

DIVISION FIVE  
DIVISION OF WATER RESOURCES  
ANNUAL REPORT 2002

HINMAN RESERVOIR



# STATE OF COLORADO

## DIVISION OF WATER RESOURCES WATER DIVISION 5

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March 14, 2003



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Dear Hal:

The Annual Report for the 2002 Irrigation Year attempts to highlight the issues of statewide or divisionwide concern, and to compile statistical data concerning water supply, water use, water court activities, dam safety, ground water, personnel, and operations. The report is insufficient to represent all the hard work by the Division 5 staff. I am very grateful for your support and the cooperative efforts of your staff.

On behalf of the staff of Water Division 5, I submit our 2002 Annual Report.

Respectfully,

Alan C. Martellaro, P.E.  
Division Engineer

# DIVISION 5 2002 ANNUAL REPORT

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## ANNUAL REPORT WATER DIVISION 5 2002 IRRIGATION YEAR

Water Division 5 is the Colorado River mainstem. The Division covers an area of approximately 9,930 square miles and is comprised of all tributaries to the Colorado River as it crosses the Colorado-Utah state line, excluding the Gunnison River Basin. The average annual precipitation in Water Division 5 varies from less than 9 inches in the Grand Valley to over 50 inches in a few remote areas of the Elk Mountains, Gore Range, and northern Sawatch Range. The average annual natural flow of the Colorado River above Grand Junction is approximately 3.6M AF/YR. The two primary uses of this water for average year conditions are approximately 580,000AF/YR consumed for irrigation on 295,000 acres, and approximately 560,000AF/YR of transmountain diversions to Eastern Colorado. Other major uses in order of consumption include evaporation, municipal & domestic, and stock watering. The greatest diversion of water is for hydroelectric power generation, which is 2.5M AF/YR. Diversion and consumption in the year 2002 was well below these average year figures.

### I. 2002 WATER YEAR ACCOMPLISHMENTS AND EVENTS

#### A. WATER ADMINISTRATION AND RUNOFF CONDITIONS

- **Runoff Conditions**

For the 2001-02 winter basin-wide snow pack began below average, and with each passing month the projections became dire. Many gages reported below-normal precipitation every month for the 2002 irrigation season. By April 1 snow pack was at historically low levels at many gages with runoff forecasts at Cameo and Dotsero 55% and 57%, respectively. As May 1 passed it was obvious we were experiencing a runoff not since 1977. The October 2001-April 2002 precipitation was 65% of normal while the snow water equivalent dropped to 30% of normal. The May 1 runoff forecasts at Cameo and Dotsero dropped to 40% and 47%, respectively. The situation did not improve during May as basin-wide precipitation for the month averaged 35% of normal, dropping the water year precipitation to 60% and the snow water equivalent to 0%. This dropped the runoff forecast once again to an extreme for June 1 at Cameo and Dotsero of 34% and 37%, respectively. Basically, on June 1 the runoff was nearly over and no major reservoir was projected to physically fill. The 2002 irrigation year water supply is now the new benchmark for extreme low runoff of record, and the drought of 2000 through 2002 is the standard for firm yield planning. Generally,

the most reliable runoff forecasts are based on April 1 snow pack, but as with the previous year the snow pack conditions degraded after this critical date and actual runoff fell well below the April 1 forecast. The low runoff projections continued to erode into an extreme drought projection. Eventually, none of the major reservoirs in the Upper Colorado River mainstem achieved a physical fill, as the river call came on the earliest in history, June 12, 2002. The ominous lack of snow pack was capped by below-average rainfall throughout the summer. Relief materialized in September when near-normal rainfall occurred.

Snow accumulation in the Blue River Basin remained below normal all winter. With target storage objectives set for the low runoff scenario, releases at Green Mountain Reservoir were held nearat minimum outflow for power generation. As the very low runoff forecasts persisted, the start of fill for Green Mountain Reservoir was declared on April 12, 2002 and outflows were reduced to belowfrom the minimum power release of 100cfs to the minimum operational bypass of 60cfs. As was the case in 2001 these extreme measures failed to achieve a

physical, or a paper fill in 2002 at Green Mountain Reservoir.

