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DIVISION OF WATER RESOURCES

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February 9, 1981

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Colorado Division of Water Resources
1313 Sherman Street
Denver, Colorado 80203

Dear Dr. Danielson:

Attached herewith is the Division VII Annual
Report for the period November 1, 1979 through October
31, 1980.

Very truly yours,

Daries C. Lile
Division Engineer

DCL:alf
Enclosure

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 | 7 |
| | D. WATER BUDGET | 8 |
| | E. UNDERGROUND WATER | 9 |
| | F. TRANSMOUNTAIN DIVERSIONS | 9 |
| | G. RESERVOIR STORAGE | 10 |
| IV. | AGRICULTURE | 13 |
| V. | COMPACTS | |
| | A. GENERAL | 14 |
| | B. SAN JUAN-CHAMA DIVERSION PROJECT | 14 |
| | C. LA PLATA RIVER COMPACT | 15 |
| | C-1 LA PLATA RIVER COMPACT MONTHLY SUMMARY | 16 |
| VI. | A. DAMS | 17 |
| | B. LIVESTOCK WATER TANKS | 17 |
| VII. | WATER RIGHTS | |
| | A. TABULATIONS | 17 |
| | B. REFEREE'S FINDINGS AND DECREES | 18 |
| VIII. | ORGANIZATIONS | |
| | A. WATER CONSERVATION AND CONSERVANCY DISTRICTS | 18 |
| | B. INCORPORATED DITCH COMPANIES | 19 |
| IX. | WATER COMMISSIONERS' SUMMARIES | 20 |
| X. | DIVISION ENGINEER'S SUMMARIES BY DISTRICTS | |
| | A. DIRECT FLOW DIVERSIONS | 31 |
| | B. STORAGE REPORT, ACRE FEET | 32 |
| | C. WORKLOAD AND STATISTICAL INDICATORS | 33 |
| | D. DIVISION VII ANNUAL SUMMARY | 34 |
| XI. | DIVISION ENGINEER'S CONCLUSIONS AND RECOMMENDATIONS | 35 |
| | APPENDIX - FLOOD PHOTOGRAPHS | |

I. INTRODUCTORY STATEMENT

Division 7 is comprised of the San Juan and Dolores River drainages in Colorado. The geography consists of high mountain ranges, mesas, and valleys. The mountain areas are of prime importance and the key watershed, as the snow pack provides the majority of water for irrigated agriculture. Mining, grazing, timber production and recreation are the main utilizations of the high country. The lower elevations are used to support a variety of agricultural activities, including both dry land and irrigated farming practices.

The region is experiencing a steady growth of population as new energy sources are being developed. The San Juan Basin is known for its deposits of oil and natural gas supplies, and recently in the McElmo Creek drainage, large deposits of carbon dioxide have been developed. From this deposit, a pipeline is to be constructed to transport the gas to Texas which will aid in increasing the production of existing oil fields.

Construction is in full swing on the Dolores Project. The contract has been awarded for McPhee Dam and Great Cut Canal, and the contractor has been able to do a majority of the site preparation this Fall. Schedule for completion of the total project will require at least five more years.

The Animas-La Plata Project is still being held up in the local courts over the formation of a conservancy district. A hearing is scheduled for February 2, 1981, at which time a decision will be made as to holding an election, or formation of the district by court action. It appears that the project supporters have the necessary petitions to allow for the formation without the necessity of an election. The Water and Power Resources Service is ready to start negotiations for the repayment contract as soon as the district is formed.

The past season experienced an extremely heavy snow pack which resulted in high peak flows on all streams, creating an opportunity to take aerial photographs of the high water. A selected number of these photos appear in this report and provide a basis for future evaluations for comparisons of peak flows.

II. PERSONNEL

| <u>NAME</u> | <u>POSITION</u> | <u>FISCAL YEAR</u> | | <u>WATER YEAR</u> <u>MILEAGE</u> |
|--------------------|-------------------------|--|----|-------------------------------------|
| | | <u>MONTHS BUDGETED/</u> <u>WORKED</u> | | |
| Daries C. Lile | Division Engineer | 12 | 12 | 870 P 10,306 S* |
| Orlyn J. Bell | Asst. Division Engineer | 12 | 12 | 1,313 P |
| Kenneth A. Beegles | Hydrographer | 12 | 12 | 18,135 S |
| Ann-Louise Fauth | Secretary | 12 | 12 | -- |

FULL TIME EMPLOYEES IN FIELD

| <u>NAME</u> | <u>POSITION</u> | <u>DISTRICT</u> | | | |
|-------------------------------|-----------------|-----------------|-----|-----|----------|
| William E. Baker | Water Comm. A | 32 | 12 | 12 | 13,183 P |
| E. Ivan Danielson | Water Comm. B | 30 | 12 | 12 | 7,646 P |
| George E. Davis | Water Comm. B | 30 | 12 | 12 | 10,291 S |
| George Edmonson ^{1/} | Water Comm. A | 32 | 2.9 | 2.9 | 610 P |
| Glen E. Humiston | Water Comm. C | 32, 34, 69, 71 | 12 | 12 | 15,868 S |
| J. Russell Kennedy | Water Comm. C | 33 | 12 | 12 | 9,142 P |
| William P. Lynn | Water Comm. C | 29, 77, 78 | 12 | 12 | 8,298 P |
| Larry Nielsen | Water Comm. B | 77 | 12 | 12 | 12,105 P |
| Avrit G. Sparks | Water Comm. B | 31, 46 | 12 | 12 | 10,631 P |
| Wilford E. Speer | Water Comm. B | 71, 69 | 12 | 12 | 12,828 P |

PERMANENT PART-TIME EMPLOYEES IN FIELD**

| | | | | | |
|--------------------------|---------------|--------|------------|------------|-----------------------------------|
| Roy M. Brown, Jr. | Water Comm. A | 29, 78 | 7.0 | 10.8 | 10,901 P |
| Bob R. Shahan | Water Comm. A | 77, 29 | 3.0 | 3.4 | 1,242 P |
| Lawrence J. Shock | Water Comm. A | 46, 31 | 7.0 | 11.2 | 6,218 P |
| John J. Taylor | Water Comm. A | 78 | <u>4.0</u> | <u>3.8</u> | <u>2,929 P</u> |
| TOTALS | | | 178.9 | 180.1 | 97,916 P |
| TOTAL MILEAGE FOR PERIOD | | | | | <u>54,600 S</u> <u>152,516</u> |

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

^{1/} George Edmonson given a total of 62 days to complete training of William E. Baker and work Annual Records.

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

III. WATER SUPPLY

A. SNOW PACK (Winter 1979-1980)

The San Juan seasonal accumulation, October through April, was very high - from 150% to 300% of normal. The Hesperus snow course reached a record depth and water content. This was reflected by the recorded flow - 116% of the predicted amount. May 1, 1980 snow conditions 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 | 79 | 171 |
| DOLORES RIVER | 5 | 110 | 211 |
| SAN JUAN RIVER | 4 | 83 | 179 |
| LA PLATA RIVER | 1 | 129 | 320 |
| MANCOS RIVER | 1 | 145 | 160 |

| <u>WATER SUPPLY</u> | APRO. THRU SEPT. FORECAST | APR. THRU SEPT. RECORDED | 15 YR. AVERAGE | APR. THRU SEPT. % OF AVERAGE |
|---------------------------|---------------------------|--------------------------|---------------------|------------------------------|
| | <u>(1,000 A.F.)</u> | <u>(1,000 A.F.)</u> | <u>(1,000 A.F.)</u> | <u>% OF AVERAGE</u> |
| ANIMAS RIVER @ DURANGO | 670 | 658 | 425 | 155 |
| DOLORES RIVER @ DOLORES | 390 | 430 | 233 | 184 |
| LA PLATA RIVER @ HESPERUS | 45 | 52 | 23.5 | 221 |
| PIEDRA RIVER @ ARBOLES | 400 | 389 | 201 | 194 |

B. PRECIPITATION (Summer 1980)

Very heavy precipitation occurred during the winter months, especially January and February, leading to an excellent spring runoff. However, the summer months were very dry until rainstorms in late August and early September helped raise the base flow of many streams. The following table compares the 1980 precipitation with respect to normal in Durango, Colorado:

| <u>MONTH</u> | <u>PRECIPITATION</u> | <u>HISTORIC NORMAL "</u> |
|--------------|----------------------|--------------------------|
| OCTOBER 1979 | .89" | 1.94" |
| NOVEMBER | .93" | 1.11" |
| DECEMBER | 1.78" | 1.90" |
| JANUARY 1980 | 6.95" | 1.70" |
| FEBRUARY | 4.80" | 1.14" |
| MARCH | 1.57" | 1.47" |
| APRIL | .87" | 1.36" |
| MAY | 2.01" | 1.12" |
| JUNE | 0 | .88" |
| JULY | .33" | 1.78" |
| AUGUST | 1.02" | 2.43" |
| SEPTEMBER | <u>1.80"</u> | <u>1.59"</u> |
| TOTAL | 22.95" | 18.42" |

B-1 COMPARATIVE STREAM FLOW DATA (In Acre Feet)

LA PLATA RIVER AT HESPERUS

| <u>MONTH</u> | <u>TEN YEAR MONTHLY AVERAGE STREAMFLOW</u> | <u>1979-1980 MONTHLY STREAMFLOW</u> | <u>PERCENT OF MONTHLY AVERAGE</u> | <u>PERCENT OF CUMULATIVE MONTHLY AVERAGE</u> |
|--------------|--|---|---|--|
| October | 1,210 | 439 | 36 | 36 |
| November | 766 | 361 | 47 | 40 |
| December | 567 | 330 | 58 | 44 |
| January | 444 | 348 | 78 | 49 |
| February | 444 | 301 | 68 | 52 |
| March | 838 | 385 | 46 | 51 |
| April | 3,035 | 4,780 | 157 | 95 |
| May | 8,628 | 13,160 | 153 | 126 |
| June | 7,994 | 25,040 | 313 | 189 |
| July | 2,774 | 3,750 | 135 | 183 |
| August | 1,114 | 980 | 88 | 179 |
| September | 1,104 | 1,860 | 168 | 179 |
| Total | 28,918 | 51,730 | | |

LA PLATA RIVER AT STATE LINE

| | | | | |
|-----------|--------|--------|-----|-----|
| October | 1,044 | 207 | 20 | 20 |
| November | 589 | 418 | 71 | 38 |
| December | 622 | 602 | 97 | 54 |
| January | 562 | 854 | 152 | 74 |
| February | 719 | 1,530 | 213 | 102 |
| March | 1,401 | 2,610 | 186 | 126 |
| April | 5,770 | 21,630 | 375 | 260 |
| May | 8,316 | 22,900 | 275 | 267 |
| June | 5,063 | 14,040 | 277 | 269 |
| July | 1,444 | 2,460 | 170 | 263 |
| August | 496 | 477 | 96 | 260 |
| September | 529 | 1,060 | 200 | 260 |
| Total | 26,555 | 68,790 | | |

