of the winter were offset by periodic rain showers during the summer months which fell to great advantage to the water users. July precipitation was one of the highest recorded in the past fifteen years. The following table compares the 1981 precipitation with respect to normal in Durango, Colorado.

<u>MONTH</u>	<u>PRECIPITATION</u>	<u>HISTORIC NORMAL "</u>
OCTOBER 1980	1.17"	2.58"
NOVEMBER	.97"	1.40"
DECEMBER	.50"	1.69"
JANUARY 1981	.12"	2.47"
FEBRUARY	.79"	1.79"
MARCH	3.05"	1.86"
APRIL	1.21"	1.06"
MAY	1.69"	1.41"
JUNE	0.57"	0.34"
JULY	5.38"	1.02"
AUGUST	1.97"	1.98"
SEPTEMBER	2.55"	1.62"
TOTALS	19.97"	19.22"

B-1 COMPARATIVE STREAM FLOW DATA

LA PLATA RIVER AT HESPERUS

<u>MONTH</u>	<u>TEN YEAR MONTHLY AVERAGE STREAMFLOW</u>	<u>1980-1981 MONTHLY STREAMFLOW</u>	<u>PERCENT OF MONTHLY AVERAGE</u>	<u>PERCENT OF CUMULATIVE MONTHLY AVERAGE</u>
October	1,086	615	56.6	56.6
November	676	585	86.5	68.1
December	513	442	86.2	72.2
January	422	410	97.2	76.1
February	427	318	74.5	75.9
March	821	369	44.9	69.4
April	3,327	3,430	103	84.8
May	9,085	4,020	44.2	62.3
June	10,160	3,320	32.7	50.9
July	2,988	1,530	51.2	51.0
August	1,082	1,030	95.2	52.5
September	1,290	887	68.8	53.2
Totals	30,786	16,956		

LA PLATA RIVER AT STATE LINE

October	950	577	60.7	60.7
November	526	629	120	8.17
December	566	889	157	103
January	567	841	148	113
February	799	646	80.9	105
March	1,618	474	29.3	80.7
April	7,862	1,450	18.4	42.7
May	10,230	2,560	25.0	34.9
June	6,228	2,200	35.3	35.0
July	1,615	1,840	114	39.1
August	488	302	61.9	39.5
September	307	167	54.4	40.0
Totals	31,756	12,575		

ANIMAS RIVER AT HOWARDSVILLE

October	1,946	1,460	75.0	75.0
November	1,351	1,050	77.7	76.1
December	1,131	992	87.7	79.1
January	987	851	86.2	80.4
February	828	670	80.9	80.5
March	967	738	76.3	80.0
April	2,138	2,390	112	87.2
May	12,257	8,510	69.4	77.1
June	26,650	18,470	69.3	72.8
July	13,692	7,450	54.4	68.7
August	4,015	3,400	84.7	69.7
September	2,327	2,816	82.8	71.4
Totals	68,289	48,797		

NAVAJO RIVER AT BANDED PEAKS

October	3,243	2,290	70.6	36.7
November	2,200	2,290	104	84.1
December	1,804	2,180	121	93.3
January	1,702	1,830	108	96.0
February	1,633	1,470	90.0	95.1
March	2,367	1,780	75.2	91.4
April	6,145	5,930	96.5	93.1
May	18,537	12,000	64.7	79.1
June	25,161	13,390	53.2	68.7
July	10,494	4,670	44.5	65.3
August	3,726	2,720	73.0	65.6
September	2,646	2,940	111	67.1
Totals	79,658	53,490		

C. FLOODS

Few significant floods occurred during this season. Rains which fell often throughout the Division did cause flash flooding along smaller creeks and drainages. Junction Creek area residents experienced some minor flooding and a mud flow resulted during July on the west side of Durango, covering a section of a city park. The La Plata River at the State Line reached an outstanding peak of 8.98 g.h. (approximately 2,800 c.f.s.) at 1:00 a.m., July 13, which was slightly less than the peak flow in 1977; however it stayed within its banks and no damage was reported in Colorado.

Peaks occurred during the early snowmelt or during the high water of June.

<u>STREAM</u>	<u>DATE</u> <u>1981</u>	<u>C.F.S.</u> <u>PEAK</u>
ANIMAS RIVER AT DURANGO	June 8	4,220
LA PLATA RIVER AT HESPERUS	May 3	232
MANCOS RIVER AT MANCOS	July 15	135
DOLORES RIVER AT DOLORES	May 3	1,900
SAN JUAN RIVER AT PAGOSA	June 8	1,850
PIEDRA RIVER AT ARBOLES	May 3	1,430

D. WATER BUDGET

Schedule on following page.

III. D. WATER BUDGET

<u>DRAINAGE</u>	<u>GAGED FLOW</u>	<u>ACRES IRRIGATED</u>	<u>EST. IRR. DEP.</u>	<u>EST. RES. EVAP.</u>		<u>EST. MUNICIPAL DEP.</u>	<u>FLOW BYPASSED GAGE</u>	<u>TRANS. MT. DEPLETION</u>	<u>STORAGE CORRECTION</u>	<u>ESTIMATED BASIN YIELD</u>
				1980	1981					
SAN JUAN RIVER ^{1/}	222,400	19,835	23,000	450	150	150	--	53,472 ^{4/}	+ 207	299,679
PIEDRA RIVER	142,700	8,352	10,000	2,400	100	100	--	221	- 407	155,828
PINE RIVER ^{2/}	120,000	56,863	96,000	4,500	200	200	--	2,483	- 4,062	227,245
ANIMAS RIVER	420,700	35,875	61,000	3,100	1,000	1,000	10,078	414	+ 1,365	497,657
MANCOS RIVER	12,020	17,524	12,000	700	200	200	--	--	+ 86	25,006
LA PLATA RIVER	12,570	8,267	14,000	100	--	--	868	--	- 22	27,560
MC ELMO CREEK	26,800	53,853	110,000	2,000	1,000	1,000	--	-128,723 ^{5/}	- 2,433	8,644
DOLORES RIVER ^{3/}	156,700	2,212	2,500	1,700	300	300	--	7,532 ^{6/}	+ 1,997	170,729
DISAPPOINTMENT CREEK	6,300	1,596	1,000	100	--	--	--	--	+ 38	7,438

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, Districts 29, 77.
- 2/ Combined Flow of Pine River at Laboca and Spring Creek gages and estimate of Siembritas and Rock Creek flows.
- 3/ Flow gage at town of Dolores and includes Montezuma Valley Irrigation water.
- 4/ Includes 52,421 A.F., San Juan-Chama into New Mexico; and 227 A.F. into the Rio Grande Basin in Colorado.
- 5/ Correction of imported water from District 71, Dolores River.
- 6/ Diverted to Summit Reservoir and used in District 32, McElmo drainage.

E. UNDERGROUND WATER

The Colorado Pacific Aztec, Colorado Pacific Energy, and Blue Pond & Associates cases have been ruled on by special Water Judge Shivers. His ruling has been appealed to the Colorado State Supreme Court and as of this date no final decision has been forthcoming.