## **B. IMPACTS OF THE DROUGHT OF 2002**

### **• Coal Seam Fire**

Of major import to this area was the Coal Seam Fire which started June 8, 2002, and burned for weeks. The West Glenwood area was evacuated and closed to non-emergency personnel through June 10. Residents and business owners were allowed to enter the area to survey the damage only. The following few days the Division office was closed to the public until the evacuation order was lifted. The fire decimated the western adjacent properties and came to within a few hundred feet of our back door. Fortunately, there was only minor smoke damage and ash residue to our Division offices.



Looking into West Glenwood, location of Division 5 office, from South Glenwood during evacuation

### **• Green Mountain Ring Seal Project Delayed Again**

Work on the outlet ring seals at Green Mountain Reservoir was once again delayed until next year. The work remains in the second year of what was once a three-year project, and is now going into the fourth year. The plan continues to replace the second ring seal with the first reconditioned ring seal, and would limit releases to one of two outlet tunnels plus flows through the spillway radial gates for the top 42,000AF in the reservoir. The projected inflow, lake levels, and demands for CBT project replacement and downstream users were judged to leave insufficient head to provide

releases needed with the constraints of the ring seal replacement project. For 2002, the lake levels did not reach an elevation to provide any releases through the radial gates, and one outlet tube was deemed insufficient.

### **• Coordinated Reservoir Operations Called Off**

Discussion of reservoir re-operation for endangered fish habitat enhancement (CROS) was tabled for the third consecutive year. Once none of the participating reservoirs were projected to fill, CROS discussions were cancelled and, as projected, none filled. Additionally, the projected peak flows at the trigger gage, the Colorado River near Cameo, were expected to be insufficient to provide any benefit to the endangered fish.

### **• CWCB Instream Flow Calls**

The low flows of late July, August, and early September found many stream gages throughout the State with flows below the minimum stream flows decreed by the Colorado Water Conservation Board. The CWCB considered the Colorado River the best drainage to place a call for these rights because it was viewed as the most likely basin to yield wet water to a call. This was a first with massive legal, political, and technical problems. After discussion with the CWCB, they chose to place calls for all tributaries on the Fraser, Blue, Eagle, and Roaring Fork Rivers. They issued a press release. It was their preference to start with water rights that have automatic triggers to curtail when flows at a key gage dropped below the instream flow. Division 5 requested that they develop a package for each basin that summarized conditions in each decree that contained these stipulated triggers, as well as other pertinent data to help administer the rights. Division 5 expressed concern that curtailing these "self-administering" rights may be a selective call. The CWCB therefore confirmed in writing that they were placing a call for their

rights. The packages from the CWCB arrived in September, when rain and lower temperatures propped up some stream flows. Many streams have staged flows where October 1 generally is the first day of the wintertime minimums. The successes we had generally involved curtailing exchanges, and making releases from reservoirs that were the second choice in a plan for augmentation.

- **Water Administration**

Xcel Energy reduced its Shoshone Power Plant call of 1408cfs (junior and senior rights) to 1000cfs to allow upstream reservoirs an opportunity to store what little water was available. To conserve flows for irrigators the power plant continued to call for only 1000cfs through late June.

The Cameo demand is for 2260cfs, but is limited to call for 1950cfs. In an effort to conserve upstream storage through September, in late June we began to manage the flow at 1750cfs. By early July the Colorado River near Cameo was managed for flows of 1650cfs, and dropped to 1500cfs in mid July. At the start of August the flows at Cameo were raised to 1650cfs, until the end of August when they were reduced to 1500cfs, down to 1300cfs in early September, a week later reached an irrigation season historical low of 1050cfs. A table summarizing the mainstem river calls is in **Appendix A**.