ANIMAS RIVER AT HOWARDSVILLE

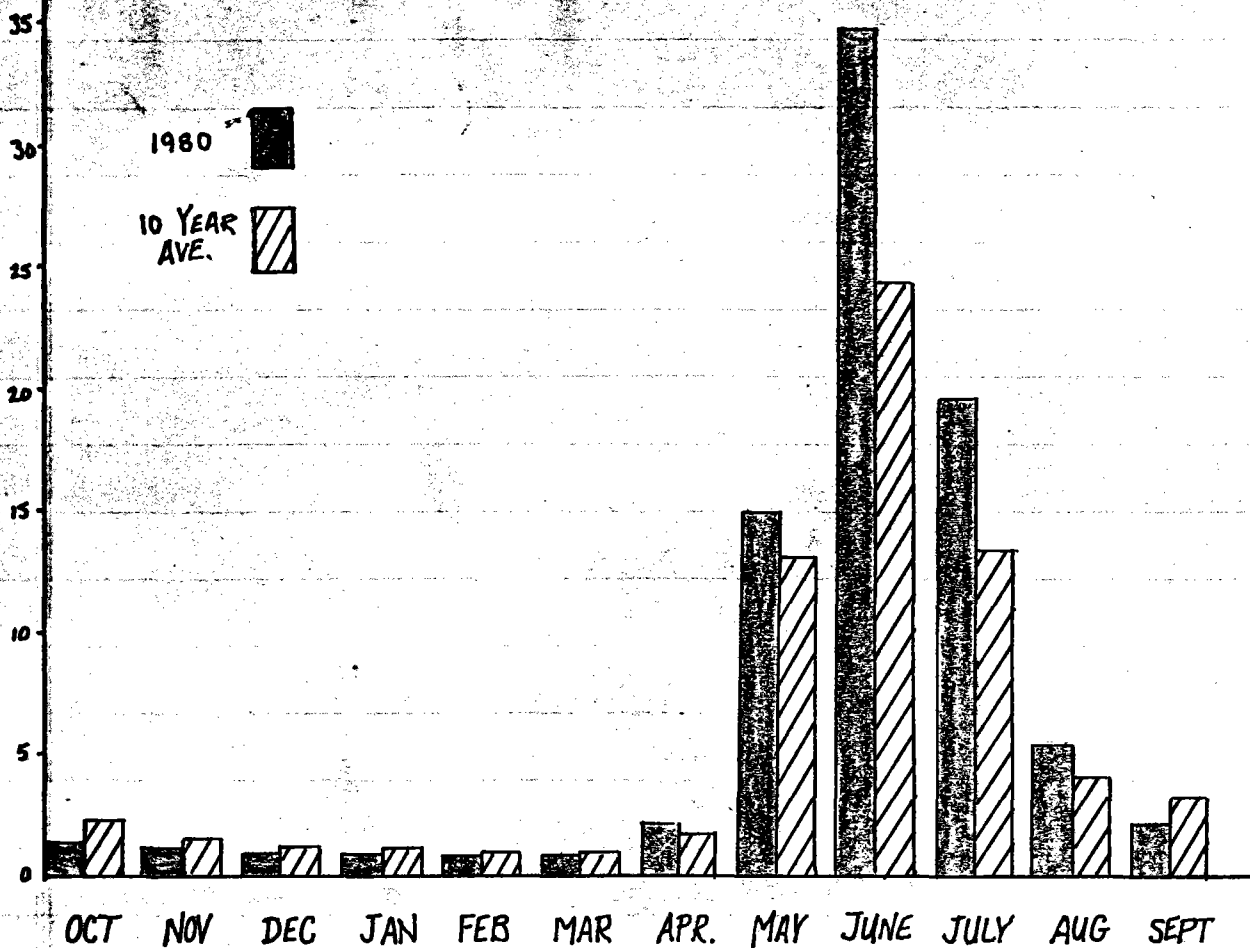
| | | | | |
|-----------|--------|--------|-----|-----|
| October | 2,155 | 1,250 | 58 | 58 |
| November | 1,448 | 1,040 | 71 | 64 |
| December | 1,172 | 928 | 79 | 67 |
| January | 1,007 | 879 | 87 | 71 |
| February | 884 | 772 | 87 | 73 |
| March | 984 | 875 | 89 | 75 |
| April | 2,056 | 1,730 | 84 | 77 |
| May | 13,066 | 14,900 | 114 | 98 |
| June | 25,256 | 34,590 | 137 | 119 |
| July | 13,392 | 19,540 | 146 | 125 |
| August | 4,088 | 5,440 | 133 | 125 |
| September | 3,265 | 2,150 | 66 | 122 |
| Total | 68,773 | 84,040 | | |

NAVAJO RIVER AT BANDED PEAK RANCHES

| | | | | |
|-----------|--------|---------|-----|-----|
| October | 3,436 | 2,170 | 63 | 63 |
| November | 2,339 | 1,820 | 78 | 69 |
| December | 1,837 | 1,800 | 98 | 76 |
| January | 1,687 | 1,790 | 106 | 82 |
| February | 1,620 | 1,800 | 111 | 86 |
| March | 2,455 | 2,010 | 82 | 85 |
| April | 5,780 | 7,250 | 125 | 97 |
| May | 17,615 | 27,270 | 155 | 125 |
| June | 22,260 | 44,030 | 198 | 152 |
| July | 9,930 | 12,310 | 124 | 148 |
| August | 3,677 | 4,250 | 116 | 147 |
| September | 3,358 | 3,920 | 117 | 145 |
| Total | 75,994 | 110,400 | | |

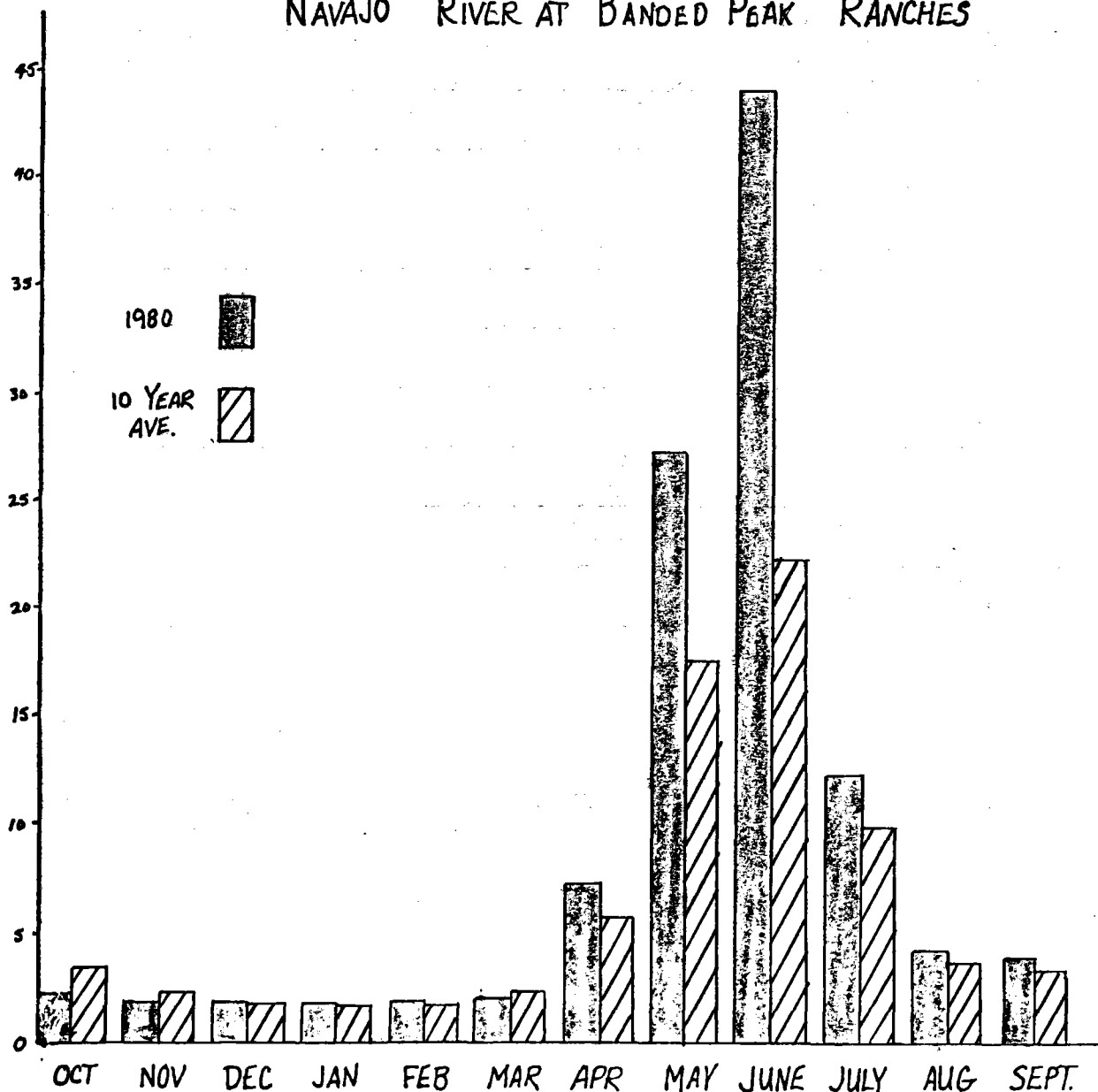
ANIMAS RIVER AT HOWARDSVILLE

MONTHLY FLOW - 1000 AC.-ft.



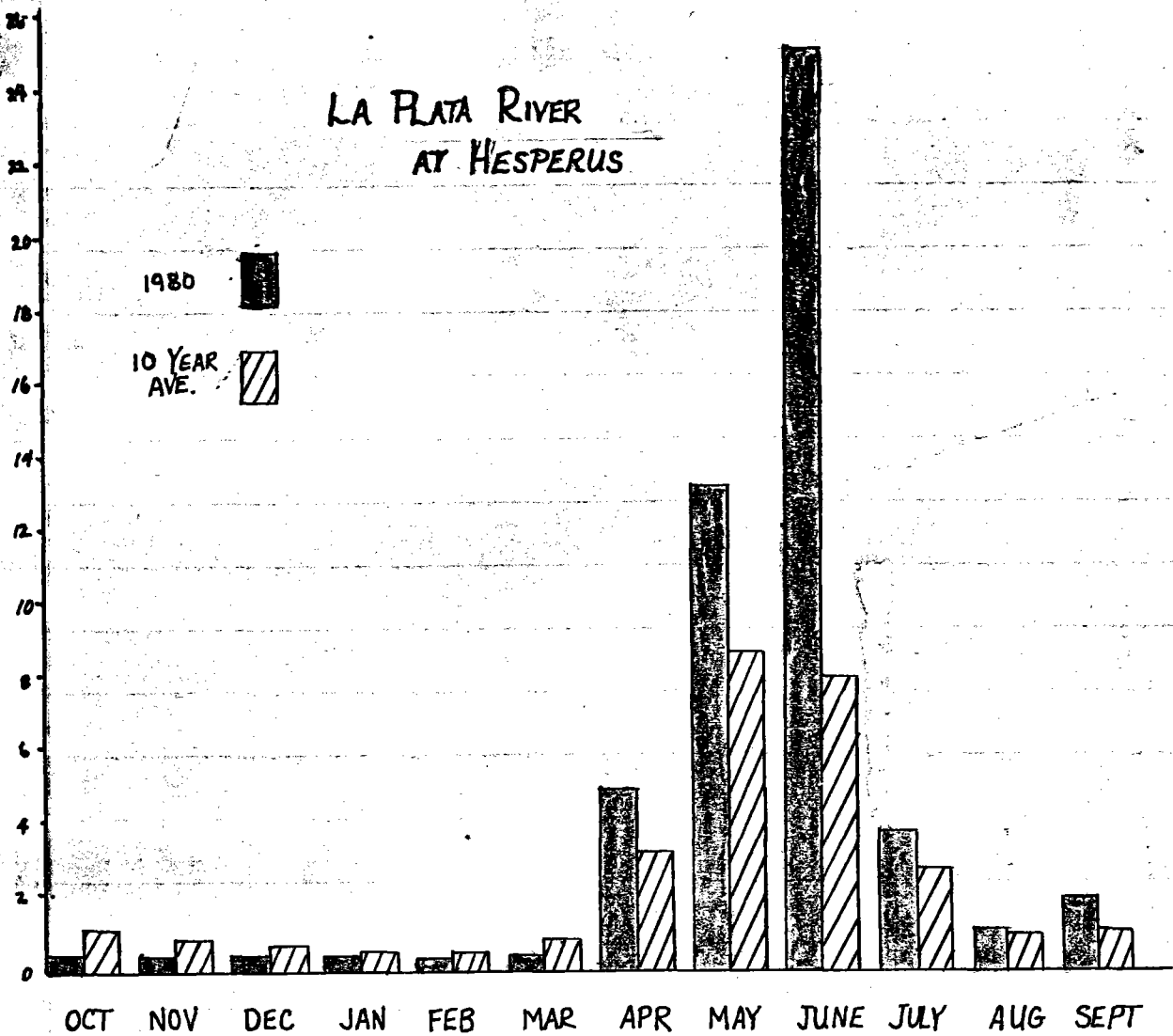
NAVAJO RIVER AT BANDED PEAK RANCHES

MONTHLY FLOW - 1000 AC.-ft.



