

ANNUAL REPORT

DIVISION 6

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DIVISION ENGINEER

1981

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DIVISION OF WATER RESOURCES
DIVISION NO. 6

1981 ANNUAL REPORT

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I. INTRODUCTION

Division 6 is located in the northwestern corner of the state and includes the Yampa, White, and North Platte River Drainages. Elevations range from 5000 feet within the canyons along the western boundary of the state to more than 12,000 feet along the Continental Divide. Climatic conditions vary widely across the region due mainly to the variations in elevation. Precipitation ranges from less than nine inches in the desert areas to more than fifty inches along the Continental Divide.

The most productive crop bearing areas lie between the 6000 feet and 8000 feet range in elevation. The higher elevations and the western desert areas are primarily used for summer and winter grazing and for recreational purposes. The bulk of these lands are owned by the US Government and are managed by the Bureau of Land Management and the Forest Service.

The growing season in Division 6 varies from less than 30 days in the North Platte Drainage to around 90 days in the lower White and Yampa Drainage. This short growing season is most suitable for the production of irrigated native hay, alfalfa hay, and irrigated pasture which total about 250,000 acres within the Division. Irrigated acreage broken down by drainage basin is as follows: Yampa River - 100,000 acres, North Platte River - 120,000 acres, and the White River - 30,000 acres. Dry land farming is practiced in the mid-areas of the Yampa River and the White River Drainages, with small grains being the basic crops. Dry crop lands amount to around 131,000 acres in the Yampa River Drainage with approximately 17,000 acres in the White River Drainage. This ground is normally summer fallowed, which means that only a little over fifty percent is in crop in any given year.

Irrigated cropland occupies less than two percent of the land area in Division 6, but this cropland constitutes the economic heart of the farms and ranches in the area. Almost all the irrigated cropland is used for pasture or winter feed production for livestock. Although agriculture remains the dominant water user in the region, a shift in use is taking place as the energy industry expands and requires more water. The nation's greatest known potential oil resources, estimated at 600 billion barrels of equivalent oil in high-grade deposits, are in the oil shales of the Green River Formation which extends over much of northwestern Colorado. The oil shale deposits in the Piceance Creek Basin cover a small geographical area, but they include the richest deposits in the world. The amount of water that will be needed by the oil shale and coal industries in the future is difficult to predict without being able to predict realistic production rates, but it is known that large quantities of water will be required. Coal fired electrical generation plants, coal gasification plants, and slurry pipelines are also expected to require a great deal of water in the near future and will provide more competition with agriculture for a limited supply of water.

Although the population density of Division 6 remains relatively light, the booming energy, construction, and recreation industries have contributed to substantial population gains during the past decade with the population of Routt County nearly doubling from 1970 to 1980. The rapid increases in population have moderated somewhat during the past year due chiefly to a faltering national economy and associated lower demand for energy products. The Rio Blanco Oil Shale Company has reduced its work force by 74% at its oil shale retort plant in Rio Blanco County. Sharply higher construction costs have forced Rio Blanco to delay further construction until 1983. Slack demand has also produced problems for the coal industry during the past year. Several plants have had sporadic production throughout the year and are now operating at below capacity.

II. PERSONNEL

| Name | Position | District | FY 80-81 Months | | FY 80-81 Mileage |
|------------------|-------------------------|----------|--------------------|----------|---------------------|
| | | | Worked | Budgeted | |
| Wesley E. Signs | Division Engineer | | Full Time | | 2068 |
| Robert McCabe | Asst. Div. Engineer | | Full Time | | 5522 |
| W. Kent Holt | Hydrographer | | Full Time | | 5758 |
| Roy D. Steffen | 1042 Water Commissioner | | Full Time | | |
| Karen McPherrren | Secretary | | Full Time | | |
| Joe E. Brown | Water Commissioner C | 43 | Full Time | | |
| *William Dunham | Water Commissioner B | 43 | 3 | 3 | 4837 |
| Don Rice | Water Commissioner B | 44 | Full Time | | 580 |
| Donald Gilroy | Water Commissioner B | 54 | 6 | 6 | 4302 |
| Jack Leonard | Water Commissioner B | 55-56 | 9 | 5 | 4424 |
| Truman Manes | Water Commissioner B | 57-58 | Full Time | | 3787 |
| Charles Gregory | Water Commissioner B | 58 | Full Time | | 7417 |
| Billy R. Milner | Water Commissioner B | 58 | 7 | 8 | 4855 |
| Eric Wagner | Water Commissioner C | 47 | Full Time | | 7711 |

*Additional time above budget allotment was paid for with Piceance Basin Study funds.

III. WATER SUPPLY

A. Forecast

Runoff at key gaging stations was as follows:

| Station | Acre Feet | %Average | No. of Yrs |
|----------------------------------|-----------|----------|------------|
| Yampa River at Steamboat Springs | 184,300 | 55 | 59 |
| Yampa River at Maybell | 554,170 | 50 | 64 |
| Little Snake near Lily Park | 248,270 | 60 | 59 |
| S.Fk. of White River at Buford | 120,500 | 65 | 30 |
| N.Fk. of White River at Buford | 160,460 | 72 | 35 |
| White River near Meeker | 281,230 | 63 | 76 |
| White River above Rangely | 325,280 | 71 | 8 |
| White River near Colo State Line | 337,200 | 67 | 57 |
| N.Platte River near Northgate | 114,400 | 36 | 65 |

B. Precipitation

Precipitation for selected stations in Division 6:

| | Steamboat Springs | Hayden | Walden |
|-----------|-------------------|--------|--------|
| November | .85 | .33 | .27 |
| December | .80 | .43 | .16 |
| January | .76 | .53 | .07 |
| February | 1.42 | .45 | .42 |
| March | 2.54 | 2.50 | .86 |
| April | .63 | .69 | .34 |
| May | 5.42 | 3.97 | 2.20 |
| June | 1.61 | 1.65 | 1.71 |
| July | 2.24 | 2.24 | 1.54 |
| August | .79 | 1.12 | .87 |
| September | 1.40 | 1.33 | 1.22 |
| October | 4.29 | 3.76 | .94 |
| Totals | 22.75 | 19.00 | 10.60 |

C. Flooding

Due to low snowpack, the flooding from spring runoff was minimal. The runoff was also orderly due to good weather conditions.

D. Groundwater

A total of 304 well permits were issued in Division 6 during 1981. The subdued rate of new permits was about equal to last year's 310, but far below the 1979 record of 470. The continued slow down is probably due to the negative impact of high interest rates on new house construction. Increased competition has kept the well drilling costs relatively stable over the past year, but

fewer and fewer people are able to afford the exorbitant costs of building a new home.

Proliferation of wells in some subdivisions and small municipalities has resulted in conflicts among well owners due to overdrafting of aquifers and contamination from septic tanks. Aquifer pollution forced the city of Phippsburg to develop a central well and distribution system instead of individual wells. Milner has also had problems with polluted wells and is moving toward a similar solution.

E. Transmountain Diversions

| Structure | Acre Feet |
|--------------------|------------|
| Stillwater Ditch | 1,592 |
| Sarvis Ditch | 0 |
| Rich Ditch | 2,774 |
| Morgan Creek | 0 |
| Dome Creek | 60 |
| Michigan Ditch | 1,100 |
| Cameron Pass Ditch | <u>123</u> |
| | 5,649 |