Development is occurring with respect to geothermal resources in the Pagosa Springs area. The town of Pagosa Springs received a grant from the Department of Energy to install a heating system in the town utilizing two geothermal wells. The use of geothermal wells raises several interesting legal problems. The first question is whether the water is tributary and does it fall under the jurisdiction of the State Engineer, and secondly, what effect the new wells will have upon existing wells and springs that are presently being used by private parties for heating and health spa operations?

A resolution of these problems has not been reached as yet, and it appears that legal actions may be necessary at least among the users of the common source to resolve the issue.

There is still a high demand throughout the Division for domestic and municipal wells. Competition is becoming quite great in the Elbert Creek and Florida drainages for the purchase of senior irrigation rights to be used in plans of augmentation. The Water Court and the Division Office have been working closely to develop plans of augmentation that are practicable, and capable of preventing injury.

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	353
Weminuche Pass Ditch (Raber-Lohr Ditch)	31	Pine River	Colo. Div. of Wildlife	2,130
Treasure Pass Diversion	29	San Juan R.	Earl O. Linger, Monte Vista	227
Williams Creek Squaw Pass Diversion Ditch	78	Piedra River	Seaborn Collins, Navajo Development Co., Creede	0
Don LaFont Ditch #1 (South River Peak Ditch)	78	Piedra River	Colo. Div. of Wildlife	28
Don LaFont Ditch #2 (Piedra Pass Ditch)	78	Piedra River	Colo. Div. of Wildlife	193
Carbon Lake Ditch	30	Animas River	Ouray Ditch Co., Montrose	414
Red Mountain Ditch	30	Animas River	Ouray Ditch Co., Montrose	0
Mineral Point Ditch	30	Animas River	Warren Gibbs, Ouray	0
St. John Ditch	30	Animas River	Charles Gunn & W. Worley, Olathe	0

III G. RESERVOIR STORAGE IN ACRE FEET

I.Y.E. 1980-1981		BEGINNING		END
DISTRICT	<u>29</u>	OF	MAXIMUM	OF
		SEASON		SEASON
BARROW DITCH AND RESERVOIR		13	8	8
BLANCO RETAINING POND		1	1	1
BORNS LAKE RESERVOIR		68	68	68
BRAMWELL RESERVOIRS, 1, 2, 3		1	3	3
BROWN RESERVOIR		1	5	3
CRESCENT LAKE RESERVOIR		30	30	30
ECHO CANYON RESERVOIR		2,000	2,149	2,149
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		11	49	49
HARRIS BROS. AND BOONE RESERVOIR NO. 2		77	206	206
HARVEY LAKE		4	4	4
HATCHER RETAINING POND		7	7	7
HYDEAWAY RANCH RESERVOIR		2	2	2
JOE HERSCH RESERVOIR		2	2	2
PAGOSA RESERVOIR		25	25	25
SUNSET COTTAGES RESERVOIR NO. 1		18	18	18
SUNSET COTTAGES RESERVOIR NO. 2		23	23	0
THOMAS RESERVOIR		56	56	56
TOWN OF PAGOSA RESERVOIR		1	1	1
VALLE SECO RESERVOIR		1	1	1
WILSONS LAKE		<u>7</u>	<u>7</u>	<u>7</u>
TOTALS		2,380	2,697	2,672
DISTRICT <u>30</u>				
ANDREWS LAKE		120	131	131
CASCADE RESERVOIR		14,721	15,009	14,225
CLIFTY LODGE RESERVOIR		1	1	1
FLORIDA CANAL AND RESERVOIR (PASTORIUS)		200	200	200
GREGG RESERVOIR		2	2	2
HAVILAND LAKE RESERVOIR		220	220	210
HENDERSON LAKE		51	58	58
HOTTER BROTHERS LAKE		39	39	39
ICE LAKE RESERVOIR		412	414	403
JOHANSING-VINNEL FISH RESERVOIR		4	4	4
KEELER RESERVOIR		487	487	487
LAKE CAROL		8	8	8
LAKE OF THE PINES		112	112	0
LAKE SUSAN		17	17	17
LEMON RESERVOIR		22,939	39,022	24,921
L-U LAKES		3	3	3

III G. RESERVOIR STORAGE IN ACRE FEET

I.Y.E. 1980-1981

DISTRICT <u>30</u> continued	BEGINNING OF <u>SEASON</u>	<u>MAXIMUM</u>	END OF <u>SEASON</u>
MACY RESERVOIR	1	0	0
NAEGELIN LAKE	480	481	430
PATRICIA A. SHERWOOD RESERVOIR	4	4	4
SHORT RESERVOIR	0	0	0
TAMARRON LAKE NO. 1	36	36	36
TURNER PUMP STATION AND PONDS	0	80	70
TURNER RESERVOIR	452	457	425
WARNER RESERVOIRS NO. 1 THRU NO. 8	<u>47</u>	<u>47</u>	<u>47</u>
TOTALS	40,356	56,832	41,721
DISTRICT <u>31</u>			
BELLFLOWER RETENTION RESERVOIR	20	20	15
FITZGERALD IRRIGATION SYSTEM	1	4	5
FREDERICK RESERVOIR NO. 2	3	3	3
JEFFRIES POND NO. 1	1	1	1
JEFFRIES POND NO. 2	2	3	2
MARK E. TAYLOR RESERVOIR	4	4	4
PINE SPRINGS RANCH RESERVOIR NO. 1	0	1	1
VALLECITO RESERVOIR	56,966	92,191	52,979
WILDORADO RESERVOIR NO. 26	14	14	14
WOMMER RESERVOIR NO. 1	<u>115</u>	<u>121</u>	<u>40</u>
TOTALS	57,126	92,362	53,064
DISTRICT <u>32</u>			
A M PUETT RESERVOIR	165	1,346	475
BUTTS RESERVOIR	18	18	18
DUCKS NEST RESERVOIR	0	28	28
LIVELY RESERVOIR	15	15	15
MARGWAIN STORAGE RESERVOIR	0	0	0
MERRIT POND	41	41	41
NARRAGUINNEP RESERVOIR	7,186	18,960	4,937
ROBERT LEIGHTON RESERVOIR	34	34	34
TOTTEN RESERVOIR	2,277	2,831	1,755
WEST RESERVOIR	6	6	6
WILKERSON POND NO. 1	<u>11</u>	<u>11</u>	<u>11</u>
TOTALS	9,753	23,290	7,320
DISTRICT <u>33</u>			
RED MESA WARD RESERVOIR	262	1,176	240
TAYLOR RESERVOIR	<u>86</u>	<u>86</u>	<u>86</u>
TOTALS	348	1,262	326