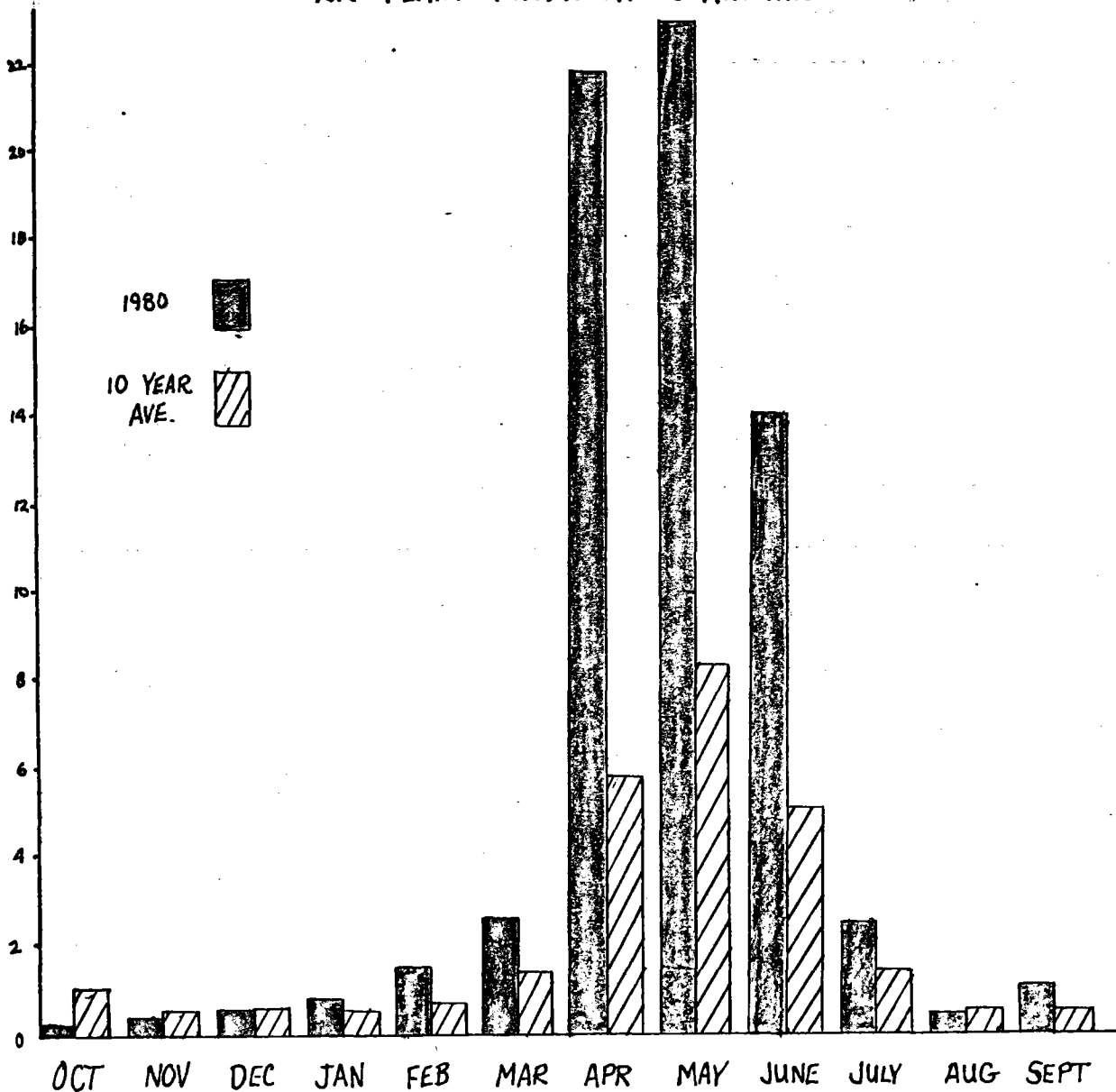
LA PLATA RIVER AT HESPERUS

MONTHLY FLOW - 1000 Ac.-ft.



LA PLATA RIVER AT STATELINE

MONTHLY FLOW - 1000 Ac.-ft.



C. FLOODS

The threat of flooding prevailed during the spring runoff as a result of the record snow pack.

Peaks were greater than those experienced in 1979 and extensive erosion resulted on most stream channels. The Upper Animas Valley had several problems with fields being flooded and the loss of some crops resulted. A few homes were threatened, but none were lost. Gravel companies and ranchers alike made efforts to protect their property, but regulation from the Clear Water Act prevented them from taking action. One dike that was built to protect ranch land may result in fines being levied against the owners by the Army Corps of Engineers.

Vallecito Creek above Vallecito Reservoir created serious problems for residents in the area, and it was necessary to evacuate one family. The County Civil Defense authorities staged a flood fight utilizing sand bags and fallen trees to divert the water and protect the residences.

During the threat of flooding, the State Engineer requested assistance from the Army Corps of Engineers in Sacramento, California, which was promptly responded to and Mr. David Wait of that agency spent a week in the Division in case of more serious flooding. No rains occurred during this time and everyone felt relieved when the rivers finally peaked. An airplane was chartered in an effort to determine the amount of snow pack remaining and the extent of the flooding. Once in the air, it became evident that the majority of the snow pack had melted and that the peak was on the decline. Photographs were taken and a selected few are included in this report, which may be helpful in future years.

Peak flows are as follows:

| <u>STREAM</u> | <u>DATE</u> <u>1980</u> | <u>PEAK</u> |
|---------------------------------|----------------------------|--------------|
| ANIMAS RIVER @ DURANGO | 6/11 | 8,220 c.f.s. |
| LA PLATA RIVER @ HESPERUS | 6/11 | 930 c.f.s. |
| MANCOS RIVER @ MANCOS | 5/22 | 988 c.f.s. |
| DOLORES RIVER @ DOLORES | 6/11 | 4,900 c.f.s. |
| SAN JUAN RIVER @ PAGOSA SPRINGS | 6/10 | 4,010 c.f.s. |
| PIEDRA RIVER @ ARBOLES | 5/22 | 6,140 c.f.s. |
| LA PLATA RIVER @ STATE LINE | 4/22 | 1,580 c.f.s. |
| ANIMAS RIVER @ HOWARDSVILLE | 6/10 | 1,240 c.f.s. |
| BLANCO RIVER @ BANDED PEAKS | 6/11 | 1,400 c.f.s. |

III. D. WATER BUDGET

FLOWS IN ACRE FEET

November 1, 1979 thru October 31, 1980

| 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 RIVER ^{1/} | 532,600 | 17,779 | 14,400 | 570 | 10 | -- | 142,634 ^{4/} | - 337 | 689,877 |
| PIEDRA RIVER | 421,100 | 7,845 | 9,414 | 3,000 | 40 | -- | 31 | + 427 | 434,012 |
| PINE RIVER ^{2/} | 321,290 | 67,842 | 81,410 | 5,500 | 90 | -- | 1,992 | +18,771 | 429,053 |
| ANIMAS RIVER | 889,700 | 35,720 | 39,292 | 3,800 | 1,490 | 7,462 | 312 | + 7,000 | 949,056 |
| MANCOS RIVER | 80,790 | 15,565 | 14,787 | 900 | 180 | -- | -- | + 4,466 | 101,123 |
| LA PLATA RIVER | 68,790 | 14,302 | 13,588 | 120 | -- | 975 | -- | - 22 | 83,451 |
| MC ELMO CREEK | 48,910 | 48,717 | 63,332 | 2,250 | 580 | -- | -106,544 ^{5/} | + 1,003 | 9,531 |
| DOLORES RIVER ^{3/} | 470,640 | 2,177 | 2,395 | 2,150 | 110 | -- | 11,317 ^{6/} | - 7,106 | 471,506 |
| DISAPPOINTMENT CREEK | 21,740 | 1,955 | 2,346 | 130 | -- | -- | -- | + 99 | 24,315 |

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 142,350 A.F., San Juan-Chama into New Mexico; and 284 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.

III. E. UNDERGROUND WATER

The massive number of filings that were made in December of 1979 by Colorado Pacific Aztec and Colorado Pacific Energy; and Bluepond & Associates, were consolidated into one state-wide water case. To date, hearings have been completed by the special water judge and a decision should be forthcoming.

As a result of the questions raised concerning non-tributary ground water, all cases related to this source of supply have been stayed by a court ruling until such time as the questions of law are answered in the special water court.

Considerable activity in the area of Domestic wells is still being experienced as subdivisions continue to be platted in La Plata and Montezuma Counties. Several plans of augmentation have been filed with the water court and it appears that more will be forthcoming, particularly on the La Plata River and Elbert Creek drainages.

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 | 123 |
| Weminuche Pass Ditch (Raber-Lohr Ditch) | 31 | Pine River | Hilde Lohr & Leon Raber Del Norte, Colorado | 1,869 |
| Treasure Pass Diversion | 29 | San Juan R. | Fred Falk, Del Norte, CO. | 253 |
| 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 | 0 |
| Don LaFont Ditch #2 (Piedra Pass Ditch) | 78 | Piedra River | Colorado Div. of Wildlife | 31 |
| Carbon Lake Ditch | 30 | Animas River | Ouray Ditch Co., Montrose, CO. | 84 |
| Red Mountain Ditch | 30 | Animas River | Ouray Ditch Co., Montrose, CO. | 228 |
| Mineral Point Ditch | 30 | Animas River | Warren Gibbs, Ouray, CO. | No. Struc. |
| St. John Ditch | 30 | Animas River | Charles Gunn & W. Worley Olathe, Colorado | No. Struc. |
| | | | TOTAL | 2,588 A.F. |

III G. RESERVOIR STORAGE IN ACRE FEET

| DISTRICT <u>29</u> | BEGINNING OF SEASON | MAXIMUM | END OF SEASON |
|--|---------------------------|--------------|---------------------|
| BARROW DITCH AND R_SERVOIR | 13 | 13 | 13 |
| BLANCO RETAINING POND | 1 | 1 | 1 |
| BORNS LAKE RESERVOIR | 68 | 68 | 68 |
| BRAMWELL RESERVOIRS, 1, 2, 3 | 1 | 4 | 1 |
| BROWN RESERVOIR | 1 | 6 | 1 |
| CRESCENT LAKE RESERVOIR | 35 | 35 | 35 |
| DRY GULCH RESERVOIR | 0 | 1 | 0 |
| ECHO CANYON RESERVOIR | 2,150 | 2,200 | 2,000 |
| ECHO RESERVOIR | 0 | 2 | 0 |
| ECHO RESERVOIR NO. 2 | 1 | 7 | 1 |
| EIGHT MILE RESERVOIR | 0 | 1 | 0 |
| FAWN GULCH RESERVOIR | 0 | 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 | 31 | 49 | 11 |
| HARRIS BROS. AND BOONE RESERVOIR NO. 2 | 172 | 205 | 77 |
| HARVEY LAKE | 4 | 4 | 4 |
| HATCHER RETAINING POND | 7 | 7 | 7 |
| HYDEAWAY RANCH RESERVOIR | 4 | 4 | 4 |
| JOE HERSCH RESERVOIR | 2 | 2 | 2 |
| MC GIRR AND GOMEZ RESERVOIR | 0 | 0 | 0 |
| PAGOSA RESERVOIR | 25 | 25 | 25 |
| SHOESTRING RESERVOIR | 0 | 1 | 0 |
| SPILER CANYON RESERVOIR | 0 | 2 | 0 |
| SQUAW GAP RESERVOIR | 0 | 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 | 1 | 1 | 1 |
| VALLE SECO RESERVOIR | 0 | .5 | 0 |
| WILLOW DRAW RESERVOIR | 0 | 1 | 0 |
| WILSONS LAKE | 7 | 7 | 7 |
| FOUR MILE RESERVOIR | | | |
| TOTAL | <u>2,660</u> | <u>2,790</u> | <u>2,395</u> |