Total water exported from Yampa R to Colorado R Drainage: 1652

Total water exported from N Platte R to S Platte Drainage: 1223

III. Water Supply
F. Reservoir Storage

| NAME OF RESERVOIR | SOURCE | AMT. IN STORAGE | FILL DURING SEASON | RELEASE + EVAPORATION | AMT. IN STORAGE | TOTAL CHANGE IN STORAGE |
|-----------------------------------|---------------------|-----------------|--------------------|-----------------------|-----------------|-------------------------|
| | | 11/1/80 | | | 10/31/81 | |
| <u>DISTRICT NO. 43</u> | | | | | | |
| Big Beaver Creek Reservoir | Big Beaver Creek | 6431 | 750 | 750 | 6431 | 0 |
| Johnny Johnson Reservoir | White River | 800 | 600 | 600 | 800 | 0 |
| Miscellaneous Reservoirs | | 597 | 409 | 506 | 500 | -97 |
| TOTALS (All figures in Acre Feet) | | | | | | |
| | | 7828 | 1759 | 1856 | 7731 | -97 |
| <u>DISTRICT NO. 44</u> | | | | | | |
| D.D.&E Reservoir | Hullett Draw | 300 | 580 | 598 | 282 | -18 |
| Elk Head Reservoir | Elk Head Creek | 13574 | 0 | 0 | 13574 | 0 |
| Ralph White Reservoir | Fortification Creek | 925 | 0 | 0 | 925 | 0 |
| Miscellaneous Reservoirs | | 952 | 339 | 291 | 1000 | -48 |
| TOTALS (All figures in Acre Feet) | | | | | | |
| | | 15751 | 919 | 889 | 15781 | 30 |
| <u>DISTRICT NO. 47</u> | | | | | | |
| Aqua Fria Reservoir | Beaver Creek | 0 | 550 | 550 | 0 | 0 |
| Big Creek Lake | Big Creek | 1434 | 0 | 442 | 1012 | -422 |
| Buffalo Reservoir | Buffalo Creek | 486 | 0 | 486 | 0 | -486 |
| Butte (South and East) Res. | Roaring Fork | 202 | 0 | 147 | 55 | -147 |
| Carlstrom (Upper Cowdrey) Res. | Michigan River | 448 | 0 | 200 | 239 | -209 |
| Hecla Reservoir | Arapaho Creek | 255 | 0 | 255 | 0 | -255 |
| Lake John | Lake Creek | 4855 | 1305 | 560 | 5600 | 745 |
| Laune Reservoir | Roaring Fork | 2494 | 0 | 1110 | 1383 | -1110 |
| MacFarlane Reservoir | Illinois River | 1652 | 480 | 2132 | 0 | -1652 |
| North Michigan Reservoir | N. Fk. Michigan Cr. | 1250 | 0 | 0 | 1250 | 0 |
| Pole Mountain Reservoir | Mexican Creek | 621 | 0 | 621 | 0 | -621 |
| Seymour Reservoir | Ninegar Creek | 525 | 475 | 475 | 525 | 0 |
| Walden Reservoir | Illinois River | 2296 | 104 | 1650 | 750 | -1546 |
| West Arapaho Reservoir | T. Big Grizzly | 0 | 100 | 100 | 0 | 0 |
| Miscellaneous Reservoirs | | 871 | 347 | 518 | 700 | -171 |
| TOTALS (All figures in Acre Feet) | | | | | | |
| | | 17389 | 5486 | 11811 | 11514 | -5875 |

III. Water Supply
Reservoir Storage

| NAME OF RESERVOIR | SOURCE | AMT. IN STORAGE 11/1/ 80 | FILL DURING SEASON | RELEASE + EVAPORATION | AMT. IN STORAGE 10/31/ 81 | TOTAL CHANGE IN STORAGE |
|-----------------------------------|------------------------|--------------------------|--------------------|-----------------------|---------------------------|-------------------------|
| <u>DISTRICT NO. 54</u> | | | | | | |
| TOTALS (All figures in Acre Feet) | | | | | | |
| | | 476 | 200 | 200 | 476 | 0 |
| <u>DISTRICT NO. 56</u> | | | | | | |
| TOTALS (All figures in Acre Feet) | | | | | | |
| | | 156 | 100 | 200 | 56 | -100 |
| <u>DISTRICT NO. 57</u> | | | | | | |
| Emrich Reservoir | Dry Creek | 371 | 0 | 273 | 98 | -273 |
| Basin Reservoir | Basin & Buchanan Gulch | 144 | 30 | 30 | 144 | 0 |
| Greasewood Flats Reservoir | Dill Gulch | 0 | 0 | 0 | 0 | 0 |
| James Marion Yeast Reservoir | Yeast Creek | 0 | 147 | 147 | 0 | 0 |
| John C. Temple Res. No. 1 | Temple Gulch | 29 | 524 | 553 | 0 | -29 |
| Sage Creek Reservoir | Sage Creek | 236 | 143 | 89 | 290 | 54 |
| Sheriff Reservoir | Trout Creek | 987 | 0 | 687 | 300 | -687 |
| Miscellaneous Reservoirs | | 371 | 100 | 200 | 271 | -100 |
| TOTALS (All figures in Acre Feet) | | | | | | |
| | | 2138 | 844 | 1879 | 1103 | -1035 |
| <u>DISTRICT NO. 58</u> | | | | | | |
| Allen Basin Reservoir | Middle Hunt Creek | 810 | 695 | 1396 | 109 | -701 |
| Chapman Reservoir | Little Oak Creek | 20 | 256 | 266 | 10 | -10 |
| Fish Creek Reservoir | Fish Creek | 1242 | 600 | 342 | 1500 | 258 |
| Gardner Park Reservoir | Gardner Creek | 935 | 0 | 935 | 0 | -935 |
| Hahns Peak Reservoir | Willow Creek | 600 | 50 | 50 | 600 | 0 |
| Heart Lake | Watson Creek | 0 | 283 | 208 | 75 | 75 |
| Lake Creek Reservoir | Wheeler Creek | 261 | 0 | 0 | 261 | 0 |
| Lester Creek Reservoir | Lester Creek | 5770 | 53 | 123 | 5700 | -70 |
| Long Lake | Fish Creek | 200 | 197 | 197 | 200 | 0 |
| Simon Reservoir | Middle Hunt Creek | 568 | 155 | 493 | 230 | -338 |
| Stillwater Reservoir No. 1 | Yampa River | 1623 | 1538 | 2592 | 569 | -1054 |
| Lake Catamount | Yampa River | 7800 | 0 | 0 | 7800 | 0 |
| Upper Stillwater Reservoir | Roaring Fork | 620 | 120 | 120 | 620 | 0 |

III. Water Supply
Reservoir Storage

| NAME OF RESERVOIR | SOURCE | AMT. IN STORAGE | FILL DURING SEASON | RELEASE + EVAPORATION | AMT. IN STORAGE 10/31/81 | TOTAL CHANGE IN STORAGE |
|-----------------------------------|---------------|-----------------|--------------------|-----------------------|--------------------------|-------------------------|
| | | 11/1/80 | | | | |
| Upper Willow Creek Reservoir | Willow Creek | 22036 | 2208 | 859 | 23385 | 1349 |
| Whiteley Nelson Reservoir | Whipple Creek | 212 | 106 | 318 | 0 | -212 |
| Miscellaneous Reservoirs | | 472 | 500 | 600 | 372 | -100 |
| TOTALS (All figures in Acre Feet) | | 43169 | 12447 | 20561 | 46020 | 2851 |

IV. AGRICULTURE

1980 began in an ominous fashion for agricultural interests in Division 6 with a record low snowpack at almost all the snow courses. Snow course readings on April 1 showed a moisture content of 54% of normal at Buffalo Pass to 9% of normal at Rabbit Ears Pass. There was no measurable snowpack along five of the courses. April did little to improve the drought conditions and was the first April in thirty years with no measurable snowfall. Conditions changed dramatically during the spring and summer months with above normal precipitation in May and July. Steamboat Springs received 5.42 inches of moisture during May, the heaviest in thirty years of record. Summer rainstorms throughout the Division converted what could have been a disastrous situation into an excellent agricultural year. Record yields in hay and grain were evident through most of the Yampa and White River Drainages. Hay yields were about normal in the North Platte basin.

V. COMPACTS

Interstate compacts, decrees, and agreements governing Division 6 and actual deliveries are discussed in detail below.

A. Upper Colorado River Compact - Article XIII (a) of the Upper Colorado River Compact specifies that the state of Colorado will not cause the flow of the Yampa River at the Maybell gage to be depleted below an aggregate of 5,000,000 acre feet for any period of ten consecutive years beginning with the first day of October succeeding ratification of the Compact. Total flow past the Maybell gage during the 1981 water year was 554,170 AF making the aggregate for the last ten consecutive years 10,513,000 AF. The 1981 flow was 64 percent of normal based on a 63 year period of record.

Article XI of the Upper Colorado River Compact apportions the consumptive use of water of the Little Snake River and its tributaries between the states of Colorado and Wyoming. Article XI was not administered during the 1981 water year due to sufficient water supplies. Total flow past the Little Snake River gage near Lily Park was 248,270 AF.