III G. RESERVOIR STORAGE IN ACRE FEET

I.Y.E. 1980-1981

DISTRICT <u>34</u>	BEGINNING OF <u>SEASON</u>	<u>MAXIMUM</u>	END OF <u>SEASON</u>
BAUER RESERVOIR NO. 1	33	357	54
BAUER RESERVOIR NO. 2	570	880	379
COPPINGER NO. 1 RESERVOIR	6	24	9
COPPINGER NO. 2 RESERVOIR	2	4	2
JACKSON GULCH RESERVOIR	4,578	8,862	4,882
L A BAR RESERVOIR	16	53	5
SELLARS & MC CLANE RESERVOIR	12	32	12
SPENCER RESERVOIR	15	15	15
WEBER RESERVOIR	<u>163</u>	<u>442</u>	<u>123</u>
TOTALS	5,395	10,669	5,481
DISTRICT <u>69</u>			
BELMAR LAKE RESERVOIR	300	380	326
DUNHAM RESERVOIR	58	79	69
GARDNER RESERVOIR	27	37	37
MORRISON RESERVOIR	105	125	95
NORTH DRAW RESERVOIR	<u>3</u>	<u>8</u>	<u>4</u>
TOTALS	493	629	531
DISTRICT <u>71</u>			
BIG PINE RESERVOIR	160	460	407
BUCK PASTURE RESERVOIR	53	53	48
ETHEL BELMAR RESERVOIR	50	50	40
GROUNDHOG RESERVOIR	600	4,965	2,440
LOST CANYON RESERVOIR	95	106	86
R. B. COPPINGER RESERVOIR	3	16	0
SUMMIT RESERVOIR	<u>663</u>	<u>3,550</u>	<u>600</u>
TOTALS	1,624	9,200	3,621
DISTRICT <u>77</u>			
GARDNER LAKE	15	15	8
SAPPINGTON RESERVOIR	0	352	0
SPENCE RESERVOIR	100	100	22
THREE LAKES RESERVOIR	<u>10</u>	<u>10</u>	<u>10</u>
TOTALS	125	477	40
DISTRICT <u>78</u>			
DEVIL RESERVOIR	8	8	8
DUNNAGAN RESERVOIR	12	70	30
G. S. HATCHER RESERVOIR	1,482	1,605	1,260

III G. RESERVOIR STORAGE IN ACRE FEET

I.Y.E. 1980-1981

DISTRICT <u>78</u> continued	BEGINNING OF SEASON	MAXIMUM	END OF SEASON
LAKE FOREST RESERVOIR	388	500	395
J BAR J POND	0	5	0
LINN AND CLARK RESERVOIR	957	997	858
O'CONNELL LAKE	31	40	36
PIEDRA RETAINING POND	5	5	5
PALISADE LAKE	50	50	50
PARGIN RESERVOIR	530	530	530
PINON LAKE RESERVOIR	167	167	167
POMA RESERVOIR	27	27	27
SCHMIEDEN RESERVOIR	33	33	22
SPRING CREEK RESERVOIR	8	42	0
STEVENS RESERVOIR AND DAM	477	635	468
TOWN CENTER LAKE RESERVOIR	528	600	440
WILLIAMS CREEK RESERVOIR	<u>10,084</u>	<u>10,084</u>	<u>10,084</u>
TOTALS	14,787	15,398	14,380

IV. AGRICULTURE

Agriculture production was near normal throughout the Division as a result of a wet summer. Rains in late June and early July helped most crops mature, particularly dry land beans. There was some difficulty experienced with insects; irrigated hay and dryland wheat were impacted by grasshoppers and aphides.

Some representative crop yields are listed below.

<u>CROP</u>	<u>YIELD/ACRE 1981</u>	<u>NORMAL YIELD/ACRE</u>
Irrigated wheat	33 bushels	30 to 35 bushels
Dry land wheat	20 to 25 bushels	24 bushels
Irrigated barley	52 bushels	No record
Dry land barley	24 bushels	28 bushels
Irrigated corn silage	10 tons	15 tons
Irrigated hay	3-1/2 tons	2-1/2 tons
Dry land beans	250 lbs.	310 lbs.

V. COMPACTS

A. GENERAL

Irrigation Division 7 is included in four interstate compacts. They are: The Colorado River Compact, the Upper Colorado River Basin Compact, the La Plata River Compact, and the Animas-La Plato Project Compact.

B. SAN JUAN-CHAMA PROJECT

The past season did not allow for heavy diversions through the San Juan-Chama Diversion Project, since it was a low snow pack year. Preliminary figures show a total of 49,620 acre feet for this year's diversion. This brings the total diversion since completion of the Project (1971) to 1,029,820 A.F. with the ten-year average

SAN JUAN-CHAMA PROJECT (continued)

being 96,984 A.F., which is less than the 135,000 acre feet ten-year average limitation set forth in the authorizing legislation.

The lawsuit between the Jicarilla Apache Tribe and the Department of the Interior and city of Albuquerque was appealed to the Tenth Circuit Court which held that Albuquerque could not store its water in Elephant Butte Reservoir without approval of Congress. This decision was appealed to the U.S. Supreme Court who refused to hear the case and thus, the Court of Appeals' ruling stands. However, there has been legislation introduced in Congress which would allow for storage and, in effect, negate the lawsuit.

There is an ongoing effort to resolve conflicts on the measurement and record-keeping of the bypass waters on the San Juan-Chama Project. The U.S.B.R. is accepting State measurements, and is working with our office in computation of the records. There is some difference of opinion as to methods of computation of the stream flow records, and it is hoped that this can be resolved so that the official record of water bypassed is in agreement with both the State Engineer's Office and the U.S.B.R.

C. LA PLATA RIVER COMPACT

This past season on the La Plata River was an extreme contrast to the previous year. The April through September forecast was 42% of the fifteen-year average as a result of the poor snowpack. New Mexico requested Compact administration on March second which required curtailment of Colorado users. The most that was requested by New Mexico was 90 c.f.s. and deliveries were made to the State Line until July 23, when the flows became too low to reach the State Line, and the call was ruled futile with Colorado being allowed to use the upper river and the lower portion being turned into New Mexico. Heavy rains occurred in mid-July below Hesperus which was of great aid in meeting New Mexico's demand. The river was held at a futile call until October 23, 1981, when after several days of high base flows at Hesperus, it was again practicable to meet New Mexico's demand at the State Line. Consequently, throughout the remainder of October and November, requirements were again met at the State Line under the conditions that no waste would occur in New Mexico.

A summary of the monthly administration is compiled in the table on the following page.

VI. DAMS

A. GENERAL

Construction was completed on Terminal Dam and Aspaas Dam at Electra Lake this Fall. The old rock fill dam has been breached and removed, and water is now being stored behind the new structure. The outlet pipe and conduit have been completed to the Tacoma Power Plant and some testing of the new generators have been conducted. Total construction cost was approximately twelve million dollars.