| DISTRICT <u>30</u> | BEGINNING OF SEASON | MAXIMUM | END OF SEASON |
|-------------------------|---------------------------|---------|---------------------|
| ANDREWS LAKE | 116 | 132 | 120 |
| CASCADE RESERVOIR | 11,312 | 15,153 | 14,721 |
| CASCADE RESERVOIR NO. 3 | 95 | 95 | 63 |
| 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 <u>SEASON</u> | <u>MAXIMUM</u> | END OF <u>SEASON</u> |
|------------------------------------|----------------------------------|----------------|----------------------------|
| FLORIDA CANAL AND RESERVOIR | 200 | 200 | 200 |
| GREGG RESERVOIR | 2 | 2 | 2 |
| HAVILAND LAKE RESERVOIR | 220 | 220 | 220 |
| HENDERSON LAKE | 54 | 58 | 57 |
| HOTTER BROTHERS LAKE | 39 | 39 | 39 |
| ICE LAKE RESERVOIR | 415 | 416 | 412 |
| JOHANSING-VINNEL FISH RESERVOIR | 4 | 4 | 4 |
| KEELER RESERVOIR | 487 | 487 | 487 |
| LAKE CAROL | 8 | 8 | 8 |
| LAKE OF THE PINES | 102 | 114 | 112 |
| LAKE SUSAN | 17 | 17 | 17 |
| LEMON RESERVOIR | 19,330 | 39,854 | 22,939 |
| LEMON RR RESERVOIR | 15 | 15 | 15 |
| L-U LAKES | 3 | 3 | 3 |
| MACY RESERVOIR | 0 | 11 | .5 |
| NAEGELIN LAKE | 450 | 591 | 480 |
| PATRICIA A. SHERWOOD RESERVOIR | 4 | 4 | 4 |
| SHORT RESERVOIR | 0 | 0 | 0 |
| TAMARRON LAKE NO. 1 | 36 | 36 | 36 |
| TURNER PUMP STATION AND PONDS | 20 | 0 | 0 |
| TURNER RESERVOIR | 465 | 473 | 452 |
| WARNER RESERVOIRS NO. 1 THRU No. 8 | 45 | 47 | 47 |
| TOTAL | <u>34,062</u> | <u>58,602</u> | <u>41,062</u> |
| | | | |
| DISTRICT <u>31</u> | | | |
| BELLFLOWER RETENTION RESERVOIR | 15 | 20 | 20 |
| FITZGERALD IRRIGATION SYSTEM | 1 | 5 | .5 |
| FREDERICK RESERVOIR NO. 2 | 3 | 3 | 3 |
| JEFFRIES POND NO. 1 | 1 | 1 | 1 |
| JEFFRIES POND NO. 2 | 1.5 | 3 | 1.5 |
| MARK E. TAYLOR RESERVOIR | 4.5 | 4.5 | 4.5 |
| PINE SPRINGS RANCH RESERVOIR NO. 1 | 1 | 1 | 0 |
| VALLECITO RESERVOIR | 38,182 | 121,815 | 56,966 |
| WILDORADO RESERVOIR NO. 26 | 14 | 14 | 14 |
| WOMMER RESERVOIR NO. 1 | <u>133</u> | <u>186</u> | <u>115</u> |
| TOTAL | <u>38,356</u> | <u>122,052</u> | <u>57,126</u> |
| | | | |
| DISTRICT <u>32</u> | | | |
| A M PUETT RESERVOIR | 165 | 1,681 | 165 |
| BUTTS RESERVOIR | 18 | 18 | 18 |
| DUCKS NEST RESERVOIR | 130 | 130 | 0 |
| LIVELY RESERVOIR | 15 | 15 | 15 |
| MARGWAIN STORAGE RESERVOIR | 0 | 5 | 0 |
| NARRAGUINNEP RESERVOIR | 6,086 | 18,960 | 7,186 |
| ROBERT LEIGHTON RESERVOIR | 30 | 34 | 34.2 |

III G. RESERVOIR STORAGE IN ACRE FEET

| DISTRICT | BEGINNING OF SEASON | MAXIMUM | END OF SEASON |
|--------------------------------|---------------------------|--------------|---------------------|
| DISTRICT <u>32 (Continued)</u> | | | |
| TOTTEN RESERVOIR | 2,248 | 3,302 | 2,277 |
| WEST RESERVOIR | 6 | 6 | 6 |
| WILKERSON POND NO. 1 | <u>11</u> | <u>11</u> | <u>11</u> |
| TOTAL | 8,709 | 24,162 | 9,712 |
| DISTRICT <u>33</u> | | | |
| RED MESA WARD RESERVOIR | 284 | 1,176 | 262 |
| TAYLOR RESERVOIR | <u>86</u> | <u>86</u> | <u>86</u> |
| TOTAL | 370 | 1,262 | 348 |
| DISTRICT <u>34</u> | | | |
| BAUER RESERVOIR NO. 1 | 54 | 357 | 32.6 |
| BAUER RESERVOIR NO. 2 | 502 | 1,533 | 570.3 |
| COPPINGER NO. 1 RESERVOIR | 29 | 35 | 6.5 |
| COPPINGER NO. 2 RESERVOIR | 11 | 14 | 1.8 |
| JACKSON GULCH RESERVOIR | 29 | 9,980 | 4,578.3 |
| L A BAR RESERVOIR | 62 | 73 | 16.0 |
| SELLARS & MC CLANE RESERVOIR | 12 | 52 | 12 |
| SPENCER RESERVOIR | 0 | 15 | 15.0 |
| WEBER RESERVOIR | <u>231</u> | <u>442</u> | <u>163.4</u> |
| TOTAL | 930 | 12,501 | 5,396 |
| DISTRICT <u>46</u> | | | |
| BARNS RESERVOIR | 0 | 1 | 1 |
| DISTRICT <u>69</u> | | | |
| BELMAR LAKE RESERVOIR | 223 | 408 | 300 |
| DUNHAM RESERVOIR | 49 | 78 | 58 |
| GARDNER RESERVOIR | 23 | 37 | 27 |
| MORRISON RESERVOIR | 95 | 116 | 105 |
| NORTH DRAW RESERVOIR | <u>4</u> | <u>14</u> | <u>3.0</u> |
| TOTAL | 394 | 653 | 493 |
| DISTRICT <u>71</u> | | | |
| BIG PINE RESERVOIR | 160 | 460 | 160 |
| BUCK PASTURE RESERVOIR | 53 | 53 | 53 |
| ETHEL BELMAR RESERVOIR | 40 | 87 | 50 |
| GROUNDHOG RESERVOIR | 7,744 | 21,711 | 600 |
| LOST CANYON RESERVOIR | 70 | 106 | 95 |
| R. B. COPPINGER RESERVOIR | 0 | 16 | 3 |
| SUMMIT RESERVOIR | <u>663</u> | <u>4,795</u> | <u>663</u> |
| TOTAL | 8,730 | 27,228 | 1,624 |
| DISTRICT <u>77</u> | | | |
| GARDNER LAKE | 15 | 15 | 15 |
| SPENCE RESERVOIR | <u>172</u> | <u>441</u> | <u>100</u> |
| TOTAL | 187 | 456 | 115 |

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 | 0 | 2 | 1 |
| DEVIL RESERVOIR | 8 | 8 | 8 |
| DUNNAGAN RESERVOIR | 89 | 94 | 12 |
| G. S. HATCHER RESERVOIR | 1,735 | 1,735 | 1,482 |
| LAKE FOREST RESERVOIR | 35 | 500 | 388 |
| J BAR J POND | 2 | 5 | 0 |
| LINN AND CLARK RESERVOIR | 997 | 997 | 958 |
| O'CONNELL LAKE | 42 | 42 | 31 |
| PARK RESERVOIR | 0 | 1 | 0 |
| PIEDRA RETAINING POND | 5 | 5 | 5 |
| PALISADE LAKE | 50 | 50 | 50 |
| PARGIN RESERVOIR | 531 | 531 | 531 |
| PINON LAKE RESERVOIR | 162 | 162 | 162 |
| POMA RESERVOIR | 27 | 27 | 27 |
| SCHMIEDEN RESERVOIR | 36 | 36 | 36 |
| SPRING CREEK RESERVOIR | 11 | 46 | 8 |
| STEVENS RESERVOIR AND DAM | 614 | 635 | 477 |
| TOWN CENTER LAKE RESERVOIR | 472 | 600 | 528 |
| TURKEY SPRING RESERVOIR | 0 | 2 | 0 |
| WILLIAMS CREEK RESERVOIR | <u>10,084</u> | <u>10,084</u> | <u>10,084</u> |
| TOTAL | 15,215 | 15,562 | 14,788 |

IV. AGRICULTURE

Agriculture production for southwestern Colorado during 1980 was below normal as a result of a late frost and lack of mid-summer precipitation, although there was adequate irrigation water for the entire season in most areas.

The conversion of agricultural land to subdivisions is becoming a continued practice throughout the region. However, it does not appear as though a large percentage of land is being lost to farming compared to the total lands utilized.

Some representative crop yields are listed below.

| <u>CROP</u> | <u>YIELD/ACRE 1980</u> | <u>NORMAL YIELD/ACRE</u> |
|-----------------------|------------------------|--------------------------|
| Dry land beans | 150 lbs. - 200 lbs. | 310 lbs. |
| Dry land wheat | 12 bushels | 24 bushels |
| Dry land barley | No Report | 28 bushels |
| Irrigated hay | 3 tons | 2.1 tons |
| Irrigated corn silage | 10 tons | 15 tons (1979) |

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 Plata Project. Administration has not been required to meet the Colorado River Compact as yet, however, the Division is undertaking a comprehensive study of existing irrigated acres, as well as analysis of other uses to aid in determining depletion to the Basin by man-made uses.

The La Plata Compact, as usual, did require administration.

B. SAN JUAN-CHAMA DIVERSION PROJECT

For the past two years, heavy snow packs have allowed for continued high diversions through the San Juan-Chama Project from Colorado to New Mexico. Preliminary figures show a total of 142,350 acre feet for the past season. This brings the total diversions since completion of the Project (1971) to 979,050 acre feet, or a ten-year average of 97,905 acre feet, which is less than the 135,000 acre feet 10-year average limitation set forth in the authorizing legislation.

A case has been filed in the United States District Court for New Mexico by the Jicarilla Apache Tribe against the Department of the Interior and city of Albuquerque, challenging the validity of Albuquerque to store its share of San Juan-Chama water in Elephant Butte Reservoir. Judge Paynor has ruled that it is illegal to store the water in Elephant Butte without a permit from the State Engineer of New Mexico, and congressional authorization. An appeal of this decision is presently being made. If the decision stands and Congress does not authorize storage in Elephant Butte, then a limit of the amount of water that can be taken to New Mexico may occur. Consequently, it is important that this process is carefully monitored.

Progress has been made on resolving the controversy over the measurement of the bypass water below the Oso Diversion Dam and the Blanco Diversion Dam. New Parshall Flumes have been installed at both locations and field checking of the ratings by our hydrographer has resulted in an agreement being reached whereby the Water and Power Resources Service utilizes our measurements in calibrating the releases. However, the controversy as to minimum flows in the stream, versus minimum bypass requirements is still unresolved.

C. LA PLATA RIVER COMPACT

This season the La Plata River had an excellent water supply as a result of another extremely heavy snow pack. New Mexico did not request delivery until July 6, 1980. The stream was consequently administered until August 13, 1980, when the flow became inadequate to meet the New Mexico requirement, and the river was ruled futile. At that time, New Mexico was given the return flows. On August 22, 1980, minor precipitation occurred and allowed delivery of New Mexico's water for five days until August 26, 1980. During mid-September, there was heavy precipitation, and again we were able to meet the Compact until the eighteenth. From then until December, Colorado users were given the entire flow at Hesperus, however, there was enough flow at the State Line as a result of return flows to satisfy the Compact requirements.

C-1 LA PLATA RIVER COMPACT

The table on the following page is a summary of the monthly figures in acre feet, for the period December 1979 through November 1980.

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 1979 | 330 | -- | -- | 330 | 602 | -- | -- | 602 | -- |
| JANUARY 1980 | 348 | -- | -- | 348 | 854 | -- | -- | 854 | -- |
| FEBRUARY | 301 | -- | -- | 301 | 1,530 | -- | -- | 1,530 | -- |
| MARCH | 385 | 0 | 0 | 385 | 2,610 | 0 | 0 | 2,610 | -- |
| APRIL | 4,780 | 0 | 0 | 4,780 | 21,630 | 0 | 0 | 21,630 | -- |
| MAY | 13,160 | 0 | 0 | 13,160 | 22,900 | 137 | 0 | 23,037 | -- |
| JUNE | 25,040 | 0 | 341 | 25,381 | 14,040 | 89 | 246 | 14,375 | -- |
| JULY | 3,750 | 1,670 | 473 | 5,893 | 2,460 | 126 | 64 | 2,650 | 960 ^{1/} |
| AUGUST | 980 | 351 | 0 | 1,331 | 477 | 131 | 45 | 653 | 214 ^{2/3/} |
| SEPTEMBER | 1,860 | 149 | 111 | 2,120 | 1,060 | 77 | 23 | 1,160 | 442 ^{4/5/} |
| OCTOBER | 629 | 0 | 0 | 629 | 597 | 34 | 3 | 634 | -- |
| NOVEMBER | 585 | 0 | 0 | 585 | 656 | 0 | 0 | 656 | -- |
| TOTALS | 52,148 | 2,170 | 925 | 55,243 | 69,416 | 594 | 381 | 70,391 | 1,616 |

- 1/ New Mexico requested Compact split July 6.
- 2/ Futile delivery August 14.
- 3/ Increased tributary inflow from rain August 22-26.
- 4/ Compact split September 11
- 5/ Upper river totally diverted - return flow meeting Compact September 19

VI. DAMS

Construction began this Spring on a new Electra Lake Dam. This structure is a rock fill dam with an asphalt apron on the upstream face. The majority of work has been completed on the concrete cutoff wall and the rock fill embankment. The outlet tunnel has been completed and water is presently being passed through it for power releases to the Tacoma Power Plant. The upcoming construction season will complete the asphalt face and the reconstruction of Aspaas Dam on the north end of the reservoir.