B. Decree Exerpted from Nebraska VS. Wyoming (325 V.S. 589(1945) - The Nebraska VS. Wyoming Decree enjoins the state of Colorado from:

1. Diverting or permitting the diversion of water from the North Platte River and its tributaries for the irrigation of more than a total of 145,000 acres of land in Jackson County, Colorado during any one irrigation year;
2. Storing or permitting the storage of more than a total amount of 17,000 AF of water for irrigation purposes from the North Platte River and its tributaries in Jackson County, Colorado between October 1 of any year and September 30 of the following year;
3. Exporting out of the basin of the North Platte River and its tributaries in Jackson County, Colorado to any other stream basin or basins more than 60,000 AF of water in any period of ten consecutive years reckoned in continuing progressive series beginning with October 1, 1945.

All requirements set forth in the Decree were satisfied during the 1981 water year. Total irrigated acreage in Jackson County was 111,002 acres, down 3292 acres from the 1980 total of 114,294 acres. Total storage from the North Platte Basin in Jackson County was 5486 AF in 1981 and exports from the North Platte Basin totaled 1223 AF. Total aggregate exports during the last ten consecutive years is well within the allowable.

C. Pot Creek Agreement - Water in the Pot Creek Drainage Basin is apportioned between Utah and Colorado based on an interstate priority system agreement. Utah satisfied its commitments during 1980 under the agreement delivering 3360 AF at the state line. This was nearly 10 times the amount delivered last year. Most of the Pot Creek water rights in Utah are now owned by the Utah Division of Wildlife and are used for wildlife conservation rather than agriculture. This change of use has had a beneficial effect for Colorado by reducing Utah's consumptive use.

VI. DAMS

Two new reservoirs in Division 6 made their first deliveries of water during the 1981 irrigation year. The 1800 foot long and 110 foot high Yamcola Dam was completed in September of 1980 and was able to store almost 5600 AF for irrigation during 1981. A monitoring program was conducted by the owners during the initial filling and no problems were encountered. Of the total 8000 AF active capacity of Yamcola, 4000 AF has been committed to Colorado Ute Electric for its power plants in Hayden and Craig. 1000 AF is allocated for municipal use with the remaining 3000 AF going to irrigators in the Yampa and Toponas area. The reservoir is sponsored by the Upper Yampa Water Conservancy District.

Meadow Creek Reservoir located about 13 miles southeast of Walden was also able to store water for the first time this year. The project was built by the Michigan River Conservancy District through a loan from the Colorado Water Conservation Board and was able to store 2125 AF this year for irrigation purposes. During the initial fill monitoring program, it was discovered that infiltration of water through the dam at its south abutment had created a seep of 2 or 3 cfs near the outlet pipe and also caused the control structure to fill with water. An unsuccessful attempt was made to halt the leak by installing a bentonite curtain along the upstream face of the dam. The owners are using dye in an attempt to pinpoint the source of the leak which will probably be sealed using pressure grouting techniques.

Two other water development projects are currently being actively pursued in Division 6. The Colorado Water Conservation Board has approved funding for a feasibility study for Hyannis Reservoir. The reservoir is to be located on Middle Fork of Arapahoe Creek in North Park and will store 2122.7 AF for irrigation purposes. The Colorado River Water Conservation District has still not received its permit from the Federal Energy Regulatory Commission to construct the Juniper-Cross Mountain Project although the application was filed in 1980. The project will be located on the Yampa River in Moffat County between the city of Craig and Dinosaur National Monument. The project will require over 27,000 acres of federal, state, and private lands and will inundate approximately 75 miles of river and 22,000 acres of land. Two proposed dams and reservoirs are planned with a combined generating capacity of 148 MW at an estimated cost of \$170 million.

The Division of Water Resources dam section made the following dam inspections in Division 6 during 1981:

Regular Inspections: High Hazard - 5
 Moderate Hazard - 1
 Low Hazard - 2

Construction Inspections: High Hazard - 2
 Moderate Hazard - 7
 Low Hazard - 15

Phase I Inspections: 1

VII. WATER RIGHTS

The number of water rights cases processed through the Division 6 Court increased in 1981 in every category except minimum streamflow and lake level filings by the Colorado Water Conservation Board. The actual increase in water rights applications was far greater than reflected by the increase in cases since some cases contained multiple water right applications. Mining interests located north and west of Craig have filed on numerous wells, springs, and reservoirs during 1981. The bulk of these filings have been on public domain or on lands not controlled by the mining companies. This has produced an avalanche of protest filings and new filings by ranchers in the area attempting to protect their historic water supplies. One rancher has applied for 45 springs in two water cases and another has applied for 70 reservoirs in 10 different cases. The flood of new cases has kept the water referee and our staff busy field checking the applications and processing the necessary papers.

Judge Hume, Division 6 Water Judge, has issued new Rules and Regulations governing the filing of water rights applications within this Division. The rules require that each application for water rights be accompanied by a list of owners of lands which may be affected by the granting of the application. The list is to include the names and addresses of owners of land underlying the proposed point of diversion or lands traversed by any ditch or pipeline right-of-way through which the proposed water right will be transported or lands upon which water will be stored. The willful failure to provide such a list of affected persons may result in the setting aside of the decree of water right. The new regulations also require that applicants for underground water rights submit, along with their application, the well permit number assigned by the State Engineer or a copy of the denial of application for well permit.

SUMMARY OF 1981 COURT TRANSACTIONS IN DIVISION 6
(Except District 43*)

| Type of Filing | Applications | Rulings | Decrees |
|--------------------|--------------|---------|---------|
| Underground | 50 | 46 | 38 |
| Change of Right | 19 | 11 | 10 |
| Augmentation Plan | 3 | 3 | 3 |
| Surface | 196 | 186 | 157 |
| Reservoir | 65 | 55 | 51 |
| Minimum Streamflow | 12 | 12 | 18 |

SUMMARY OF 1981 COURT TRANSACTIONS IN DISTRICT 43

| | | | |
|--------------------|----|----|----|
| Underground | 24 | 14 | 12 |
| Change of Right | 4 | 3 | 3 |
| Augmentation Plan | 2 | | |
| Surface | 57 | 47 | 35 |
| Reservoir | 16 | 5 | 2 |
| Minimum Streamflow | | 12 | 10 |

*District 43 water cases are handled in Division 5 Water Court

VIII. ORGANIZATIONS

- A. Colorado River Water Conservation District, Glenwood Springs, CO - Mr. Roland C. Fischer, Sec-Treas

Upper Yampa Water Conservancy District, Steamboat Springs, CO - John Fetcher, Secretary; Jim Funk, Pres.

Yellow Jacket Water Conservancy District, Meeker, CO - Frank Cooley, Attorney

Pot Hook Conservancy District, Baggs, Wyoming - Darwin Dunn, President

Lower Yampa Conservancy District, Craig, CO - Tony Angelo, Chairman

Great Northern Conservancy District, Craig, CO - Tony Angelo, Chairman

Northwest Colo Water Council, Craig, CO - Tony Angelo, Chairman

Jackson County Water Conservancy District - Walden, CO - Lloyd Hampton, Secretary

- B. Bear River Reservoir Co., Yampa, CO

Stillwater Ditch Co., Yampa, CO

Maybell Irrigation District, Maybell, CO

Miller Creek Ditch Co., Meeker, CO

Woodchuck Ditch Co., Steamboat Springs, CO

Mt. Werner Water & Sanitation District, Steamboat Springs, CO

Morrison Creek Water & Sanitation District, Oak Creek, CO

Steamboat Lake Water District, Clark, CO

Riverside Water & Sanitation District, Steamboat Springs, CO

Steamboat II Water & Sanitation District, Steamboat Springs, CO

Tree Haus Water & Sanitation District, Steamboat Springs, CO

IX. WATER COMMISSIONER'S SUMMARY

Water District No. 43

| | |
|---|---------|
| Direct Flow Diversions to Irrigation..... | 274,749 |
| Direct Flow Diversions to Transbasin..... | 0 |
| Direct Flow Diversions to Municipal & Domestic..... | 1,809 |
| Direct Flow Diversions to Industrial..... | 3,644 |
| Direct Flow Diversions to Other Uses..... | 29,646 |
| TOTAL DIVERSIONS..... | 309,848 |
| Reservoir Storage (11/1/80)..... | 7,828 |
| Reservoir Storage (10/31/81)..... | 7,731 |
| Net Change in Storage..... | - 97 |
| Fill During Season..... | 1,759 |
| Release + Evaporation During Season..... | 1,856 |
| Direct Diversions to Irrigation..... | 274,749 |
| Diversions from Storage to Irrigation..... | 0 |
| TOTAL DIVERSIONS TO IRRIGATION..... | 274,749 |
| Total Acres Irrigated..... | 27,866 |
| Average Demand for Irrigation..... | 9.9 |