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

MONTH	HESPERUS STATION	LA PLATA & CHERRY CR. DITCH	PINE RIDGE DITCH	HESPERUS TOTAL	STATE LINE STATION	ENTERPRISE DITCH (N. MEX.)	PIONEER DITCH	DELIVERED STATE LINE TOTAL	REQUIRED DELIVERY 1/2 HESPERUS TOTAL
December 1980	442	-	-	442	889	-	-	889	-
January 1981	410	-	-	410	841	-	-	841	-
February	318	-	-	318	646	-	-	646	-
March	373	-	-	373	476	-	7.1	483	179 ^{1/}
April	3,470	38	212	3,720	1,450	78	21	1,540	1,673 ^{2/}
May	4,010	1,190	437	5,640	2,640	144	91	2,870	2,782
June	3,340	1,150	293	4,780	2,200	139	128	2,470	2,463
July	1,550	564	49	2,160	1,880	106	83	2,070	1,066 ^{3/}
August	1,030	71	-	1,100	314	35	41	390	390
September	887	-	-	887	166	-	.4	167	167
October	1,290	197	-	1,490	722	14	-	736	686 ^{4/}
November	701	-	-	701	491	-	-	491	357 ^{5/}
TOTALS	17,821	3,210	991	22,021	12,715	516	371.5	13,593	9,763

- 1/ Compact administration was requested by New Mexico, March 2, 1981
- 2/ New Mexico requested delivery of up to 90 c.f.s. on April 30, 1981
- 3/ State Line call considered futile on July 23, 1981; rains during mid July below Hesperus increased flows at State Line
- 4/ October 23, 1981 delivery to State Line determined practicable
- 5/ Upper river totally diverted - return flows meeting Compact entire month

VI. DAMS GENERAL (continued)

There were no other major reservoir constructions in the Division during the year. There were, however, numerous small reservoirs built that did not require plans and specifications. One of these, Blakely Reservoir, was built across Spring Creek without an outlet pipe and it was necessary to order a bypass ditch to be constructed to allow for administration of the stream.

B. LIVESTOCK WATER TANKS

There were sixteen permits issued for livestock water tanks and/or erosion control dams this year. This compares with eighteen permits issued for the previous year. The Soil Conservation engineers and supervises the construction of all dams that fall in these categories.

VII. WATER RIGHTS

A. TABULATION

- We received eleven objections to the 1978 Tabulation. Of these, all except one were resolved without requiring a formal hearing before the Division Engineer. The objection by two of the parties in the Hambelton Ditch as to the Court awarding one priority to all users on the ditch, required a formal hearing and it was ruled that the Tabulation would not be changed without appropriate Court action changing the priorities of the ditch. No further challenge to this decision has been made.

A table of the Referee's findings and decrees is on the following page.

VII. WATER RIGHTS

B. REFEREE'S FINDINGS AND DECREES

	<u>NO. FILED</u>	<u>INVESTIGATED BY DIVISION VII</u>	<u>REFEREE RULINGS</u>	<u>COURT DECREES</u>
1. Underground Water Rights	34	11	18	21
2. Change of Water Rights	19	19	23	26
3. Plans of Augmentation	5	2	1	2
4. Surface Water Rights	100	116	127	108
5. Due Diligence:				
Quadriennial Findings	36	26	59	40
Conditional Made Absolute	19	23	19	17
6. Water Storage Rights	<u>60</u>	<u>59</u>	<u>58</u>	<u>59</u>
TOTALS	<u>273</u>	<u>256</u>	<u>305</u>	<u>273</u>
Denied - 6				

VIII. ORGANIZATIONS

A. WATER CONSERVATION AND CONSERVANCY DISTRICTS

<u>NAME</u>	<u>ADDRESS</u>	<u>ATTORNEY</u>	<u>PRESIDENT</u>
Animas-La Plata Conservancy	Box 1157, Durango	L. W. McDaniel	John Murphy
La Plata Water Conservation	Box 497, Durango	F. S. Maynes	Bob K. Taylor
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		Noland Alexander
Pine River Irrigation Dist.	843 Main, Durango	Robert Duthie	Frank Wommer, Jr.
San Miguel Water Conservancy	Box 497, Durango	F. S. Maynes	W. E. Bray
Southwest Water Conservation	Box 497, Durango	F. S. Maynes	Fred Kroeger

VIII. B. INCORPORATED DITCH COMPANIES

NAME OFFICER ADDRESS

DISTRICT 29

Echo Ditch Company William Jackson, Pres. Pagosa Springs, Colorado
 Park Ditch Company Robert Formwalt, Pres. Pagosa Springs, Colorado

DISTRICT 30

Animas Ditch Company R. J. Bonds 3237 U.S. Hiway 550, Durango
 Animas Consolidated Ditch Co. Lois Hood, Sec. (247-0859) 32446 Hiway 550, Durango
 Florida Canal Company T. G. Eggleston 135 Riverview Dr., Durango
 Florida Farmers Ditch Co. Hazel Brown 505 C.R. 234, Durango
 Hermosa Ditch Company Lois Hood, Sec. 32446 Hiway 550, Durango
 Pioneer Ditch Company Marjorie Hurt 383 C.R. 225, Durango
 Reid Ditch Althea Knowlton, Sec. (247-0275)
 Animas Valley Ditch Company 4315 C. R. 250, Durango

DISTRICT 31

King Ditch Company John Olbert, Sec. 1728 C. R. 501, Ignacio
 Los Pinos Ditch Company Mrs. J.C. Mars 1968 C.R. 526, Bayfield
 Robert Morrison Ditch Company Rex Richmond, Sec. 399 C.R. 315, Ignacio
 *Schroder Irrigation Ditch Co. Jim & Jean Sitton, Sec. 40644 Hiway 160, Bayfield
 Spring Creek Ditch (Pine River Canal Co. & Spring Cr. Ext.) David Sullivan, Sec. Rt. 2, Ignacio
 Kenneth Seibel, Sec. Rt. 2, Ignacio
 Sullivan Ditch Company Ruby Bowers, Sec. 520 C.R. 505, Ignacio
 Thompson-Epperson Ditch Co. Wayne Johnson, Sec. 38717 U.S. Hiway 160, Bayfield
 Vallecito Reservoir (Pine River Irrigation District) Steve Newman, Supt. 277 Vallecito Rd., Bayfield
 *(Pine River-Bayfield Ditch lateral or split)

DISTRICT 32

Montezuma Valley Irrigation Co. Les Nunn, Supt. Cortez, Colorado

DISTRICT 33

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

DISTRICT 34

Bauer Lakes Water Company Leroy Everett Mancos, Colorado
 Ratliff & Root Ditch Company Lloyd Doerfer Mancos, Colorado
 Town of Mancos Ditch Company Grace McWhirt Mancos, Colorado
 Webber Ditch Company Lloyd Doerfer Mancos, Colorado
 Webber Reservoir & Ditch Co. Perry Lewis Mancos, Colorado
 C - C Ditch Company Dr. Robert Bement Mancos, Colorado

DISTRICT 71

Groundhog Reservoir & Beaver Ditch System Les Nunn, Supt. Cortez, Colorado
 Montezuma Valley Irrigation Dist. Les Nunn, Supt. Cortez, Colorado
 Summit Irrigation System Eddie McRea Dolores, Colorado