Questions are being raised as to problems of administration once the new structure is in place and the leakage which has historically been available for downstream users on Elbert Creek will be substantially reduced, if not totally eliminated.

Sappington Reservoir has been totally completed in District 77, with an approximate capacity of 400 acre feet.

Johnson Reservoir in District 30 is 90% completed, however, the rip rap and outlet headworks have not been finished to standards and it may be necessary to place restrictions on the amount of storage allowed.

The Army Corps of Engineers have completed phase one on inspections of reservoirs in the Division with most of the owners receiving reports as to upgrading which will be necessary to meet present dam safety standards.

B. LIVESTOCK WATER TANKS

There were eighteen permits issued for livestock water tanks and/or erosion control dams this year. This compares to twenty-one permits for the previous year. The Soil Conservation Service has been cooperating extremely well with the Division 7 staff with regards to applications for new tanks and their construction.

VII. WATER RIGHTS

A. TABULATIONS

We received eleven objections to the 1978 Tabulation. Of these, the majority were in the nature of clerical errors which are being corrected. Those that do involve objections which raise legal questions have been forwarded to the Attorney General's Office for review prior to action being taken. As yet there have been no formal hearings held by the Division Engineer.

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 | 40 | 36 | 28 | 24 |
| 2. Change of Water Rights | 18 | 17 | 33 | 22 |
| 3. Plans of Augmentation | 7 | 7 | 3 | 1 |
| 4. Surface Water Rights | 114 | 58 | 58 | 53 |
| 5. Due Diligence: | | | | |
| Quadrennial Findings | 102 | 77 | 77 | 75 |
| Conditional Made Absolute | 28 | 22 | 18 | 18 |
| 6. Water Storage Rights | <u>24</u> | <u>19</u> | <u>14</u> | <u>13</u> |
| TOTALS | <u>357</u> | <u>255</u> | <u>245</u> | <u>219</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 | 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 |

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 | Robert Formwalt, Pres. | Pagosa Springs, Colorado |
| <u>DISTRICT 30</u> | | |
| 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 Co. Rd. 234, Durango |
| Hermosa Ditch Company | Lois Hood, Sec. | 32446 Hiway 550, Durango |
| Pioneer Ditch Company | Marjorie Hurt | 383 Co. Rd. 225, Durango |
| Reid Ditch | Althea Knowlton, Sec. (247-0275) | |
| | Animas Valley Ditch Company | 4315 Co. Rd. 250, Durango |
| <u>DISTRICT 31</u> | | |
| King Ditch Company | John Olbert, Sec. | 1728 Co. Rd. 501, Ignacio |
| Los Pinos Ditch Company | Mrs. Frank Ludwig, Sec. | Box 245, Bayfield |
| Robert Morrison Ditch Company | Rex Richmond, Sec. | 399 Co. Rd. 315, Ignacio |
| *Schroder Irrigation Ditch Co. | Jim Sitton, Pres. | 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. Rd. 505, Ignacio |
| Thompson-Epperson Ditch Co. | Earl Canby, 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) | | |
| <u>DISTRICT 32</u> | | |
| Montezuma Valley Irrigation Co. | Les Nunn, Supt. | 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 | Grace McWhirt | Mancos, Colorado |
| Webber Ditch Company | Lloyd Doerfer | Mancos, Colorado |
| Webber Reservoir & Ditch Co. | Foster Hall | Mancos, Colorado |
| C - C Ditch Company | Dr. Robert Bement | Mancos, Colorado |
| <u>DISTRICT 71</u> | | |
| 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 |
| <u>DISTRICT 78</u> | | |
| 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 | 53,366 |
| STORAGE | 88 |
| STOCKWATER | 7,136 |
| MUNICIPAL | 38 |
| DOMESTIC | 767 |
| INDUSTRIAL | -- |
| RECREATIONAL | -- |
| FISH | 2,563 |
| OTHER: | 2,552 |
| TRANSMOUNTAIN-TRANSBASIN | 2,501 |
| INTERSTATE | 57,832 |
| TOTAL DIVERSIONS | <u>126,842</u> |

| | |
|---------------------------------|------------|
| DELIVERIES FROM STORAGE: | |
| IRRIGATION | -- |
| DOMESTIC | -- |
| MUNICIPAL | 22 |
| STOCK | -- |
| INDUSTRIAL | -- |
| RECREATIONAL | -- |
| TRANSBASIN-TRANSMOUNTAIN | 160 |
| OTHER: FISH | 160 |
| TOTAL FROM STORAGE | <u>342</u> |

| | |
|------------------------------------|-----------|
| DELIVERIES FROM TRANSBASIN: | |
| IRRIGATION | -- |
| STORAGE | -- |
| MUNICIPAL | -- |
| TOTAL FROM TRANSBASIN | <u>--</u> |

| | |
|-----------------------------|-------------|
| DUTY OF WATER: | |
| TOTAL TO IRRIGATION | 53,366 |
| ACRES IRRIGATED | 13,739 |
| ACRE FEET DIVERTED PER ACRE | <u>3.88</u> |

| | |
|--|--------------|
| NUMBER OF STRUCTURES OBSERVED: | |
| WATER RUN - NO INFORMATION AVAILABLE | 3 |
| ACTIVE DIVERSIONS - DAILY | 140 |
| INFREQUENT | 80 |
| INACTIVE DIVERSIONS - NO WATER AVAILABLE | -- |
| NOT USED | 138 |
| NO INFORMATION AVAILABLE | 2 |
| NUMBER OF DITCHES | 300 |
| NUMBER OF RESERVOIRS | 53 |
| NUMBER OF WELLS | 41 |
| NUMBER OF OBSERVATIONS | <u>4,594</u> |

IX. WATER COMMISSIONER'S SUMMARY

WATER DISTRICT 30

| | <u>ACRE FEET</u> |
|---|------------------|
| DIRECT DIVERSIONS: | |
| IRRIGATION | 120,841 |
| STORAGE | 43,044 |
| STOCKWATER | 7,444 |
| MUNICIPAL | 5,335 |
| DOMESTIC | 176 |
| INDUSTRIAL | 10,300 |
| RECREATIONAL | 365 |
| FISH | 7,978 |
| OTHER: COMMERCIAL | 614 |
| TRANSMOUNTAIN-TRANSBASIN | 312 |
| INTERSTATE | 7,462 |
| TOTAL DIVERSIONS | <u>203,871</u> |
| DELIVERIES FROM STORAGE: | |
| IRRIGATION | 22,207 |
| DOMESTIC | 12 |
| MUNICIPAL | 8 |
| STOCK | 505 |
| INDUSTRIAL | 9,772 |
| RECREATIONAL | -- |
| TRANSBASIN-TRANSMOUNTAIN | -- |
| OTHER: | 1,862 |
| TOTAL FROM STORAGE | <u>34,366</u> |
| DELIVERIES FROM TRANSBASIN: | |
| IRRIGATION | -- |
| STORAGE | -- |
| MUNICIPAL | -- |
| TOTAL FROM TRANSBASIN | <u>--</u> |
| DUTY OF WATER: | |
| TOTAL TO IRRIGATION | 143,648 |
| ACRES IRRIGATED | 35,720 |
| ACRE FEET DIVERTED PER ACRE | 4.00 |
| NUMBER OF STRUCTURES OBSERVED: | |
| WATER RUN - NO INFORMATION AVAILABLE | 8 |
| ACTIVE DIVERSIONS - DAILY | 202 |
| INFREQUENT | 350 |
| INACTIVE DIVERSIONS - NO WATER AVAILABLE | 6 |
| NOT USED | 311 |
| NO INFORMATION AVAILABLE | 2 |
| NUMBER OF DITCHES | 580 |
| NUMBER OF RESERVOIRS | 65 |
| NUMBER OF WELLS | 273 |
| NUMBER OF OBSERVATIONS | 9,106 |

IX. WATER COMMISSIONER'S SUMMARY

WATER DISTRICT 31

| | <u>ACRE FEET</u> |
|--|------------------|
| DIRECT DIVERSIONS: | |
| COMMERCIAL | 52 |
| IRRIGATION | 179,238 |
| STORAGE | 105,930 |
| STOCKWATER | 6,134 |
| MUNICIPAL | 463 |
| DOMESTIC | 84 |
| INDUSTRIAL | -- |
| RECREATIONAL | 1 |
| FISH | 943 |
| OTHER: | 3 |
| TRANSMOUNTAIN-TRANSBASIN | 1,992 |
| INTERSTATE | -- |
| TOTAL DIVERSIONS | <u>294,840</u> |
| DELIVERIES FROM STORAGE: | |
| FISH | 1,595 |
| IRRIGATION | 51,187 |
| DOMESTIC | 167 |
| MUNICIPAL | -- |
| STOCK | -- |
| INDUSTRIAL | -- |
| RECREATIONAL | -- |
| TRANSBASIN-TRANSMOUNTAIN | 26,600* |
| OTHER: | -- |
| TOTAL FROM STORAGE | <u>79,549</u> |
| DELIVERIES FROM TRANSBASIN: | |
| IRRIGATION | -- |
| STORAGE | -- |
| MUNICIPAL | -- |
| TOTAL FROM TRANSBASIN | <u>--</u> |
| DUTY OF WATER: | |
| TOTAL TO IRRIGATION | 230,425 |
| ACRES IRRIGATED | 56,323 |
| ACRE FEET DIVERTED PER ACRE | <u>4.09</u> |
| NUMBER OF STRUCTURES OBSERVED: | |
| WATER RUN - NO INFORMATION AVAILABLE | -- |
| ACTIVE DIVERSIONS - DAILY | 108 |
| INFREQUENT | 173 |
| INACTIVE DIVERSIONS - NO WATER AVAILABLE | -- |
| NOT USED | 106 |
| NO INFORMATION AVAILABLE | -- |
| NUMBER OF DITCHES | 266 |
| NUMBER OF RESERVOIRS | 23 |
| NUMBER OF WELLS | 98 |
| NUMBER OF OBSERVATIONS | <u>15,030</u> |

*Figure attributed to evaporation from Vallecito Reservoir as originally given by Water and Power Resources Service. They are now recomputing their figures.