IX. WATER COMMISSIONER'S SUMMARY

Water District No. 44

| | |
|---|---------|
| Direct Flow Diversions to Irrigation..... | 119,644 |
| Direct Flow Diversions to Transbasin..... | 0 |
| Direct Flow Diversions to Municipal & Domestic..... | 2,500 |
| Direct Flow Diversions to Industrial..... | 9,243 |
| Direct Flow Diversions to Other Uses..... | 600 |
| TOTAL DIVERSIONS..... | 131,987 |
| Reservoir Storage (11/1/80)..... | 15,751 |
| Reservoir Storage (10/31/81)..... | 15,781 |
| Net Change in Storage..... | 30 |
| Fill During Season..... | 919 |
| Release + Evaporation During Season..... | 889 |
| Direct Diversions to Irrigation..... | 119,644 |
| Diversions from Storage to Irrigation..... | 148 |
| TOTAL DIVERSIONS TO IRRIGATION..... | 119,792 |
| Total Acres Irrigated..... | 25,490 |
| Average Demand for Irrigation..... | 4.7 |

IX. WATER COMMISSIONER'S SUMMARY

Water District No. 47

| | |
|---|---------|
| Direct Flow Diversions to Irrigation..... | 288,574 |
| Direct Flow Diversions to Transbasin..... | 1,223 |
| Direct Flow Diversions to Municipal & Domestic..... | 700 |
| Direct Flow Diversions to Industrial..... | 0 |
| Direct Flow Diversions to Other Uses..... | 4,730 |
| TOTAL DIVERSIONS..... | 295,227 |
| Reservoir Storage (11/1/80)..... | 17,389 |
| Reservoir Storage (10/31/81)..... | 11,514 |
| Net Change in Storage..... | - 5,875 |
| Fill During Season..... | 5,486 |
| Release + Evaporation During Season..... | 11,811 |
| Direct Diversions to Irrigation..... | 288,574 |
| Diversions from Storage to Irrigation..... | 7,579 |
| TOTAL DIVERSIONS TO IRRIGATION..... | 296,153 |
| Total Acres Irrigated..... | 111,002 |
| Average Demand for Irrigation..... | 2.7 |

IX. WATER COMMISSIONER'S SUMMARY

Water District No. 54

| | |
|---|--------|
| Direct Flow Diversions to Irrigation..... | 21,108 |
| Direct Flow Diversions to Transbasin..... | 0 |
| Direct Flow Diversions to Municipal & Domestic..... | 100 |
| Direct Flow Diversions to Industrial..... | 0 |
| Direct Flow Diversions to Other Uses..... | 100 |
| TOTAL DIVERSIONS..... | 21,308 |
| Reservoir Storage (11/1/80)..... | 476 |
| Reservoir Storage (10/31/81)..... | 476 |
| Net Change in Storage..... | 0 |
| Fill During Season..... | 200 |
| Release + Evaporation During Season..... | 200 |
| Direct Diversions to Irrigation..... | 21,108 |
| Diversions from Storage to Irrigation..... | 0 |
| TOTAL DIVERSIONS TO IRRIGATION..... | 21,308 |
| Total Acres Irrigated..... | 4,129 |
| Average Demand for Irrigation..... | 5.2 |

IX. WATER COMMISSIONER'S SUMMARY

Water District No. 55

| | |
|---|--------|
| Direct Flow Diversions to Irrigation..... | 11,485 |
| Direct Flow Diversions to Transbasin..... | 0 |
| Direct Flow Diversions to Municipal & Domestic..... | 0 |
| Direct Flow Diversions to Industrial..... | 0 |
| Direct Flow Diversions to Other Uses..... | 196 |
| TOTAL DIVERSIONS..... | 11,681 |
| Reservoir Storage (11/1/80)..... | 0 |
| Reservoir Storage (10/31/81)..... | 0 |
| Net Change in Storage..... | 0 |
| Fill During Season..... | 0 |
| Release + Evaporation During Season..... | 0 |
| Direct Diversions to Irrigation..... | 11,485 |
| Diversions from Storage to Irrigation..... | 0 |
| TOTAL DIVERSIONS TO IRRIGATION..... | 11,485 |
| Total Acres Irrigated..... | 1,388 |
| Average Demand for Irrigation..... | 8.3 |

IX. WATER COMMISSIONER'S SUMMARY

Water District No. 56

| | |
|---|-------|
| Direct Flow Diversions to Irrigation..... | 7,944 |
| Direct Flow Diversions to Transbasin..... | 0 |
| Direct Flow Diversions to Municipal & Domestic..... | 190 |
| Direct Flow Diversions to Industrial..... | 0 |
| Direct Flow Diversions to Other Uses..... | 1,812 |
| TOTAL DIVERSIONS..... | 9,946 |
| Reservoir Storage (11/1/80)..... | 156 |
| Reservoir Storage (10/31/81)..... | 56 |
| Net Change in Storage..... | - 100 |
| Fill During Season..... | 100 |
| Release + Evaporation During Season..... | 200 |
| Direct Diversions to Irrigation..... | 7,944 |
| Diversions from Storage to Irrigation..... | 74 |
| TOTAL DIVERSIONS TO IRRIGATION..... | 8,018 |
| Total Acres Irrigated..... | 2,188 |
| Average Demand for Irrigation..... | 3.7 |

IX. WATER COMMISSIONER'S SUMMARY

Water District No. 57

| | |
|---|--------|
| Direct Flow Diversions to Irrigation..... | 57,552 |
| Direct Flow Diversions to Transbasin..... | 2,774 |
| Direct Flow Diversions to Municipal & Domestic..... | 800 |
| Direct Flow Diversions to Industrial..... | 3,860 |
| Direct Flow Diversions to Other Uses..... | 356 |
| TOTAL DIVERSIONS..... | 64,542 |
| Reservoir Storage (11/1/80)..... | 2,138 |
| Reservoir Storage (10/31/81)..... | 1,103 |
| Net Change in Storage..... | -1,035 |
| Fill During Season..... | 844 |
| Release + Evaporation During Season..... | 1,879 |
| Direct Diversions to Irrigation..... | 57,552 |
| Diversions from Storage to Irrigation..... | 1,156 |
| TOTAL DIVERSIONS TO IRRIGATION..... | 58,708 |
| Total Acres Irrigated..... | 9,912 |
| Average Demand for Irrigation..... | 5.9 |

IX. WATER COMMISSIONER'S SUMMARY

Water District No. 58

| | |
|---|---------|
| Direct Flow Diversions to Irrigation..... | 115,539 |
| Direct Flow Diversions to Transbasin..... | 333 |
| Direct Flow Diversions to Municipal & Domestic..... | 5,700 |
| Direct Flow Diversions to Industrial..... | 0 |
| Direct Flow Diversions to Other Uses..... | 1,686 |
| TOTAL DIVERSIONS..... | 122,858 |
| Reservoir Storage (11/1/80)..... | 43,169 |
| Reservoir Storage (10/31/81)..... | 46,020 |
| Net Change in Storage..... | 2,851 |
| Fill During Season..... | 12,447 |
| Release + Evaporation During Season..... | 20,561 |
| Direct Diversions to Irrigation..... | 115,539 |
| Diversions from Storage to Irrigation..... | 13,560 |
| TOTAL DIVERSIONS TO IRRIGATION..... | 129,099 |
| Total Acres Irrigated..... | 35,772 |
| Average Demand for Irrigation..... | 3.6 |