DISTRICT 78

Piedra Falls Ditch Company Louis Beecherl, Pres. Pagosa Springs, Colorado

IX. WATER COMMISSIONER'S SUMMARY

WATER DISTRICT 29

	<u>ACRE FEET</u>
DIRECT DIVERSIONS:	
IRRIGATION	58,681
STORAGE	2,448
STOCKWATER	6,453
MUNICIPAL	731
DOMESTIC	229
INDUSTRIAL	
RECREATIONAL	
FISH	2,495
OTHER: Geothermal and Commercial	5,089
TRANSMOUNTAIN-TRANSBASIN	971
INTERSTATE	28,720
TOTAL DIVERSIONS	<u>105,817</u>
DELIVERIES FROM STORAGE:	
IRRIGATION	
DOMESTIC	
MUNICIPAL	
STOCK	
INDUSTRIAL	
RECREATIONAL	
TRANSBASIN-TRANSMOUNTAIN	
OTHER:	
TOTAL FROM STORAGE	<u>0</u>
DELIVERIES FROM TRANSBASIN:	
IRRIGATION	0
STORAGE	27
MUNICIPAL	0
TOTAL FROM TRANSBASIN	<u>27</u>
DUTY OF WATER:	
TOTAL TO IRRIGATION	58,681
ACRES IRRIGATED	14,856
ACRE FEET DIVERTED PER ACRE	<u>3.95</u>
NUMBER OF STRUCTURES OBSERVED:	
WATER RUN - NO INFORMATION AVAILABLE	2
ACTIVE DIVERSIONS - DAILY	182
INFREQUENT	86
INACTIVE DIVERSIONS - NO WATER AVAILABLE	0
NOT USED	31
NO INFORMATION AVAILABLE	2
NUMBER OF DITCHES	201
NUMBER OF RESERVOIRS	35
NUMBER OF WELLS	32
NUMBER OF OBSERVATIONS	<u>5,090</u>

IX. WATER COMMISSIONER'S SUMMARY

WATER DISTRICT 30

	<u>ACRE FEET</u>
DIRECT DIVERSIONS:	
IRRIGATION	118,582
STORAGE - includes on stream storage	31,922
STOCKWATER	11,899
MUNICIPAL	5,207
DOMESTIC	232
INDUSTRIAL	4,803
RECREATIONAL	186
FISH	4,094
OTHER: Commercial	388
TRANSMOUNTAIN-TRANSBASIN	414
INTERSTATE	10,078
TOTAL DIVERSIONS	<u>187,805</u>
DELIVERIES FROM STORAGE:	
IRRIGATION	21,078
DOMESTIC	3
MUNICIPAL	68
STOCK	6
INDUSTRIAL	8,706
RECREATIONAL	.
TRANSBASIN-TRANSMOUNTAIN	.
OTHER:	2
TOTAL FROM STORAGE	<u>29,863</u>
DELIVERIES FROM TRANSBASIN:	
IRRIGATION	_____
STORAGE	_____
MUNICIPAL	_____
TOTAL FROM TRANSBASIN	<u>0</u>
DUTY OF WATER:	
TOTAL TO IRRIGATION	139,660
ACRES IRRIGATED	39,772
ACRE FEET DIVERTED PER ACRE	<u>3.51</u>
NUMBER OF STRUCTURES OBSERVED:	
WATER RUN - NO INFORMATION AVAILABLE	6
ACTIVE DIVERSIONS - DAILY	241
INFREQUENT	388
INACTIVE DIVERSIONS - NO WATER AVAILABLE	25
NOT USED	182
NO INFORMATION AVAILABLE	0
NUMBER OF DITCHES	392
NUMBER OF RESERVOIRS	38
NUMBER OF WELLS	229
NUMBER OF OBSERVATIONS	<u>8,507</u>

IX. WATER COMMISSIONER'S SUMMARY

WATER DISTRICT 31

	<u>ACRE FEET</u>
DIRECT DIVERSIONS:	
IRRIGATION	160,724
STORAGE	69,646
STOCKWATER	5,098
MUNICIPAL	432
DOMESTIC	39
INDUSTRIAL	18
RECREATIONAL	0
FISH	686
OTHER:	22
TRANSMOUNTAIN-TRANSBASIN	2,483
INTERSTATE	0
TOTAL DIVERSIONS	<u>239,148</u>
DELIVERIES FROM STORAGE:	
IRRIGATION	62,802
DOMESTIC	0
MUNICIPAL	680
STOCK	0
INDUSTRIAL	0
RECREATIONAL	0
TRANSBASIN-TRANSMOUNTAIN	-0
OTHER:	21
TOTAL FROM STORAGE	<u>65,503</u>
DELIVERIES FROM TRANSBASIN:	
IRRIGATION	_____
STORAGE	_____
MUNICIPAL	_____
TOTAL FROM TRANSBASIN	<u>0</u>
DUTY OF WATER:	
TOTAL TO IRRIGATION	223,526
ACRES IRRIGATED	56,863
ACRE FEET DIVERTED PER ACRE	<u>3.93</u>
NUMBER OF STRUCTURES OBSERVED:	
WATER RUN - NO INFORMATION AVAILABLE	0
ACTIVE DIVERSIONS - DAILY	291
INFREQUENT	177
INACTIVE DIVERSIONS - NO WATER AVAILABLE	0
NOT USED	47
NO INFORMATION AVAILABLE	0
NUMBER OF DITCHES	372
NUMBER OF RESERVOIRS	9
NUMBER OF WELLS	87
NUMBER OF OBSERVATIONS	<u>9,303</u>

IX. WATER COMMISSIONER'S SUMMARY

WATER DISTRICT 32

	<u>ACRE FEET</u>
DIRECT DIVERSIONS:	
IRRIGATION	41,260
STORAGE	39
STOCKWATER	469
MUNICIPAL	0
DOMESTIC	24
INDUSTRIAL	0
RECREATIONAL	0
FISH	0
OTHER: Commercial	10
TRANSMOUNTAIN-TRANSBASIN	0
INTERSTATE	0
TOTAL DIVERSIONS	<u>41,802</u>
 DELIVERIES FROM STORAGE:	
IRRIGATION	24,947
DOMESTIC	0
MUNICIPAL	0
STOCK	822
INDUSTRIAL	
RECREATIONAL	
TRANSBASIN-TRANSMOUNTAIN	
OTHER:	
TOTAL FROM STORAGE	<u>25,769</u>
 DELIVERIES FROM TRANSBASIN:	
IRRIGATION	90,493
STORAGE	27,965
MUNICIPAL	3,716
Stockwater	2,163
TOTAL FROM TRANSBASIN	<u>124,337</u>
 DUTY OF WATER:	
TOTAL TO IRRIGATION	156,700
ACRES IRRIGATED	53,853
ACRE FEET DIVERTED PER ACRE	<u>2.91</u>
 NUMBER OF STRUCTURES OBSERVED:	
WATER RUN - NO INFORMATION AVAILABLE	1
ACTIVE DIVERSIONS - DAILY	189
INFREQUENT	52
INACTIVE DIVERSIONS - NO WATER AVAILABLE	2
NOT USED	38
NO INFORMATION AVAILABLE	1
 NUMBER OF DITCHES	 230
NUMBER OF RESERVOIRS	5
NUMBER OF WELLS	6
NUMBER OF OBSERVATIONS	<u>5,050</u>