IX. WATER COMMISSIONER'S SUMMARY

WATER DISTRICT 32

| | <u>ACRE FEET</u> |
|---------------------------|----------------------|
| DIRECT DIVERSIONS: | |
| COMMERCIAL | 7 |
| IRRIGATION | <u>43,964</u> |
| STORAGE | <u>744</u> |
| STOCKWATER | <u>410</u> |
| MUNICIPAL | <u>515</u> |
| DOMESTIC | <u>14</u> |
| INDUSTRIAL | <u>2</u> |
| RECREATIONAL | <u>--</u> |
| FISH | <u>3</u> |
| OTHER: | <u>2</u> |
| TRANSMOUNTAIN-TRANSBASIN | <u>--</u> |
| INTERSTATE | <u>--</u> |
| TOTAL DIVERSIONS | <u><u>45,659</u></u> |

| | |
|---------------------------------|----------------------|
| DELIVERIES FROM STORAGE: | |
| IRRIGATION | <u>17,301</u> |
| DOMESTIC | <u>--</u> |
| MUNICIPAL | <u>--</u> |
| STOCK | <u>1,104</u> |
| INDUSTRIAL | <u>--</u> |
| RECREATIONAL | <u>--</u> |
| TRANSBASIN-TRANSMOUNTAIN | <u>--</u> |
| OTHER: | <u>142</u> |
| TOTAL FROM STORAGE | <u><u>18,547</u></u> |

| | |
|------------------------------------|-----------------------|
| DELIVERIES FROM TRANSBASIN: | |
| IRRIGATION | <u>111,200</u> |
| STORAGE | <u>15,305</u> |
| MUNICIPAL | <u>2,381</u> |
| STOCKWATER | <u>902</u> |
| TOTAL FROM TRANSBASIN | <u><u>129,788</u></u> |

| | |
|-----------------------------|----------------|
| DUTY OF WATER: | |
| TOTAL TO IRRIGATION | <u>172,465</u> |
| ACRES IRRIGATED | <u>48,717</u> |
| ACRE FEET DIVERTED PER ACRE | <u>3.5</u> |

| | |
|--|---------------------|
| NUMBER OF STRUCTURES OBSERVED: | |
| WATER RUN - NO INFORMATION AVAILABLE | |
| ACTIVE DIVERSIONS - DAILY | <u>162</u> |
| INFREQUENT | <u>37</u> |
| INACTIVE DIVERSIONS - NO WATER AVAILABLE | <u>1</u> |
| NOT USED | <u>89</u> |
| NO INFORMATION AVAILABLE | <u>--</u> |
| NUMBER OF DITCHES | <u>254</u> |
| NUMBER OF RESERVOIRS | <u>15</u> |
| NUMBER OF WELLS | <u>22</u> |
| NUMBER OF OBSERVATIONS | <u><u>6,190</u></u> |

IX. WATER COMMISSIONER'S SUMMARY

WATER DISTRICT 33

| | <u>ACRE FEET</u> |
|---|------------------|
| DIRECT DIVERSIONS: | |
| IRRIGATION | 29,881 |
| STORAGE | 1,432 |
| STOCKWATER | 2,445 |
| MUNICIPAL | -- |
| DOMESTIC | 40 |
| INDUSTRIAL | -- |
| RECREATIONAL | -- |
| FISH | -- |
| OTHER: COMMERCIAL | 5 |
| TRANSMOUNTAIN-TRANSBASIN | -- |
| INTERSTATE | 970 |
| TOTAL DIVERSIONS | <u>34,773</u> |
| DELIVERIES FROM STORAGE: | |
| IRRIGATION | 970 |
| DOMESTIC | -- |
| MUNICIPAL | -- |
| STOCK | 65 |
| INDUSTRIAL | -- |
| RECREATIONAL | -- |
| TRANSBASIN-TRANSMOUNTAIN | -- |
| OTHER: | -- |
| TOTAL FROM STORAGE | <u>1,035</u> |
| DELIVERIES FROM TRANSBASIN: | |
| IRRIGATION | -- |
| STORAGE | -- |
| MUNICIPAL | -- |
| TOTAL FROM TRANSBASIN | <u>--</u> |
| DUTY OF WATER: | |
| TOTAL TO IRRIGATION | 30,851 |
| ACRES IRRIGATED | 14,302 |
| ACRE FEET DIVERTED PER ACRE | <u>2.16</u> |
| NUMBER OF STRUCTURES OBSERVED: | |
| WATER RUN - NO INFORMATION AVAILABLE | -- |
| ACTIVE DIVERSIONS - DAILY | 51 |
| INFREQUENT | 50 |
| INACTIVE DIVERSIONS - NO WATER AVAILABLE | -- |
| NOT USED | 48 |
| NO INFORMATION AVAILABLE | 17 |
| NUMBER OF DITCHES | 132 |
| NUMBER OF RESERVOIRS | 10 |
| NUMBER OF WELLS | 23 |
| NUMBER OF OBSERVATIONS | <u>4,007</u> |

IX. WATER COMMISSIONER'S SUMMARY

WATER DISTRICT 34

| | <u>ACRE FEET</u> |
|--|------------------|
| DIRECT DIVERSIONS: | |
| IRRIGATION | 27,728 |
| STORAGE | <u>11,197</u> |
| STOCKWATER | 6,662 |
| MUNICIPAL | <u>863</u> |
| DOMESTIC | 16 |
| INDUSTRIAL | -- |
| RECREATIONAL | -- |
| FISH | -- |
| OTHER: | -- |
| TRANSMOUNTAIN-TRANSBASIN | -- |
| INTERSTATE | -- |
| TOTAL DIVERSIONS | <u>46,466</u> |
| | |
| DELIVERIES FROM STORAGE: | |
| COMMERCIAL | 5 |
| IRRIGATION | <u>5,747</u> |
| DOMESTIC | -- |
| MUNICIPAL | <u>50</u> |
| STOCK | -- |
| INDUSTRIAL | -- |
| RECREATIONAL | -- |
| TRANSBASIN-TRANSMOUNTAIN | -- |
| OTHER: | <u>31</u> |
| TOTAL FROM STORAGE | <u>5,833</u> |
| | |
| DELIVERIES FROM TRANSBASIN: | |
| IRRIGATION | 310 |
| STORAGE | <u>40</u> |
| MUNICIPAL | -- |
| TOTAL FROM TRANSBASIN | <u>350</u> |
| | |
| DUTY OF WATER: | |
| TOTAL TO IRRIGATION | 33,475 |
| ACRES IRRIGATED | <u>15,565</u> |
| ACRE FEET DIVERTED PER ACRE | <u>2.15</u> |
| | |
| NUMBER OF STRUCTURES OBSERVED: | |
| WATER RUN - NO INFORMATION AVAILABLE | 1 |
| ACTIVE DIVERSIONS - DAILY | <u>60</u> |
| INFREQUENT | <u>21</u> |
| INACTIVE DIVERSIONS - NO WATER AVAILABLE | 0 |
| NOT USED | <u>43</u> |
| NO INFORMATION AVAILABLE | <u>1</u> |
| | |
| NUMBER OF DITCHES | 104 |
| NUMBER OF RESERVOIRS | <u>12</u> |
| NUMBER OF WELLS | <u>8</u> |
| NUMBER OF OBSERVATIONS | <u>1,193</u> |

IX. WATER COMMISSIONER'S SUMMARY

WATER DISTRICT 46

| | <u>ACRE FEET</u> |
|---------------------------|------------------|
| DIRECT DIVERSIONS: | |
| IRRIGATION | 4,886 |
| STORAGE | 1 |
| STOCKWATER | 1 |
| MUNICIPAL | -- |
| DOMESTIC | -- |
| INDUSTRIAL | -- |
| RECREATIONAL | 786 |
| FISH | -- |
| OTHER: | -- |
| TRANSMOUNTAIN-TRANSBASIN | -- |
| INTERSTATE | -- |
| TOTAL DIVERSIONS | <u>5,674</u> |

| | |
|---------------------------------|-----------|
| DELIVERIES FROM STORAGE: | |
| IRRIGATION | -- |
| DOMESTIC | -- |
| MUNICIPAL | -- |
| STOCK | -- |
| INDUSTRIAL | -- |
| RECREATIONAL | -- |
| TRANSBASIN-TRANSMOUNTAIN | -- |
| OTHER: | -- |
| TOTAL FROM STORAGE | <u>--</u> |

| | |
|------------------------------------|-----------|
| DELIVERIES FROM TRANSBASIN: | |
| IRRIGATION | -- |
| STORAGE | -- |
| MUNICIPAL | -- |
| TOTAL FROM TRANSBASIN | <u>--</u> |

| | |
|-----------------------------|-------------|
| DUTY OF WATER: | |
| TOTAL TO IRRIGATION | 4,886 |
| ACRES IRRIGATED | 2,105 |
| ACRE FEET DIVERTED PER ACRE | <u>2.32</u> |

| | |
|--|--------------|
| NUMBER OF STRUCTURES OBSERVED: | |
| WATER RUN - NO INFORMATION AVAILABLE | 0 |
| ACTIVE DIVERSIONS - DAILY | 30 |
| INFREQUENT | 2 |
| INACTIVE DIVERSIONS - NO WATER AVAILABLE | 0 |
| NOT USED | 6 |
| NO INFORMATION AVAILABLE | 0 |
| | |
| NUMBER OF DITCHES | 37 |
| NUMBER OF RESERVOIRS | 1 |
| NUMBER OF WELLS | 0 |
| NUMBER OF OBSERVATIONS | <u>1,745</u> |

IX. WATER COMMISSIONER'S SUMMARY

WATER DISTRICT 69

| | <u>ACRE FEET</u> |
|---|------------------|
| DIRECT DIVERSIONS: | |
| IRRIGATION | 3,668 |
| STORAGE | 89 |
| STOCKWATER | -- |
| MUNICIPAL | -- |
| DOMESTIC | 1 |
| INDUSTRIAL | -- |
| RECREATIONAL | -- |
| FISH | -- |
| OTHER: | -- |
| TRANSMOUNTAIN-TRANSBASIN | -- |
| INTERSTATE | -- |
| TOTAL DIVERSIONS | <u>3,758</u> |
| DELIVERIES FROM STORAGE: | |
| IRRIGATION | 123 |
| DOMESTIC | -- |
| MUNICIPAL | -- |
| STOCK | -- |
| INDUSTRIAL | -- |
| RECREATIONAL | -- |
| TRANSBASIN-TRANSMOUNTAIN | -- |
| OTHER: | 61 |
| TOTAL FROM STORAGE | <u>184</u> |
| DELIVERIES FROM TRANSBASIN: | |
| IRRIGATION | -- |
| STORAGE | 198 |
| MUNICIPAL | -- |
| TOTAL FROM TRANSBASIN | <u>198</u> |
| DUTY OF WATER: | |
| TOTAL TO IRRIGATION | 3,791 |
| ACRES IRRIGATED | 1,955 |
| ACRE FEET DIVERTED PER ACRE | <u>1.94</u> |
| NUMBER OF STRUCTURES OBSERVED: | |
| WATER RUN - NO INFORMATION AVAILABLE | -- |
| ACTIVE DIVERSIONS - DAILY | 15 |
| INFREQUENT | 6 |
| INACTIVE DIVERSIONS - NO WATER AVAILABLE | -- |
| NOT USED | 24 |
| NO INFORMATION AVAILABLE | -- |
| NUMBER OF DITCHES | 32 |
| NUMBER OF RESERVOIRS | 6 |
| NUMBER OF WELLS | 1 |
| NUMBER OF OBSERVATIONS | <u>265</u> |

IX. WATER COMMISSIONER'S SUMMARY

WATER DISTRICT 71

| | <u>ACRE FEET</u> |
|--------------------------|-------------------|
| DIRECT DIVERSIONS: | |
| COMMERCIAL | 13 |
| IRRIGATION | 3,524 |
| STORAGE | <u>23,352</u> |
| STOCKWATER | 196 |
| MUNICIPAL | <u>559</u> |
| DOMESTIC | 32 |
| INDUSTRIAL | <u>15</u> |
| RECREATIONAL | -- |
| FISH | <u>4</u> |
| OTHER: | -- |
| TRANSMOUNTAIN-TRANSBASIN | <u>106,544</u> |
| INTERSTATE | -- |
| | <u> </u> |
| TOTAL DIVERSIONS | <u>134,239</u> |

| | |
|--------------------------|-------------------|
| DELIVERIES FROM STORAGE: | |
| IRRIGATION | 234 |
| DOMESTIC | -- |
| MUNICIPAL | -- |
| STOCK | <u>24</u> |
| INDUSTRIAL | -- |
| RECREATIONAL | -- |
| TRANSBASIN-TRANSMOUNTAIN | <u>24,195</u> |
| OTHER: | <u>56</u> |
| | <u> </u> |
| TOTAL FROM STORAGE | <u>24,509</u> |

| | |
|-----------------------------|-------------------|
| DELIVERIES FROM TRANSBASIN: | |
| IRRIGATION | 0 |
| STORAGE | 0 |
| MUNICIPAL | 0 |
| | <u> </u> |
| TOTAL FROM TRANSBASIN | <u>0</u> |

| | |
|-----------------------------|--------------|
| DUTY OF WATER: | |
| TOTAL TO IRRIGATION | 3,758 |
| ACRES IRRIGATED | <u>2,177</u> |
| ACRE FEET DIVERTED PER ACRE | <u>1.7</u> |

| | |
|--|-------------------|
| NUMBER OF STRUCTURES OBSERVED: | |
| WATER RUN - NO INFORMATION AVAILABLE | 0 |
| ACTIVE DIVERSIONS - DAILY | 30 |
| INFREQUENT | <u>72</u> |
| INACTIVE DIVERSIONS - NO WATER AVAILABLE | 0 |
| NOT USED | <u>103</u> |
| NO INFORMATION AVAILABLE | <u>0</u> |
| | <u> </u> |
| NUMBER OF DITCHES | 142 |
| NUMBER OF RESERVOIRS | <u>20</u> |
| NUMBER OF WELLS | <u>44</u> |
| NUMBER OF OBSERVATIONS | <u>1,731</u> |