X. DIVISION ENGINEER'S SUMMARY

Table A

DIVISION SUMMARY - DIVISION NO. 6
1981 -- Direct Flow Diversions

| Water District | Total Diversions for Irrigation A.F. | No. of Acres Irrigated | A.F. per Acre | Industrial Use A.F. | Municipal & Domestic A.F. | Recreational & Other Uses A.F. | Transbasin/Transmtn. Diversions A.F. | Total Diversions A.F. | Delivered to Compact Commitment A.F. |
|----------------|--------------------------------------|------------------------|---------------|---------------------|---------------------------|--------------------------------|--------------------------------------|-----------------------|--------------------------------------|
| 43 | 274,749 | 27,866 | 9.9 | 3,644 | 1,809 | 29,646 | 0 | 309,848 | 0 |
| 44 | 119,792 | 25,490 | 4.7 | 9,243 | 2,500 | 600 | 0 | 131,987 | 0 |
| 47 | 296,153 | 111,002 | 2.7 | 0 | 700 | 4,730 | 1,223 | 288,574 | 0 |
| 54 | 21,108 | 4,129 | 5.2 | 0 | 100 | 100 | 0 | 21,308 | 0 |
| 55 | 11,485 | 1,388 | 8.3 | 0 | 0 | 196 | 0 | 11,681 | 0 |
| 56 | 8,018 | 2,188 | 3.7 | 0 | 190 | 1,812 | 0 | 9,946 | 0 |
| 57 | 58,708 | 9,912 | 5.9 | 3,860 | 800 | 356 | 2,774 | 64,542 | 0 |
| 58 | 115,539 | 35,772 | 3.6 | 0 | 5,300 | 1,686 | 333 | 122,858 | 0 |
| TOTALS | 905,552 | 217,747 | 4.2 | 16,747 | 11,399 | 39,126 | 4,330 | 960,744 | 0 |

X. DIVISION ENGINEER'S SUMMARY

DIVISION SUMMARY - DIVISION NO. 6

Table B

1981 - Storage Report - Acre Feet

| Water District | 11-1-80 | Amount in Storage Acre Feet 10-31-81 | Actual Amt. Diverted to Storage During Season | Delivered from Storage to Irrigation | Storage for Industrial Use | Storage for Municipal Use | Storage for Recreational Use | Storage for Projects |
|----------------|---------|--------------------------------------|---|--------------------------------------|----------------------------|---------------------------|------------------------------|----------------------|
| 43 | 7,823 | 7,731 | 1,759 | 0 | 0 | 0 | 7,467 | 0 |
| 44 | 15,781 | 15,781 | 919 | 148 | 9,000 | 0 | 6,775 | 0 |
| 47 | 17,389 | 11,514 | 5,486 | 7,579 | 0 | 0 | 9,600 | 0 |
| 54 | 476 | 476 | 200 | 0 | 0 | 0 | 218 | 0 |
| 55 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 56 | 156 | 56 | 100 | 74 | 0 | 0 | 0 | 0 |
| 57 | 2,138 | 1,103 | 844 | 1,156 | 1,500 | 986 | 0 | 0 |
| 58 | 43,169 | 46,020 | 12,447 | 13,560 | 7,500 | 2,500 | 38,400 | 0 |

X. DIVISION ENGINEER'S SUMMARY

Table C:

WORKLOAD AND STATISTICAL INDICATORS

| | |
|---|---------|
| Acre Feet Water Used | 960,744 |
| Acre Feet Diverted for Agricultural Use | 905,552 |
| Acre Feet Diverted for Industrial Use | 16,747 |
| Acre Feet Diverted for Recreation Use | 39,126 |
| Acre Feet Diverted for Domestic & Municipal Use | 11,399 |
| Acre Feet Water Stored (10/31/81) | 82,681 |
| Acre Feet Water Transbasin Diversion | 4,330 |
| Acres Irrigated | 217,747 |

XI. RECOMMENDATIONS

The water commissioners seem to be the work horses of the Water Resources Division and are the lowest paid. We would recommend that intense efforts be made for further salary advancement for 82-83. We would also recommend that efforts be made so that they do not subsidize the State through lower-than-cost-reimbursement for mileage.

Ownership of water rights is still an issue which everyone seems to avoid. One of our most precious assets is in the dilemma of being unable to have title insurance issued in its behalf. It would seem that legislation could be passed so title of water rights could be straightened out and ownership could be verified without huge expense. The present adjudication system is not overly expensive. It would seem that if this system is adequate to originate water rights, it would be sufficient to verify ownership. Persons who are using water in the decreed locations on the originally designated land could file a \$26 case showing that they are owners. If after advertising, no one comes forth showing anything different, the court could verify title.

Consumptive use is more important than ever and we need to know what our use is so that we can discuss energy needs, compact negotiations, and many other issues in an intelligent manner.

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**WATER RESOURCES
STATE ENGINEER
COLORADO**

COLORADO DIVISION OF WATER RESOURCES
DIVISION & WATER BUDGET PROGRAM

RESERVOIR EVAPORATION AT 8300. FT.

| MONTH | EVAPORATION(INCHES) | NET DEPLETION(AF.) |
|-------|---------------------|--------------------|
| 11 | 0.00 | 0. |
| 12 | 0.00 | 0. |
| 1 | 0.00 | 0. |
| 2 | 0.00 | 0. |
| 3 | 0.00 | 0. |
| 4 | 2.56 | 567. |
| 5 | 1.55 | 365. |
| 6 | 3.71 | 854. |
| 7 | 4.38 | 661. |
| 8 | 4.52 | 577. |
| 9 | 3.80 | 479. |
| 10 | 1.68 | 245. |
| | 21.99 | TOTALS 3747. |

IRRIGATION CONSUMPTIVE USE

ELEV. 8000. FT. 11005. IRR. ACRES IRR. SEASON 5/10/1981 - 7/15/1981
 CANADIAN

| MONTH | DEPLETION (INCHES) |
|-------|--------------------|
| 5 | 2.01 |
| 6 | 4.51 |
| 7 | 2.48 |
| | 9.00 YEARLY TOTAL |

NET DEPLETION = 8315. ACRE FT. 0.750 ACRE FT. PER ACRE

ELEV. 8300. FT. 9410. IRR. ACRES IRR. SEASON 5/15/1981 - 7/20/1981
 MICH TO KIMMONS

| MONTH | DEPLETION (INCHES) |
|-------|--------------------|
| 5 | 1.49 |
| 6 | 4.40 |
| 7 | 3.23 |
| | 9.13 YEARLY TOTAL |

NET DEPLETION = 7156. ACRE FT. 0.760 ACRE FT. PER ACRE

ELEV. 8300. FT. 9872. IRR. ACRES IRR. SEASON 5/10/1981 - 7/15/1981
 MICH TO WALDEN

| MONTH | DEPLETION (INCHES) |
|-------|--------------------|
| 5 | 1.94 |
| 6 | 4.41 |
| 7 | 2.43 |
| | 8.78 YEARLY TOTAL |

NET DEPLETION = 7225. ACRE FT. 0.732 ACRE FT. PER ACRE

ELEV. 8000. FT. 4800. IRR. ACRES IRR. SEASON 5/10/1981 - 7/15/1981

MICH BL WALDEN

MONTH DEPLETION (INCHES)

| | |
|---|------|
| 5 | 2.01 |
| 6 | 4.51 |
| 7 | 2.48 |

9.00 YEARLY TOTAL

NET DEPLETION = 3600. ACRE FT. 0.750 ACRE FT. PER ACF

ELEV. 8300. FT. 12000. IRR. ACRES IRR. SEASON 5/10/1981 - 7/15/1981
ILL TO MIDLAND

MONTH DEPLETION (INCHES)

| | |
|---|------|
| 5 | 1.93 |
| 6 | 4.40 |
| 7 | 2.42 |

8.75 YEARLY TOTAL

NET DEPLETION = 8757. ACRE FT. 0.730 ACRE FT. PER ACF

ELEV. 8000. FT. 9154. IRR. ACRES IRR. SEASON 5/10/1981 - 7/20/1981
LOWER ILLINOIS

MONTH DEPLETION (INCHES)

| | |
|---|------|
| 5 | 2.01 |
| 6 | 4.51 |
| 7 | 3.31 |

9.83 YEARLY TOTAL

NET DEPLETION = 7497. ACRE FT. 0.819 ACRE FT. PER ACF

ELEV. 8200. FT. 11507. IRR. ACRES IRR. SEASON 5/10/1981 - 7/20/1981
LIL GRIZZLY

MONTH DEPLETION (INCHES)

| | |
|---|------|
| 5 | 1.06 |
| 6 | 4.77 |
| 7 | 2.64 |

8.47 YEARLY TOTAL

NET DEPLETION = 7901. ACRE FT. 0.706 ACRE FT. PER ACF

ELEV. 8200. FT. 14300. IRR. ACRES IRR. SEASON 5/ 5/1981 - 7/10/1981
BIG GRIZZLY

MONTH DEPLETION (INCHES)

| | |
|---|------|
| 5 | 1.37 |
| 6 | 4.86 |
| 7 | 1.35 |

7.58 YEARLY TOTAL

NET DEPLETION = 9032. ACRE FT. 0.632 ACRE FT. PER ACF

 ELEV. 8300. FT. 10426. IRR. ACRES IRR. SEASON 5/15/1981 - 7/15/198
 ROARING FK

| MONTH | DEPLETION (INCHES) |
|-------------------|--------------------|
| 5 | 0.84 |
| 6 | 4.83 |
| 7 | 2.01 |
| 7.68 YEARLY TOTAL | |