IX. WATER COMMISSIONER'S SUMMARY

WATER DISTRICT 33

	<u>ACRE FEET</u>
DIRECT DIVERSIONS:	
IRRIGATION	23,851
STORAGE	1,230
STOCKWATER	3,134
MUNICIPAL	0
DOMESTIC	41
INDUSTRIAL	0
RECREATIONAL	_____
FISH	_____
OTHER:	_____
TRANSMOUNTAIN-TRANSBASIN	_____
INTERSTATE	868
TOTAL DIVERSIONS	<u>29,124</u>
 DELIVERIES FROM STORAGE:	
IRRIGATION	875
DOMESTIC	_____
MUNICIPAL	_____
STOCK	_____
INDUSTRIAL	_____
RECREATIONAL	_____
TRANSBASIN-TRANSMOUNTAIN	_____
OTHER:	_____
TOTAL FROM STORAGE	<u>875</u>
 DELIVERIES FROM TRANSBASIN:	
IRRIGATION	_____
STORAGE	_____
MUNICIPAL	_____
TOTAL FROM TRANSBASIN	<u>0</u>
 DUTY OF WATER:	
TOTAL TO IRRIGATION	24,726
ACRES IRRIGATED	8,267
ACRE FEET DIVERTED PER ACRE	<u>2.99</u>
 NUMBER OF STRUCTURES OBSERVED:	
WATER RUN - NO INFORMATION AVAILABLE	0
ACTIVE DIVERSIONS - DAILY	74
INFREQUENT	45
INACTIVE DIVERSIONS - NO WATER AVAILABLE	8
NOT USED	14
NO INFORMATION AVAILABLE	13
NUMBER OF DITCHES	132
NUMBER OF RESERVOIRS	10
NUMBER OF WELLS	23
NUMBER OF OBSERVATIONS	<u>4,898</u>

IX. WATER COMMISSIONER'S SUMMARY

WATER DISTRICT 34

	<u>ACRE FEET</u>
DIRECT DIVERSIONS:	
IRRIGATION	27,948
STORAGE	5,544
STOCKWATER	3,960
MUNICIPAL	1,007
DOMESTIC	12
INDUSTRIAL	
RECREATIONAL	
FISH	
OTHER:	
TRANSMOUNTAIN-TRANSBASIN	
INTERSTATE	
TOTAL DIVERSIONS	<u>38,471</u>
DELIVERIES FROM STORAGE:	
IRRIGATION	7,047
DOMESTIC	2
MUNICIPAL	148
STOCK	93
INDUSTRIAL	
RECREATIONAL	
TRANSBASIN-TRANSMOUNTAIN	
OTHER:	
TOTAL FROM STORAGE	<u>7,290</u>
DELIVERIES FROM TRANSBASIN:	
IRRIGATION	495
STORAGE	47
MUNICIPAL Stock	12
TOTAL FROM TRANSBASIN	<u>554</u>
DUTY OF WATER:	
TOTAL TO IRRIGATION	35,490
ACRES IRRIGATED	17,524
ACRE FEET DIVERTED PER ACRE	<u>2.03</u>
NUMBER OF STRUCTURES OBSERVED:	
WATER RUN - NO INFORMATION AVAILABLE	0
ACTIVE DIVERSIONS - DAILY	94
INFREQUENT	52
INACTIVE DIVERSIONS - NO WATER AVAILABLE	2
NOT USED	6
NO INFORMATION AVAILABLE	1
NUMBER OF DITCHES	129
NUMBER OF RESERVOIRS	10
NUMBER OF WELLS	7
NUMBER OF OBSERVATIONS	<u>982</u>

IX. WATER COMMISSIONER'S SUMMARY

WATER DISTRICT 46

	<u>ACRE FEET</u>
DIRECT DIVERSIONS:	
IRRIGATION	<u>5,963</u>
STORAGE	
STOCKWATER	<u>1</u>
MUNICIPAL	
DOMESTIC	
INDUSTRIAL	
RECREATIONAL	<u>1,312</u>
FISH	
OTHER:	
TRANSMOUNTAIN-TRANSBASIN	
INTERSTATE	
TOTAL DIVERSIONS	<u>7,276</u>
DELIVERIES FROM STORAGE:	
IRRIGATION	
DOMESTIC	
MUNICIPAL	
STOCK	
INDUSTRIAL	
RECREATIONAL	
TRANSBASIN-TRANSMOUNTAIN	
OTHER:	
TOTAL FROM STORAGE	<u>0</u>
DELIVERIES FROM TRANSBASIN:	
IRRIGATION	
STORAGE	
MUNICIPAL	
TOTAL FROM TRANSBASIN	<u>0</u>
DUTY OF WATER:	
TOTAL TO IRRIGATION	<u>5,963</u>
ACRES IRRIGATED	<u>1,787</u>
ACRE FEET DIVERTED PER ACRE	<u>3.34</u>
NUMBER OF STRUCTURES OBSERVED:	
WATER RUN - NO INFORMATION AVAILABLE	
ACTIVE DIVERSIONS - DAILY	<u>34</u>
INFREQUENT	<u>3</u>
INACTIVE DIVERSIONS - NO WATER AVAILABLE	
NOT USED	<u>1</u>
NO INFORMATION AVAILABLE	
NUMBER OF DITCHES	<u>37</u>
NUMBER OF RESERVOIRS	
NUMBER OF WELLS	
NUMBER OF OBSERVATIONS	<u>1,855</u>

IX. WATER COMMISSIONER'S SUMMARY

WATER DISTRICT 69

	<u>ACRE FEET</u>
DIRECT DIVERSIONS:	
IRRIGATION	<u>2,686</u>
STORAGE	<u> </u>
STOCKWATER	<u> </u>
MUNICIPAL	<u> </u>
DOMESTIC	<u>1</u>
INDUSTRIAL	<u> </u>
RECREATIONAL	<u> </u>
FISH	<u> </u>
OTHER:	<u> </u>
TRANSMOUNTAIN-TRANSBASIN	<u> </u>
INTERSTATE	<u> </u>
TOTAL DIVERSIONS	<u>2,687</u>
DELIVERIES FROM STORAGE:	
IRRIGATION	<u> </u>
DOMESTIC	<u> </u>
MUNICIPAL	<u> </u>
STOCK	<u> </u>
INDUSTRIAL	<u> </u>
RECREATIONAL	<u> </u>
TRANSBASIN-TRANSMOUNTAIN	<u> </u>
OTHER:	<u> </u>
TOTAL FROM STORAGE	<u>0</u>
DELIVERIES FROM TRANSBASIN:	
IRRIGATION	<u> </u>
STORAGE	<u> </u>
MUNICIPAL	<u> </u>
TOTAL FROM TRANSBASIN	<u>0</u>
DUTY OF WATER:	
TOTAL TO IRRIGATION	<u>2,686</u>
ACRES IRRIGATED	<u>1,596</u>
ACRE FEET DIVERTED PER ACRE	<u>1.68</u>
NUMBER OF STRUCTURES OBSERVED:	
WATER RUN - NO INFORMATION AVAILABLE	<u> </u>
ACTIVE DIVERSIONS - DAILY	<u>13</u>
INFREQUENT	<u>1</u>
INACTIVE DIVERSIONS - NO WATER AVAILABLE	<u>1</u>
NOT USED	<u>14</u>
NO INFORMATION AVAILABLE	<u> </u>
NUMBER OF DITCHES	<u>14</u>
NUMBER OF RESERVOIRS	<u>5</u>
NUMBER OF WELLS	<u>1</u>
NUMBER OF OBSERVATIONS	<u>318</u>