IX. WATER COMMISSIONER'S SUMMARY

WATER DISTRICT 77

| | <u>ACRE FEET</u> |
|---------------------------|------------------|
| DIRECT DIVERSIONS: | |
| IRRIGATION | 25,130 |
| STORAGE | -- |
| STOCKWATER | 463 |
| MUNICIPAL | -- |
| DOMESTIC | 2 |
| INDUSTRIAL | 1 |
| RECREATIONAL | -- |
| FISH | 2,996 |
| OTHER: | 1 |
| TRANSMOUNTAIN-TRANSBASIN | -- |
| INTERSTATE | 78,617 |
| TOTAL DIVERSIONS | <u>107,210</u> |

| | |
|---------------------------------|------------|
| DELIVERIES FROM STORAGE: | |
| IRRIGATION | 254 |
| DOMESTIC | -- |
| MUNICIPAL | -- |
| STOCK | -- |
| INDUSTRIAL | -- |
| RECREATIONAL | -- |
| TRANSBASIN-TRANSMOUNTAIN | -- |
| OTHER: | -- |
| TOTAL FROM STORAGE | <u>254</u> |

| | |
|------------------------------------|------------|
| DELIVERIES FROM TRANSBASIN: | |
| IRRIGATION | -- |
| STORAGE | 388 |
| MUNICIPAL | -- |
| TOTAL FROM TRANSBASIN | <u>388</u> |

| | |
|-----------------------------|-------------|
| DUTY OF WATER: | |
| TOTAL TO IRRIGATION | 25,384 |
| ACRES IRRIGATED | 4,040 |
| ACRE FEET DIVERTED PER ACRE | <u>6.28</u> |

| | |
|--|--------------|
| NUMBER OF STRUCTURES OBSERVED: | |
| WATER RUN - NO INFORMATION AVAILABLE | 1 |
| ACTIVE DIVERSIONS - DAILY | 56 |
| INFREQUENT | 27 |
| INACTIVE DIVERSIONS - NO WATER AVAILABLE | 0 |
| NOT USED | 42 |
| NO INFORMATION AVAILABLE | 0 |
| NUMBER OF DITCHES | 110 |
| NUMBER OF RESERVOIRS | 19 |
| NUMBER OF WELLS | 14 |
| NUMBER OF OBSERVATIONS | <u>1,310</u> |

IX. WATER COMMISSIONER'S SUMMARY

WATER DISTRICT 78

| | <u>ACRE FEET</u> |
|---|------------------|
| DIRECT DIVERSIONS: | |
| IRRIGATION | 31,292 |
| STORAGE | 356 |
| STOCKWATER | 904 |
| MUNICIPAL | 47 |
| DOMESTIC | 137 |
| INDUSTRIAL | -- |
| RECREATIONAL | -- |
| FISH | 859 |
| OTHER: | -- |
| TRANSMOUNTAIN-TRANSBASIN | 31 |
| INTERSTATE | -- |
| TOTAL DIVERSIONS | <u>33,626</u> |
| DELIVERIES FROM STORAGE: | |
| FISH | 11 |
| COMMERCIAL IRRIGATION | 253 |
| DOMESTIC | -- |
| MUNICIPAL | 158 |
| STOCK | 9 |
| INDUSTRIAL | -- |
| RECREATIONAL | -- |
| TRANSBASIN-TRANSMOUNTAIN | -- |
| OTHER: | 362 |
| STORAGE | 128 |
| TOTAL FROM STORAGE | <u>921</u> |
| DELIVERIES FROM TRANSBASIN: | |
| IRRIGATION | 38 |
| STORAGE | 38 |
| MUNICIPAL | -- |
| TOTAL FROM TRANSBASIN | <u>76</u> |
| DUTY OF WATER: | |
| TOTAL TO IRRIGATION | 31,600 |
| ACRES IRRIGATED | 7,845 |
| ACRE FEET DIVERTED PER ACRE | <u>4.03</u> |
| NUMBER OF STRUCTURES OBSERVED: | |
| WATER RUN - NO INFORMATION AVAILABLE | -- |
| ACTIVE DIVERSIONS - DAILY | 62 |
| INFREQUENT | 46 |
| INACTIVE DIVERSIONS - NO WATER AVAILABLE | 1 |
| NOT USED | 85 |
| NO INFORMATION AVAILABLE | 12 |
| NUMBER OF DITCHES | 175 |
| NUMBER OF RESERVOIRS | 29 |
| NUMBER OF WELLS | 14 |
| NUMBER OF OBSERVATIONS | <u>2,604</u> |

X. A. DIVISION ENGINEER'S SUMMARY

DIRECT FLOW DIVERSIONS
TOTAL AMOUNTS IN ACRE FEET USED

1979 - 1980

| W.D. | ACRES | | A.F./ACRE | STOCK | MUN. | DOM. | IND. | REC. | FISH | COMM. | GEO THERMAL | TRANS. 2/ | | TRANS. 3/ | | OTHER | STORAGE |
|-------|---------|---------|-----------|--------|--------|-------|--------|-------|--------|-------|-------------|-----------|-----------------------|----------------------|----|---------|---------|
| | IRR. 1/ | IRR. | | | | | | | | | | MTN. | BASIN | COMPACT | | | |
| 29 | 53,366 | 13,739 | 3.9 | 7,136 | 38 | 767 | -- | -- | 2,563 | - | 2,552 | 253 | 2,248 | 57,832 ^{4/} | 0 | 88 | |
| 30 | 143,048 | 35,720 | 4.0 | 7,444 | 5,335 | 176 | 10,300 | 365 | 7,978 | 614 | -- | 312 | -- | 7,462 ^{5/} | 0 | 43,044 | |
| 31 | 230,425 | 56,323 | 4.1 | 6,134 | 463 | 84 | -- | 1 | 943 | 52 | -- | 1,992 | -- | -- | 3 | 105,930 | |
| 32 | 172,465 | 48,717 | 3.5 | 1,312 | 2,896 | 14 | 2 | 9 | 3 | 7 | -- | -- | -- | -- | -- | 16,049 | |
| 33 | 30,851 | 14,302 | 2.2 | 2,445 | -- | 40 | -- | -- | -- | - | -- | -- | 2 | 970 ^{6/} | -- | 1,432 | |
| 34 | 33,475 | 15,565 | 2.2 | 6,662 | 863 | 16 | -- | -- | -- | - | -- | -- | -- | -- | -- | 11,237 | |
| 46 | 4,886 | 2,105 | 2.3 | 1 | -- | -- | -- | 786 | -- | - | -- | -- | -- | -- | -- | 1 | |
| 69 | 3,791 | 1,955 | 1.9 | -- | -- | 1 | -- | -- | -- | - | -- | -- | -- | -- | -- | 287 | |
| 71 | 3,758 | 2,177 | 1.7 | 196 | 559 | 32 | 15 | -- | 4 | 13 | -- | -- | 106,544 ^{7/} | -- | -- | 23,352 | |
| 77 | 25,384 | 4,040 | 6.3 | 463 | -- | 2 | 1 | -- | 2,996 | 1 | -- | -- | -- | 78,617 ^{8/} | -- | 388 | |
| 78 | 31,600 | 7,845 | 4.0 | 904 | 47 | 137 | -- | -- | 859 | -- | -- | 31 | -- | -- | -- | 394 | |
| TOTAL | 733,049 | 202,488 | 3.6 | 32,697 | 10,201 | 1,269 | 10,318 | 1,161 | 15,346 | 687 | 2,552 | 2,588 | 108,794 | 144,881 | 3 | 202,202 | |

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

X. B. DIVISION ENGINEER'S SUMMARY

1979 - 1980

STORAGE IN ACRE FEET

| W.D. | S T O R A G E | | MAXIMUM | END OF SEASON | INCREASE DURING SEASON | DECREASE DURING SEASON | NET CHANGE FOR SEASON | D E L I V E R E D F R O M S T O R A G E | | | | | STOCK | TRANS-BASIN/TRANS-MNTN. | OTHER ^{3/} FISH | |
|---------------|---------------------|---------------|---------|---------------|------------------------|------------------------|-----------------------|---|------|------|-------|-------|-------|-------------------------|--------------------------|-------|
| | BEGINNING OF SEASON | END OF SEASON | | | | | | IRR. | DOM. | MUN. | IND. | COMM. | | | | |
| 29 | 2,660 | 2,395 | 2,790 | 2,395 | 130 | 395 | -265 | -- | -- | 22 | -- | -- | 160 | -- | 160 | |
| 30 | 34,062 | 41,062 | 58,602 | 41,062 | 24,540 | 17,540 | 7,000 | 22,207 | 12 | 8 | 9,772 | -- | -- | 1,862 | -- | |
| 31 | 38,356 | 57,126 | 122,052 | 57,126 | 83,696 | 64,926 | 18,770 | 51,187 | 167 | 167 | -- | -- | -- | 26,600 | 1,595 | |
| 32 | 8,709 | 9,712 | 24,162 | 9,712 | 15,453 | 14,450 | 1,003 | 17,301 | -- | -- | -- | -- | -- | 142 | -- | |
| 33 | 370 | 348 | 1,262 | 348 | 892 | 914 | -22 | 970 | -- | -- | -- | -- | -- | -- | -- | |
| 34 | 930 | 5,396 | 12,501 | 5,396 | 11,571 | 7,105 | 4,466 | 5,747 | -- | 50 | -- | 5 | -- | 31 | -- | |
| 46 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | |
| 69 | 394 | 493 | 653 | 493 | 259 | 160 | 99 | 123 | -- | -- | -- | -- | -- | 61 | -- | |
| 71 | 8,730 | 1,624 | 27,228 | 1,624 | 18,498 | 25,604 | -7,106 | 234 | -- | -- | -- | -- | 24 | 24,195 | -- | |
| 77 | 187 | 115 | 456 | 115 | 269 | 341 | -72 | 254 | -- | -- | -- | -- | -- | -- | -- | |
| 78 | 15,215 | 14,788 | 15,562 | 14,788 | 347 | 774 | 427 | 0 | -- | 158 | -- | 253 | 9 | 362 | -- | |
| TOTALS | 109,613 | 133,060 | 265,269 | 133,060 | 155,656 | 132,209 | 23,447 | 98,023 | 179 | 405 | 9,772 | 258 | 1,709 | 24,355 | 29,114 | 1,755 |

^{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, not capacity tables.

^{3/} Includes losses in storage due to evaporation and/or seepage.

X. C. DIVISION ENGINEER'S SUMMARY

WORKLOAD AND STATISTICAL INDICATORS

1979 - 1980

| 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 | | | | | |
| 29 | 3 | 140 | 80 | 4,594 | 41 | 53 | 300 | 394 |
| 30 | 8 | 202 | 350 | 9,106 | 273 | 65 | 580 | 918 |
| 31 | 0 | 108 | 173 | 15,030 | 98 | 23 | 266 | 387 |
| 32 | 0 | 162 | 37 | 6,190 | 22 | 15 | 254 | 291 |
| 33 | 0 | 51 | 50 | 4,007 | 23 | 10 | 132 | 165 |
| 34 | 1 | 60 | 21 | 1,193 | 8 | 12 | 104 | 124 |
| 46 | 0 | 30 | 2 | 1,745 | 0 | 1 | 37 | 38 |
| 69 | 0 | 15 | 6 | 265 | 1 | 6 | 32 | 39 |
| 71 | 0 | 30 | 72 | 1,731 | 44 | 20 | 142 | 206 |
| 77 | 1 | 56 | 27 | 1,310 | 14 | 19 | 110 | 143 |
| 78 | 8 | 81 | 34 | 2,689 | 14 | 29 | 166 | 209 |
| TOTALS | 21 | 935 | 852 | 47,860 | 538 | 253 | 2,123 | 2,914 |

NA - No Water Available NU - Non Use NR - No Report NI - No Information

XI. DIVISION ENGINEER'S CONCLUSIONS AND RECOMMENDATIONS

Appreciation and gratitude is expressed for the fine cooperation and support Division 7 has received from the State Engineer's Office and staff during the previous year. Their efforts have provided for remodeling of the Durango Office, rental of an office in Cortez, and the upgrading of water commissioner positions. These improvements in the working conditions are certainly helpful in maintaining professional and quality employees in the field offices.