NET DEPLETION = 6673. ACRE FT. 0.640 ACRE FT. PER ACR

 ELEV. 8300. FT. 13038. IRR. ACRES IRR. SEASON 5/20/1981 - 7/25/198
 NORTH FK

| MONTH | DEPLETION (INCHES) |
|-------------------|--------------------|
| 5 | 0.60 |
| 6 | 4.83 |
| 7 | 3.35 |
| 8.77 YEARLY TOTAL | |

NET DEPLETION = 9528. ACRE FT. 0.731 ACRE FT. PER ACR

 ELEV. 8400. FT. 1000. IRR. ACRES IRR. SEASON 5/25/1981 - 7/25/198
 NON TRIB IN CO

| MONTH | DEPLETION (INCHES) |
|-------------------|--------------------|
| 5 | 0.34 |
| 6 | 4.79 |
| 7 | 3.32 |
| 8.45 YEARLY TOTAL | |

NET DEPLETION = 704. ACRE FT. 0.704 ACRE FT. PER ACR

 ELEV. 8000. FT. 4610. IRR. ACRES IRR. SEASON 5/20/1981 - 7/20/198
 N PLATTE

| MONTH | DEPLETION (INCHES) |
|-------------------|--------------------|
| 5 | 1.10 |
| 6 | 4.51 |
| 7 | 3.31 |
| 8.91 YEARLY TOTAL | |

NET DEPLETION = 3424. ACRE FT. 0.743 ACRE FT. PER ACR

IRRIGATION TOTALS FOR WATER DISTRICT 47
 79892. A.F. NET IRRIGATION DEPLETION 0.720 A.F./ACRE 111002. IRR. ACRE

RESERVOIR EVAPORATION AT 6800. FT.

| MONTH | EVAPORATION (INCHES) | NET DEPLETION (AF.) |
|-------|----------------------|---------------------|
| 11 | 0.00 | 0. |
| 12 | 0.91 | 30. |
| 1 | 0.00 | 0. |
| 2 | 0.00 | 0. |
| 3 | 0.00 | 0. |
| 4 | 1.45 | 49. |
| 5 | 1.14 | 40. |
| 6 | 3.43 | 117. |
| 7 | 3.21 | 110. |
| 8 | 4.52 | 151. |
| 9 | 3.80 | 130. |
| 10 | 1.01 | 35. |
| | 19.47 | TOTALS 662. |

IRRIGATION CONSUMPTIVE USE

ELEV. 7700. FT. 2278. IRR. ACRES IRR. SEASON 6/20/1981 - 8/10/1981
 ABOVE BUFORD

MONTH DEPLETION (INCHES)

| | |
|---|------|
| 6 | 1.47 |
| 7 | 3.84 |
| 8 | 1.51 |

6.82 YEARLY TOTAL

NET DEPLETION = 1294. ACRE FT. 0.568 ACRE FT. PER ACRE

ELEV. 6350. FT. 14249. IRR. ACRES IRR. SEASON 8/1/1981 - 7/25/1981
 WHITE AB YELLOW 8/20/1981 - 9/20/1981

MONTH DEPLETION (INCHES)

| | |
|---|------|
| 6 | 5.64 |
| 7 | 4.64 |
| 8 | 1.93 |
| 9 | 3.04 |

15.26 YEARLY TOTAL

NET DEPLETION = 18114. ACRE FT. 1.271 ACRE FT. PER ACRE

ELEV. 6500. FT. 5319. IRR. ACRES IRR. SEASON 5/25/1981 - 6/25/1981
 TRIGS AB MEEKER

MONTH DEPLETION (INCHES)

| | |
|---|------|
| 5 | 0.59 |
| 6 | 4.56 |

5.14 YEARLY TOTAL

NET DEPLETION = 2280. ACRE FT. 0.429 ACRE FT. PER ACRE

ELEV. 6300. FT. 3682. IRR. ACRES IRR. SEASON 5/ 1/1981 - 6/30/1981
LOWER TRIBS

| MONTH | DEPLETION (INCHES) |
|-------------------|--------------------|
| 5 | 2.22 |
| 6 | 4.73 |
| 6.99 YEARLY TOTAL | |

NET DEPLETION = 2144. ACRE FT. 0.582 ACRE FT. PER ACRE

ELEV. 5300. FT. 2338. IRR. ACRES IRR. SEASON 5/20/1981 - 7/20/1981
WHITE BL YELLOW 8/10/1981 - 8/31/1981

| MONTH | DEPLETION (INCHES) |
|--------------------|--------------------|
| 5 | 1.59 |
| 6 | 6.68 |
| 7 | 4.59 |
| 8 | 4.39 |
| 17.25 YEARLY TOTAL | |

NET DEPLETION = 3360. ACRE FT. 1.437 ACRE FT. PER ACRE

IRRIGATION TOTALS FOR WATER DISTRICT 43
27193. A.F. NET IRRIGATION DEPLETION 0.976 A.F./ACRE 27866. IRR. ACRES

RESERVOIR EVAPORATION AT 6500. FT.

| MONTH | EVAPORATION(INCHES) | NET DEPLETION(AF.) |
|-------|---------------------|--------------------|
| 11 | 1.40 | 89. |
| 12 | 0.00 | 0. |
| 1 | 0.00 | 0. |
| 2 | 0.00 | 0. |
| 3 | 0.47 | 30. |
| 4 | 2.65 | 171. |
| 5 | 1.02 | 68. |
| 6 | 4.20 | 282. |
| 7 | 4.60 | 295. |
| 8 | 5.77 | 363. |
| 9 | 3.93 | 247. |
| 10 | 0.60 | 39. |
| | 24.63 | TOTALS 1594. |

IRRIGATION CONSUMPTIVE USE

ELEV. 6300. FT. 5700. IRR. ACRES IRR. SEASON 5/25/1981 - 7/25/1981
8/15/1981- 9/15/1981

YAMPA AB JUNSPG

| MONTH | DEPLETION (INCHES) |
|-------|--------------------|
| 5 | 0.48 |
| 6 | 5.08 |
| 7 | 4.41 |
| 8 | 3.39 |
| 9 | 2.00 |

15.36 YEARLY TOTAL

NET DEPLETION = 7294.ACRE FT. 1.280 ACRE FT. PER ACRE

ELEV. 5900. FT. 5200. IRR. ACRES IRR. SEASON 5/5/1981 - 7/25/1981
8/15/1981- 9/15/1981

YAMPA BL JUNSPG

| MONTH | DEPLETION (INCHES) |
|-------|--------------------|
| 5 | 1.93 |
| 6 | 5.21 |
| 7 | 4.52 |
| 8 | 3.47 |
| 9 | 2.05 |

17.18 YEARLY TOTAL

NET DEPLETION = 7443.ACRE FT. 1.431 ACRE FT. PER ACRE

ELEV. 6500. FT. 9204. IRR. ACRES IRR. SEASON 5/25/1981 - 6/20/1981
LOWER TRIBS

| MONTH | DEPLETION (INCHES) |
|-------|--------------------|
| 5 | 0.46 |
| 6 | 3.34 |

3.80 YEARLY TOTAL

NET DEPLETION = 3918.ACRE FT. 0.317 ACRE FT. PER ACRE

ELEV. 6800. FT. 5386. IRR. ACRES IRR. SEASON 6/ 1/1981 - 7/ 5/1981
UPPER TRIBS

MONTH DEPLETION (INCHES)