IX. WATER COMMISSIONER'S SUMMARY

WATER DISTRICT 71

	<u>ACRE FEET</u>
DIRECT DIVERSIONS:	
IRRIGATION	7,244
STORAGE	5,471
STOCKWATER	10
MUNICIPAL	1,356
DOMESTIC	27
INDUSTRIAL	192
RECREATIONAL	
FISH	38
OTHER:	6,188
TRANSMOUNTAIN-TRANSBASIN	123,017
INTERSTATE	
TOTAL DIVERSIONS	<u>138,543</u>
 DELIVERIES FROM STORAGE:	
IRRIGATION	86
DOMESTIC	
MUNICIPAL	
STOCK	
INDUSTRIAL	
RECREATIONAL	
TRANSBASIN-TRANSMOUNTAIN	5,620
OTHER:	10
TOTAL FROM STORAGE	<u>5,716</u>
 DELIVERIES FROM TRANSBASIN:	
IRRIGATION	
STORAGE	
MUNICIPAL	
TOTAL FROM TRANSBASIN	<u>0</u>
 DUTY OF WATER:	
TOTAL TO IRRIGATION	7,330
ACRES IRRIGATED	2,212
ACRE FEET DIVERTED PER ACRE	3.1
 NUMBER OF STRUCTURES OBSERVED:	
WATER RUN - NO INFORMATION AVAILABLE	
ACTIVE DIVERSIONS - DAILY	104
INFREQUENT	72
INACTIVE DIVERSIONS - NO WATER AVAILABLE	3
NOT USED	39
NO INFORMATION AVAILABLE	
NUMBER OF DITCHES	105
NUMBER OF RESERVOIRS	6
NUMBER OF WELLS	33
NUMBER OF OBSERVATIONS	<u>1,683</u>

IX. WATER COMMISSIONER'S SUMMARY

WATER DISTRICT 77

	<u>ACRE FEET</u>
DIRECT DIVERSIONS:	
IRRIGATION	<u>20,907</u>
STORAGE	
STOCKWATER	<u>135</u>
MUNICIPAL	
DOMESTIC	<u>3</u>
INDUSTRIAL	
RECREATIONAL	
FISH	<u>10,150</u>
OTHER:	<u>2</u>
TRANSMOUNTAIN-TRANSBASIN	
INTERSTATE	<u>23,701</u>
TOTAL DIVERSIONS	<u>54,898</u>
DELIVERIES FROM STORAGE:	
IRRIGATION	
DOMESTIC	
MUNICIPAL	
STOCK	
INDUSTRIAL	
RECREATIONAL	
TRANSBASIN-TRANSMOUNTAIN	
OTHER:	
TOTAL FROM STORAGE	<u>0</u>
DELIVERIES FROM TRANSBASIN:	
IRRIGATION	
STORAGE	
MUNICIPAL	
TOTAL FROM TRANSBASIN	<u>0</u>
DUTY OF WATER:	
TOTAL TO IRRIGATION	<u>20,907</u>
ACRES IRRIGATED	<u>4,979</u>
ACRE FEET DIVERTED PER ACRE	<u>4.20</u>
NUMBER OF STRUCTURES OBSERVED:	
WATER RUN - NO INFORMATION AVAILABLE	<u>2</u>
ACTIVE DIVERSIONS - DAILY	<u>68</u>
INFREQUENT	<u>30</u>
INACTIVE DIVERSIONS - NO WATER AVAILABLE	<u>8</u>
NOT USED	<u>7</u>
NO INFORMATION AVAILABLE	<u>1</u>
NUMBER OF DITCHES	<u>68</u>
NUMBER OF RESERVOIRS	<u>17</u>
NUMBER OF WELLS	<u>13</u>
NUMBER OF OBSERVATIONS	<u>1,321</u>

IX. WATER COMMISSIONER'S SUMMARY

WATER DISTRICT 78

	<u>ACRE FEET</u>
DIRECT DIVERSIONS:	
IRRIGATION	28,629
STORAGE	273
STOCKWATER	3,000
MUNICIPAL	482
DOMESTIC	427
INDUSTRIAL	
RECREATIONAL	
FISH	1,293
OTHER: Commercial	307
TRANSMOUNTAIN-TRANSBASIN	221
INTERSTATE	
TOTAL DIVERSIONS	<u>34,632</u>
DELIVERIES FROM STORAGE:	
IRRIGATION	212
DOMESTIC	
MUNICIPAL	10
STOCK	
INDUSTRIAL	
RECREATIONAL	
TRANSBASIN-TRANSMOUNTAIN	
OTHER:	
TOTAL FROM STORAGE	<u>222</u>
DELIVERIES FROM TRANSBASIN:	
IRRIGATION	299
STORAGE	1,108
MUNICIPAL	
TOTAL FROM TRANSBASIN	<u>1,407</u>
DUTY OF WATER:	
TOTAL TO IRRIGATION	35,149
ACRES IRRIGATED	8,352
ACRE FEET DIVERTED PER ACRE	<u>4.21</u>
NUMBER OF STRUCTURES OBSERVED:	
WATER RUN - NO INFORMATION AVAILABLE	5
ACTIVE DIVERSIONS - DAILY	85
INFREQUENT	37
INACTIVE DIVERSIONS - NO WATER AVAILABLE	8
NOT USED	19
NO INFORMATION AVAILABLE	5
NUMBER OF DITCHES	94
NUMBER OF RESERVOIRS	18
NUMBER OF WELLS	10
NUMBER OF OBSERVATIONS	<u>2,789</u>

X. A. DIVISION ENGINEER'S SUMMARY

DIRECT FLOW DIVERSIONS
TOTAL AMOUNTS IN ACRE FEET USED

1980 - 1981

W.D.	IRR. 1/	ACRES IRR.	A.F./ACRE	STOCK	MUN.	DOM.	IND.	REC.	FISH	COMM.	GEO THERMAL	TRANS. MTN. 2/	TRANS. BASIN 3/	COMPACT	OTHER	STORAGE
29	58,681	14,856	3.95	6,453	731	229	--	--	2,495	1,475	3,614	227	744	28,720	--	2,448
30	139,660	35,875	3.89	11,899	5,207	232	4,803	186	4,094	388	--	414	--	10,078 ^{5/}	--	31,922
31	223,526	56,863	3.93	5,098	432	39	--	--	686	18	--	2,483	--	--	22	69,646
32	156,700	53,853	2.91	2,632	3,716	24	--	--	--	10	--	--	--	--	--	39
33	24,726	8,267	2.99	3,134	--	41	--	--	--	--	--	--	--	868 ^{6/}	--	1,230
34	35,490	17,524	2.03	3,972	1,007	12	--	--	--	--	--	--	--	--	--	5,591
46	5,963	1,787	3.34	1	--	--	--	1,312	--	--	--	--	--	--	--	--
69	2,686	1,596	1.68	--	--	1	--	--	--	--	--	--	--	--	--	--
71	7,330	2,212	3.31	10	1,356	27	192	--	38	--	--	--	128,723 ^{7/}	--	1,198	--
77	20,907	4,979	4.20	135	--	3	--	--	10,150	--	--	--	--	--	23,701 ^{8/}	--
78	35,149	8,352	4.21	3,000	492	427	--	--	1,293	307	--	221	--	--	--	1,335
TOTALS	710,818	206,164	3.45	36,334	12,941	1,035	4,995	1,498	18,756	2,198	3,614	3,345	129,467	63,367	1,222	112,211