The early part of the irrigation season was spent monitoring flood conditions in the Division as a result of the 200% above-normal snowpack. The streams which have storage facilities had adequate water throughout the season, and those with marginal or no storage were under administration from June through October. Summer rains did aid in relieving administrative duties during August for a short period of time. Carryover storage is excellent on the Pine and Florida drainages, however, Groundhog Reservoir was drained due to gate malfunctions and the severe lack of precipitation this winter will certainly cause difficulties for the Dolores River and the Cortez area in the upcoming season.

The water commissioners have been completing the measurement of the irrigated acres for each district. To date, work is approximately 75% complete except for District 30. In coordination with the aerial photo mapping, the staff is updating all U.S.F.S. maps as well as plotting all water rights on U.S.G.S. Quadrangles. When this work is completed it will allow for a detailed analysis of the present uses and consumption of water.

The effort being made will greatly enhance Colorado's knowledge of the percentage of use being made of the waters of the Colorado River system with respect to the Upper Basin Compact. To thoroughly analyze this data will require utilization of a computer. Completion of this effort can only be accomplished by technical expertise in the areas of computer sciences and hydrology, which is presently not available in most divisions. Therefore, it would appear that additional staffing is needed in the division offices, or coordination on a state-wide basis.

Several accomplishments have been made this past year to improve the hydrographic data being collected. High flows were measured to establish peaks for rating tables, a telemark was installed in the La Plata River gage at the State Line, and 130 cubic yards of rip rap were placed at the Hesperus station for its protection.

It appears that we are still not fully maximizing the potential of the data bank. Projects which can be accomplished to provide aid in administration such as combining the water rights information with diversion records has not been completed. Other areas of potential improvements could be made with the aid of remote terminals in each division office. These terminals would allow for quick updating and transmitting of data for the diversion records, water

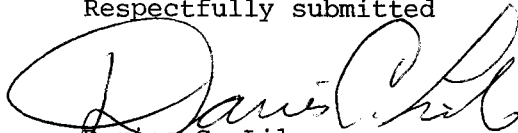
storage accounting, budget status, groundwater files, and tabulation corrections.

Difficulties have recently been arising from the enforcement of regulations pertaining to licensed well drillers and pump installers. Through the cooperation of the La Plata County District Attorney's Office, a complaint has been made against one pump installer in the Division. The outcome of this complaint is yet to be seen.

The Colorado Water Conservation Board's fund that the Legislature recently established has approved funds for repair of Jackson Gulch Inlet, and a feasibility study is being made for the proposed Rock Creek Reservoir near Ignacio. While these funds are being sought after by many entities, the guidelines established have been allowing for a wide range of projects. It would appear that careful consideration as to the proposed projects will be necessary to insure that the funds are being expended for projects which will serve to improve the primary need of the state, which is storage.

The Division 7 staff is to be complimented on their work the past season. They have been very competent in exercising their duties toward the public and presenting an image of credibility with the community.

Respectfully submitted

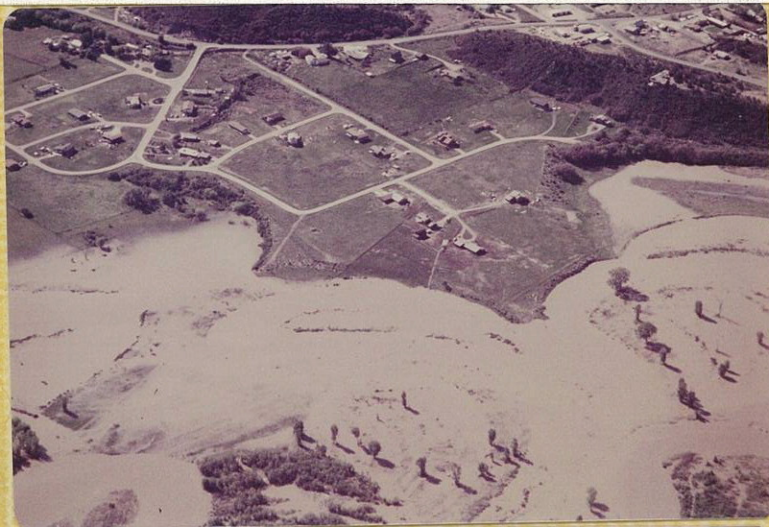


Charles C. Lile
Division Engineer

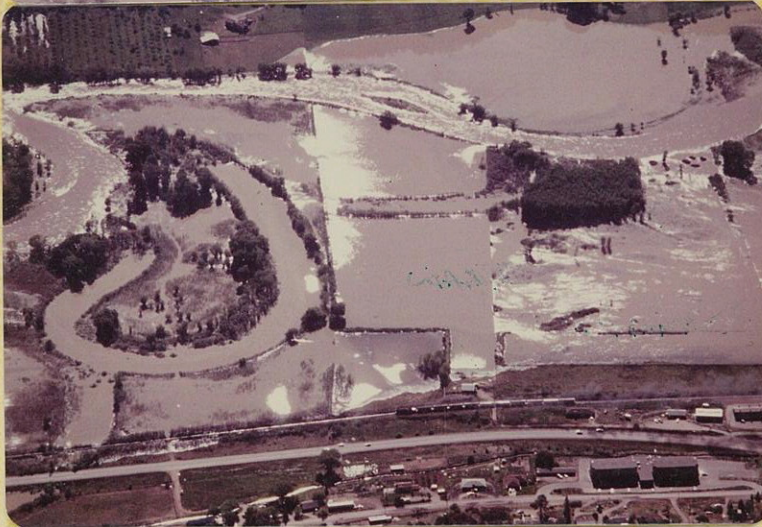


ANIMAS VALLEY
Looking South Towards Durango and Animas Mt.
Trimble Lane at Base of Picture

Photographs taken June 12, 1980 7 a.m.
Animas River Stage 8,200 c.f.s.



VALLEY ACRES SUBDIVISION
(Located on East Animas Road)



NORTH OF DURANGO
(Summit Inn Lower Right Corner)



TURNER PONDS AND PUMP STATION
(Four Miles North of Durango)

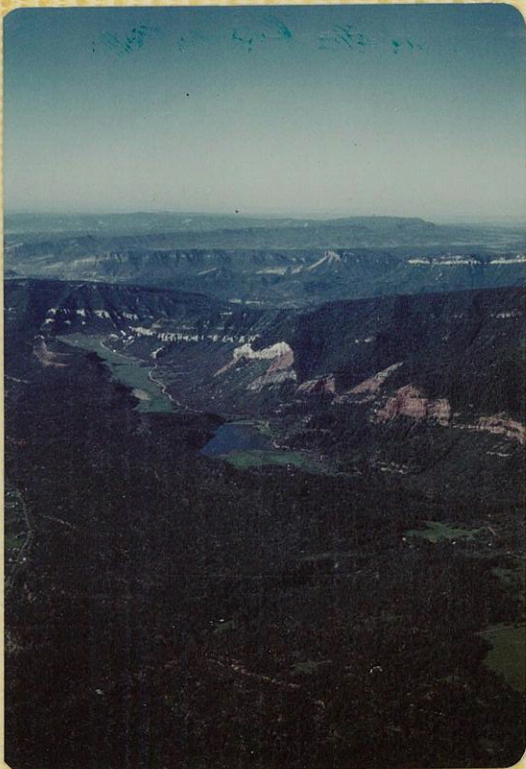


ANIMAS VALLEY
(North of Durango
Looking From East to West)

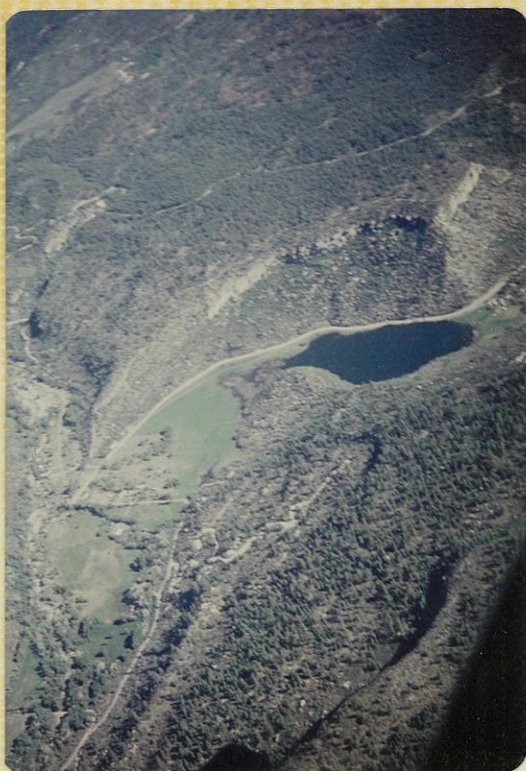


ANIMAS VALLEY
(Ramada Inn Mid-Right of Photo)

FALLS CREEK VALLEY
AND
TURNER RESERVOIR



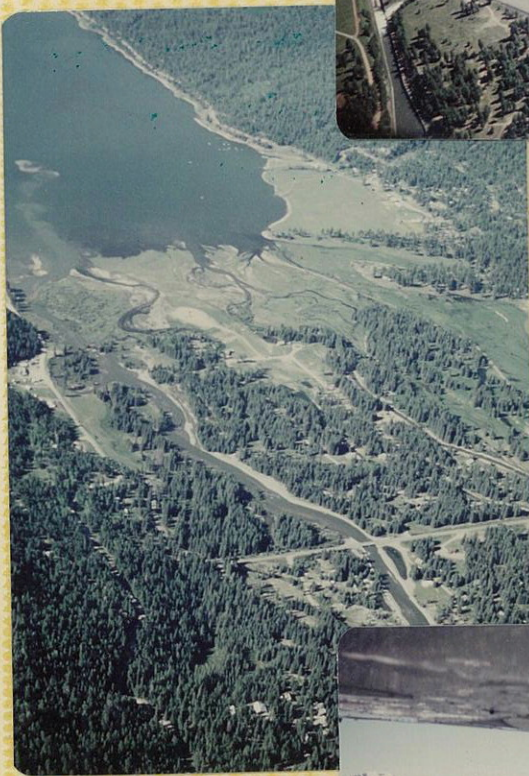
JOHNSON RESERVOIR
(Center of Photo)



TURTLE LAKE
(Between Junction Creek
and Fall Creek)



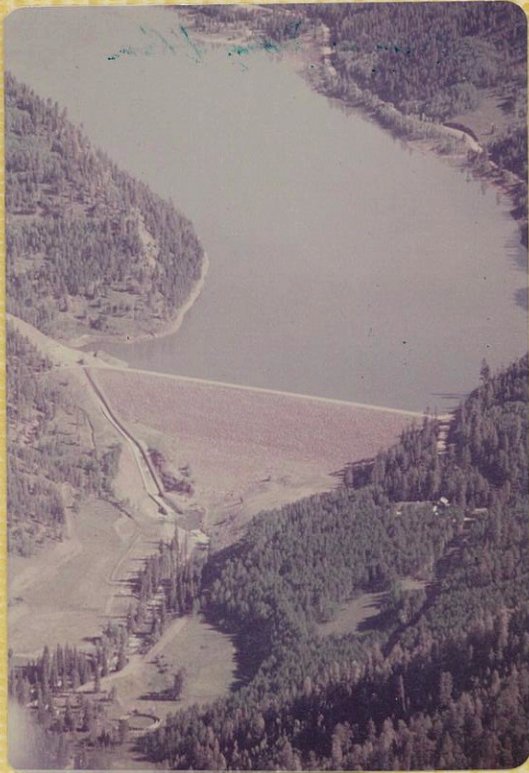
VALLECITO RESERVOIR



VALLECITO CREEK
(At Upper End Of Reservoir)



EMERALD LAKE
(Partial Snow Cover)



LEMON RESERVOIR



UPPER FLORIDA RIVER
(Durango City Reservoir
Uppermost Valley)



ELECTRA LAKE



KELLER RESERVOIR
AND
ICE LAKE



DURANGO REGULATORY RESERVOIR
AND TREATMENT PLANT
(College Hill)