6 4.80

7 0.84

5.64 YEARLY TOTAL

NET DEPLETION = 2530. ACRE FT. 0.470 ACRE FT. PER ACRE

IRRIGATION TOTALS FOR WATER DISTRICT 44

20185. A.F. NET IRRIGATION DEPLETION 0.792 A.F./ACRE 25490. IRR. ACRES

RESERVOIR EVAPORATION AT 7500. FT.

| MONTH | EVAPORATION (INCHES) | NET DEPLETION (AF.) |
|-------|----------------------|---------------------|
| 11 | 0.00 | 0. |
| 12 | 0.00 | 0. |
| 1 | 0.00 | 0. |
| 2 | 0.00 | 0. |
| 3 | 0.00 | 0. |
| 4 | 2.18 | 18. |
| 5 | 0.56 | 6. |
| 6 | 3.73 | 31. |
| 7 | 4.13 | 21. |
| 8 | 5.31 | 27. |
| 9 | 3.47 | 17. |
| 10 | 0.14 | 1. |
| | 19.52 | TOTALS 120. |

IRRIGATION CONSUMPTIVE USE

ELEV. 6300. FT. 3100. IRR. ACRES IRR. SEASON 5/20/1981 - 7/31/1981
SNAKE WILLOW CK

| MONTH | DEPLETION (INCHES) |
|-------|--------------------|
| 5 | 0.82 |
| 6 | 5.08 |
| 7 | 5.47 |
| | 11.37 YEARLY TOTAL |

NET DEPLETION = 2937. ACRE FT. 0.947 ACRE FT. PER ACR

ELEV. 6600. FT. 1029. IRR. ACRES IRR. SEASON 6/20/1981 - 7/15/1981
TRIBUTARIES

| MONTH | DEPLETION (INCHES) |
|-------|--------------------|
| 6 | 1.78 |
| 7 | 2.54 |
| | 4.32 YEARLY TOTAL |

NET DEPLETION = 371. ACRE FT. 0.360 ACRE FT. PER ACR

IRRIGATION TOTALS FOR WATER DISTRICT 54

3307. A.F. NET IRRIGATION DEPLETION 0.801 A.F./ACRE 4129. IRR. ACRE

RESERVOIR EVAPORATION AT 5500. FT.

| MONTH | EVAPORATION(INCHES) | NET DEPLETION(AF.) |
|-------|---------------------|--------------------|
| 11 | 1.66 | 0. |
| 12 | 1.29 | 0. |
| 1 | 0.00 | 0. |
| 2 | 0.00 | 0. |
| 3 | 2.06 | 0. |
| 4 | 3.41 | 0. |
| 5 | 2.38 | 0. |
| 6 | 5.31 | 0. |
| 7 | 6.57 | 0. |
| 8 | 6.31 | 0. |
| 9 | 4.37 | 0. |
| 10 | 1.01 | 0. |
| | 34.67 | TOTALS 0. |

IRRIGATION CONSUMPTIVE USE

ELEV. 5800. FT. 1388. IRR. ACRES IRR. SEASON 5/15/1981 - 7/25/1981
8/20/1981- 8/31/1981

LOWER SNAKE R

| MONTH | DEPLETION (INCHES) |
|-------|--------------------|
| 5 | 1.88 |
| 6 | 6.19 |
| 7 | 5.81 |
| 8 | 2.52 |
| | 16.40 YEARLY TOTAL |

NET DEPLETION = 1897. ACRE FT. 1.367 ACRE FT. PER ACRE

IRRIGATION TOTALS FOR WATER DISTRICT 55

1897. A.F. NET IRRIGATION DEPLETION 1.367 A.F./ACRE 1388. IRR. ACRES

RESERVOIR EVAPORATION AT 6000. FT.

| MONTH | EVAPORATION(INCHES) | NET DEPLETION(AF.) |
|-------|---------------------|--------------------|
| 11 | 1.42 | 5. |
| 12 | 0.00 | 0. |
| 1 | 0.00 | 0. |
| 2 | 0.00 | 0. |
| 3 | 1.82 | 7. |
| 4 | 3.17 | 16. |
| 5 | 2.14 | 11. |
| 6 | 5.37 | 22. |
| 7 | 6.33 | 19. |
| 8 | 6.06 | 19. |
| 9 | 4.13 | 12. |
| 10 | 0.77 | 2. |
| | 31.20 | TOTALS 111. |

IRRIGATION CONSUMPTIVE USE

ELEV. 5500. FT. 2188. IRR. ACRES IRR. SEASON 4/15/1981 = 7/15/1981 GREEN R

| MONTH | DEPLETION (INCHES) |
|-------|--------------------|
| 4 | 2.10 |
| 5 | 3.53 |
| 6 | 6.30 |
| 7 | 3.54 |

15.46 YEARLY TOTAL

NET DEPLETION = 2820.ACRE FT. 1.289 ACRE FT. PER ACRE

IRRIGATION TOTALS FOR WATER DISTRICT 56

2820. A.F. NET IRRIGATION DEPLETION 1.289 A.F./ACRE 2188. IRR. ACRES

RESERVOIR EVAPORATION AT 6700. FT.

| MONTH | EVAPORATION (INCHES) | NET DEPLETION (AF.) |
|-------|----------------------|---------------------|
| 11 | 1.62 | 21. |
| 12 | 1.24 | 16. |
| 1 | 0.00 | 0. |
| 2 | 0.00 | 0. |
| 3 | 0.39 | 6. |
| 4 | 2.74 | 49. |
| 5 | 1.00 | 19. |
| 6 | 3.89 | 60. |
| 7 | 4.06 | 49. |
| 8 | 4.84 | 53. |
| 9 | 3.88 | 37. |
| 10 | 0.57 | 5. |
| | 24.21 | TOTALS 315. |

IRRIGATION CONSUMPTIVE USE

ELEV. 6300. FT. 6767. IRR. ACRES IRR. SEASON 6/1/1981 - 7/31/1981
 8/20/1981 - 9/15/1981

YAMPA R

| MONTH | DEPLETION (INCHES) |
|-------|--------------------|
| 6 | 4.88 |
| 7 | 5.08 |
| 8 | 2.08 |
| 9 | 2.01 |
| | 14.05 YEARLY TOTAL |

NET DEPLETION = 7921. ACRE FT. 1.171 ACRE FT. PER ACRE

ELEV. 6600. FT. 3145. IRR. ACRES IRR. SEASON 6/10/1981 - 7/15/1981
 TRIBUTARIES

| MONTH | DEPLETION (INCHES) |
|-------|--------------------|
| 6 | 3.27 |
| 7 | 2.35 |
| | 5.62 YEARLY TOTAL |

NET DEPLETION = 1472. ACRE FT. 0.468 ACRE FT. PER ACRE

IRRIGATION TOTALS FOR WATER DISTRICT 57

9393. A.F. NET IRRIGATION DEPLETION 0.948 A.F./ACRE 9912. IRR. ACRES

RESERVOIR EVAPORATION AT 8000. FT.

| MONTH | EVAPORATION(INCHES) | NET DEPLETION(AF.) |
|-------|---------------------|--------------------|
| 11 | 0.00 | 0. |
| 12 | 0.00 | 0. |
| 1 | 0.00 | 0. |
| 2 | 0.00 | 0. |
| 3 | 0.00 | 0. |
| 4 | 1.90 | 393. |
| 5 | 0.14 | 30. |
| 6 | 2.76 | 555. |
| 7 | 2.62 | 495. |
| 8 | 3.89 | 717. |
| 9 | 2.80 | 521. |
| 10 | 0.03 | 6. |
| | 14.15 | TOTALS 2718. |