- 1/ Includes water delivered directly plus storage and/or transbasin.
- 2/ Diverted out of Division 7 to other irrigation Division.
- 3/ Diverted between water districts but remained in Division 7.
- 4/ Delivered to New Mexico thru San Juan Chama Project - Blanco Tunnel.
- 5/ Water diverted in Colorado but used in New Mexico for agriculture purposes.
- 6/ Diverted to New Mexico through Colorado ditches per La Plata Compact.
- 7/ Used in District 32 under M.V.I. and Summit Systems.
- 8/ Delivered to New Mexico through San Juan Chama Project - Oso Tunnel.

X. B. DIVISION ENGINEER'S SUMMARY

1980 - 1981

STORAGE IN ACRE FEET

W.D.	STORAGE		END OF SEASON	INCREASE DURING SEASON	DECREASE DURING SEASON	NET CHANGE FOR SEASON	IRR.	DOM.	MUN.	IND.	COMM.	STOCK	TRANS-BASIN/TRANS-MNTN.	OTHER	FISH
	BEGINNING OF SEASON	MAXIMUM													
29	2,380	2,697	2,672	317	25	+ 292	--	--	--	--	--	--	27	-	--
30	40,356	56,832	31,721	16,476	15,111	+ 1,365	21,078	3	68	8,705	--	6	--	2	--
31	57,126	92,362	53,064	35,236	39,298	- 4,062	62,802	--	680	--	--	--	--	21	--
33	9,753	23,290	7,320	13,537	15,970	- 2,433	24,947	--	--	--	--	822	--	-	--
34	348	1,262	326	914	936	- 22	875	--	--	--	--	--	--	-	--
46	5,395	10,669	5,481	5,274	5,188	86	7,047	2	148	--	--	93	--	-	--
69	--	--	--	--	--	--	--	--	--	--	--	--	--	-	--
69	493	629	531	136	98	38	--	--	--	--	--	--	--	-	--
71	1,624	9,200	3,621	7,576	5,579	1,997	86	--	--	--	--	--	5,620	10	--
77	125	477	40	352	437	- 85	--	--	--	--	--	--	--	-	--
78	14,787	15,398	14,380	611	1,018	- 407	212	--	10	--	--	--	--	-	--
TOTALS	132,387	212,816	129,156	80,429	83,660	-3,231	117,047	5	906	8,706	--	921	5,647	33	--

- 1/ Decrease in storage will not equal total deliveries from storage because of evaporation and leakage losses
- 2/ Amount delivered from storage is based on diversion records.
- 3/ Includes losses in storage due to evaporation and seepage.

X. C. DIVISION ENGINEER'S SUMMARY

WORKLOAD AND STATISTICAL INDICATORS

1980 - 1981

W.D.	(TOTAL DITCHES REPORTED)						NUMBER OF OBSERVATIONS	NUMBER OF WELLS	NUMBER OF RESERVOIRS	NUMBER OF DITCHES	TOTAL NUMBER OF STRUCTURES
	USED-NR	ACTIVE DAILY	INFREQUENT	INACTIVE NA	NI	NU					
29	2	182	86	0	2	31	5,090	32	35	201	268
30	6	241	388	25	0	182	8,507	229	38	392	659
31	0	291	177	0	0	47	9,303	87	9	372	468
32	1	189	52	2	1	38	5,050	6	5	230	241
33	0	74	45	8	13	14	4,898	23	10	132	165
34	0	94	52	2	1	6	982	7	10	129	146
46	0	34	3	0	0	0	1,855	0	0	37	37
69	0	13	1	1	0	4	318	1	5	14	20
71	0	104	72	3	0	39	1,683	33	6	105	144
77	2	68	30	8	1	7	1,321	13	17	68	98
78	5	85	37	8	5	19	2,789	10	18	94	122
TOTALS	16	1,375	943	57	23	387	41,796	441	153	1,774	2,368

NA - No Water Available

NU - Non Use

NR - No Report

NI - No Information

XI. DIVISION ENGINEER'S CONCLUSIONS AND RECOMMENDATIONS

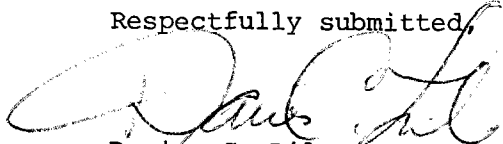
During the past irrigation season several streams in Division 7 required administration as a result of the low snowpack and limited water supply. The Pine, Florida, La Plata, Mancos, and Dolores Rivers were regulated for the majority of the growing season. There were periods when summer rains allowed for reductions in administration, however, this was for only a short period of time.

There are two significant activities which in my opinion will have impacts throughout the state of Colorado. The first is the development of geothermal resources and the second is the possibility of settlement of the now pending Indian claims in Division 7.

The city of Pagosa Springs has received grants from the U. S. Department of Energy to develop two geothermal wells for heating buildings within the town. Since Colorado does have a geothermal Act that prescribes the procedure to develop the resources, and with that Act two state agencies are required to make findings, several questions need to be resolved. Such as: is the water tributary to a natural stream, and if so, does it become appropriable the same as other rights; what will the impact be upon the stream, and are the wells going to deplete the aquifer to the detriment of other users with respect to quantity, heat, and head pressure? Should the geothermal pool be managed through the actions of the Oil and Gas Commission or will the State Engineer be required to administer the wells in accordance with the priority system? These questions will undoubtedly need to be resolved to maximize the potential of the resources.

Through the efforts of the Attorney General's Office, State Engineer and Southwest Water entities, an opportunity has come forth which may aid in resolving the now pending reserved Indian claims in Division 7. The U.S. Bureau of Indian Affairs has made available copies of maps showing the potential arable Indian lands on the Ute Mountain Ute and Southern Ute Reservations. From a review of these maps it appears that the claims could possibly amount to 93,000+ acres which, if awarded water by the courts, would reduce the present irrigated non-Indian lands in the San Juan Basin by approximately one-third. Those streams which would bear the major impact would be the La Plata, Mancos, and Florida Rivers. The problem however, may be resolved if the Indian tribes are agreeable to settlement based on the water that has been made available to them through the Dolores and Animas-La Plata Projects. Loss of irrigated agriculture would certainly have an impact upon Southwest Colorado as well as the rest of the state.

Respectfully submitted,



Darius C. Lile
Division Engineer