IRRIGATION CONSUMPTIVE USE

ELEV. 6900. FT. 6800. IRR. ACRES IRR. SEASON 6/ 5/1981 - 7/31/1981

BEAR R

| MONTH | DEPLETION (INCHES) |
|-------|--------------------|
| 6 | 3.35 |
| 7 | 4.12 |
| | 7.77 YEARLY TOTAL |

NET DEPLETION = 4403.ACRE FT. 0.647 ACRE FT. PER ACRE

ELEV. 7000. FT. 3000. IRR. ACRES IRR. SEASON 6/20/1981 - 7/15/1981

BEAR R TRIBES

| MONTH | DEPLETION (INCHES) |
|-------|--------------------|
| 6 | 1.53 |
| 7 | 1.98 |
| | 3.51 YEARLY TOTAL |

NET DEPLETION = 878.ACRE FT. 0.293 ACRE FT. PER ACRE

ELEV. 8000. FT. 10900. IRR. ACRES IRR. SEASON 5/25/1981 - 7/31/1981

BEAR RIVER

| MONTH | DEPLETION (INCHES) |
|-------|--------------------|
| 5 | 0.54 |
| 6 | 4.29 |
| 7 | 4.56 |
| | 9.34 YEARLY TOTAL |

NET DEPLETION = 8480.ACRE FT. 0.778 ACRE FT. PER ACRE

 ELEV. 7800. FT. 4472. IRR. ACRES IRR. SEASON 6/ 5/1981 - 7/10/1981
 TRIBS AB SARVIS

| MONTH | DEPLETION (INCHES) |
|-------------------|--------------------|
| 6 | 3.77 |
| 7 | 1.47 |
| 5.25 YEARLY TOTAL | |

NET DEPLETION = 1955. ACRE FT. 0.437 ACRE FT. PER ACR

 ELEV. 6770. FT. 6600. IRR. ACRES IRR. SEASON 6/20/1981 - 8/20/1981
 YAMPA R TO ELK

| MONTH | DEPLETION (INCHES) |
|-------------------|--------------------|
| 6 | 1.56 |
| 7 | 4.13 |
| 8 | 3.19 |
| 8.91 YEARLY TOTAL | |

NET DEPLETION = 4900. ACRE FT. 0.742 ACRE FT. PER ACR

 ELEV. 6800. FT. 4000. IRR. ACRES IRR. SEASON 6/10/1981 - 7/15/1981
 TRIBS BC SARVIS

| MONTH | DEPLETION (INCHES) |
|-------------------|--------------------|
| 6 | 2.97 |
| 7 | 2.01 |
| 4.98 YEARLY TOTAL | |

NET DEPLETION = 1659. ACRE FT. 0.415 ACRE FT. PER ACR

IRRIGATION TOTALS FOR WATER DISTRICT 58

22275. A.F. NET IRRIGATION DEPLETION 0.623 A.F./ACRE 35772. IRR. ACRES

SUMMARY FOR WATER DISTRICT 47 IN ACRE-FT

| | |
|----------------------------------|--------|
| IRRIGATION DEPLETION | 79892. |
| RESERVOIR EVAPORATION | 3747. |
| CHANGE IN RESERVOIR STORAGE | -5857. |
| OUT OF BASIN DIVERSIONS | 1223. |
| MUNICIPAL+INDUSTRIAL CONSUMPTION | 100. |
| MISC. USE OR CORRECTIONS | 400. |
| TOTAL DEPLETION | 79505. |

SUMMARY FOR WATER DISTRICT 43 IN ACRE-FT

| | |
|----------------------------------|--------|
| IRRIGATION DEPLETION | 27193. |
| RESERVOIR EVAPORATION | 662. |
| CHANGE IN RESERVOIR STORAGE | -97. |
| OUT OF BASIN DIVERSIONS | 0. |
| MUNICIPAL+INDUSTRIAL CONSUMPTION | 4000. |
| MISC. USE OR CORRECTIONS | 400. |
| TOTAL DEPLETION | 32157. |

SUMMARY FOR WATER DISTRICT 44 IN ACRE-FT

| | |
|----------------------------------|--------|
| IRRIGATION DEPLETION | 20185. |
| RESERVOIR EVAPORATION | 1584. |
| CHANGE IN RESERVOIR STORAGE | 30. |
| OUT OF BASIN DIVERSIONS | 0. |
| MUNICIPAL+INDUSTRIAL CONSUMPTION | 9800. |
| MISC. USE OR CORRECTIONS | 300. |
| TOTAL DEPLETION | 31899. |

SUMMARY FOR WATER DISTRICT 54 IN ACRE-FT

| | |
|----------------------------------|-------|
| IRRIGATION DEPLETION | 3307. |
| RESERVOIR EVAPORATION | 120. |
| CHANGE IN RESERVOIR STORAGE | 0. |
| OUT OF BASIN DIVERSIONS | 0. |
| MUNICIPAL+INDUSTRIAL CONSUMPTION | 0. |
| MISC. USE OR CORRECTIONS | 100. |
| TOTAL DEPLETION | 3527. |

SUMMARY FOR WATER DISTRICT 55 IN ACRE-FT

| | |
|----------------------------------|-------|
| IRRIGATION DEPLETION | 1897. |
| RESERVOIR EVAPORATION | 0. |
| CHANGE IN RESERVOIR STORAGE | 0. |
| OUT OF BASIN DIVERSIONS | 0. |
| MUNICIPAL+INDUSTRIAL CONSUMPTION | 0. |
| MISC. USE OR CORRECTIONS | 100. |
| TOTAL DEPLETION | 1997. |

SUMMARY FOR WATER DISTRICT 54 IN ACRE-FT

| | |
|----------------------------------|-------|
| IRRIGATION DEPLETION | 2820. |
| RESERVOIR EVAPORATION | 111. |
| CHANGE IN RESERVOIR STORAGE | -100. |
| OUT OF BASIN DIVERSIONS | 0. |
| MUNICIPAL+INDUSTRIAL CONSUMPTION | 0. |
| MISC. USE OR CORRECTIONS | 100. |
| TOTAL DEPLETION | 2931. |

SUMMARY FOR WATER DISTRICT 57 IN ACRE-FT

| | |
|----------------------------------|--------|
| IRRIGATION DEPLETION | 15996. |
| RESERVOIR EVAPORATION | 554. |
| CHANGE IN RESERVOIR STORAGE | 1417. |
| OUT OF BASIN DIVERSIONS | 719. |
| MUNICIPAL+INDUSTRIAL CONSUMPTION | 5600. |
| MISC. USE OR CORRECTIONS | 100. |
| TOTAL DEPLETION | 24386. |

SUMMARY FOR WATER DISTRICT 58 IN ACRE-FT

| | |
|----------------------------------|--------|
| IRRIGATION DEPLETION | 22275. |
| RESERVOIR EVAPORATION | 2718. |
| CHANGE IN RESERVOIR STORAGE | 2851. |
| OUT OF BASIN DIVERSIONS | 1429. |
| MUNICIPAL+INDUSTRIAL CONSUMPTION | 1000. |
| MISC. USE OR CORRECTIONS | 300. |
| TOTAL DEPLETION | 27715. |

DIVISION 6 BREAKDOWN BY RIVER BASIN

1981

| | YAMPA | LITTLE SNAKE | GREEN | WHITE | N PLATTE | COLORADO |
|--------------|--------|--------------|-------|--------|----------|----------|
| IRRIG DPLTN | 51853 | 5204 | 2820 | 27193 | 79892 | 87070 |
| RES EVAP | 4617 | 120 | 111 | 662 | 3747 | 5510 |
| CHG. STORAGE | 1846 | 0 | -100 | 97 | -5857 | 1649 |
| MUN-IND | 14800 | 0 | 0 | 4000 | 100 | 18800 |
| TRANS-MIN | 1345 | 0 | 0 | 0 | 1223 | 1345 |
| MISC | 700 | 200 | 100 | 400 | 400 | 1400 |
| OUTFLOW | 565050 | 248270 | 6000 | 337200 | 114400 | 1156520 |
| BASIN YIELD | 640211 | 253794 | 8931 | 369552 | 193905 | 1272488 |
| CONS USE | 75161 | 5524 | 2931 | 32352 | 79505 | 115968 |
| PCT CONS | .1174 | .0218 | .3282 | .0875 | .4100 | .0911 |

DIVISION 6 TOTAL IRRIGATION DEPLETION IN ACRE FT. 166962

IRRIGATED ACRES 217747

ACRE FT. PER ACRE .7668

NOTES: Yampa River outflow is estimated flow above confluence of Little Snake River.
 North Platte outflow does not include Big Creek or Encampment River.
 Little Snake River does not include any uses in Wyoming.
 Green River does not include mainstem.