- **Substitution Year and Administration of the Blue River Decrees**

The consolidated Blue River Decrees settled the relative priorities of the rights of the United States Bureau of Reclamation, Denver Water, and the City of Colorado Springs, and provided for the terms that allowed depletions upstream of Green Mountain Reservoir prior to the filling of Green Mountain Reservoir. Prior to a paper fill, transmountain diversions by Denver and Colorado Springs are limited to the amount of storage each has on hand in the Blue and Williams Fork Rivers and is necessary to fill Green Mountain Reservoir. The Secretary of Interior must notify these water users when the start of fill date (between April 1 and May 15-15) occurred, the amount

needed to fill, whether or not Green Mountain will fill, and if there is water available for upstream depletion. A substitution year occurs when Green Mountain does not fill and Denver Water or Colorado Springs opt to use Williams Fork Reservoir in lieu of releasing Dillon Reservoir storage owed to Green Mountain. In 91CW252 Denver Water added Wolford Mountain Reservoir as a source of substitution with strict terms and conditions. The years 1977, 1981 and 1990 were substitution years pre-dating the decree in 91CW252. Since that time 1994, 2001, and now 2002 were substitution years.

Diversions by Colorado Springs with their 1948 right through the Hoosier Tunnel were not curtailed as all parties had agreed to a method of substitution in principle, though the initial plan promulgated by Colorado Springs to use Homestake Reservoir as the substitution source was denied, as was the case in 2001. The final plan to provide substitution water for Colorado Springs proved to be very elusive. Refusal to pay transit losses for releases from Upper Blue Reservoir to Dillon Reservoir threatened to derail the plan. Eventually, the three parties to the plan agreed to pay one-third each of the 5% transit loss assessed on the 961AF to be released, or 16AF each. Of the 3,143AF owed by Colorado Springs the 961AF was released to the Blue, 150 for Summit County and 811 to Dillon Reservoir (less transit losses of 7 and 41AF). The 150AF for Summit County was covered by a Green Mountain contract. The remainder of the plan included purchase of Wolford Mountain Reservoir water from the West Slope pool, the use of Denver's pool in Wolford, and the trade of East Slope water.

Green Mountain Reservoir went out of priority on June 24, 2002 62,591AF short of filling. Therefore, the 32,886AF of upstream depletions by Denver and Colorado Springs were all owed to Green Mountain Reservoir. A full accounting of the Green Mountain fill shortage is in **Appendix B-1**.

The substitution payback schedule was settled with little debate. As required by 91CW252 the distribution of the releases are made for three periods: the major irrigation season (July through September), October,

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and November through March. At the time of the settlement of 91CW252, the later periods were expected to make releases of the anticipated poor quality water in Muddy Creek. For 2002 the distribution was set at 85% in the major irrigation season, 15% in October, and none from November through March.

Denver Water released 18,593AF from its Wolford Mountain storage, 1,000AF from Dillon Reservoir was not released but held for winter 50cfs release, and 10,000AF from William Fork. Colorado Springs purchased the 1,043AF from the Colorado River Water Conservation District in Wolford Mountain Reservoir, and used 1,139AF of Denver's pool in Wolford Mountain Reservoir. A full accounting of the payback by user and by reservoir is in **Appendix B-2**.

- **Leon Lake Reservoir and Leon Tunnel**

~~—worked with GMWUA and Div 4 staff to refine administration and accounting. The Division 5 office received a complaint in 2001 from water users on Leon Creek that the Leon Tunnel and Leon Lake Reservoir diversions were not being administered properly. These structures are owned by the Leon Reservoir and Canal Company, and operated as part of the portfolio of structures and water rights owned by the Grand Mesa Water Users Association (GMWUA). The GMWUA serves irrigated lands in Water Division 4 in the Cedaredge area. The tunnel diverts directly from Leon Lake Reservoir, and the reservoir has no outlet to Leon Creek. Therefore, Colby Horse Park Reservoir, also owned by the Leon Reservoir and Canal Company, is used to replace out-of-priority depletions. The call on Leon Creek does occur in early June of dry years and late June of average to slightly above average years.~~

Investigation of the complaint began in 2001. Division 5 staff found several physical problems that needed to be rectified, and some accounting and communication issues. The capacity tables for both reservoirs were inaccurate. This resulted in major errors to inflow calculations, evaporation, and total storage released. In

the case of Leon Lake Reservoir this indicated much smaller than actual inflows, and therefore out-of-priority diversions were under-replaced. In the case of Colby Horse Park Reservoir, the decreed capacity is considerably below the actual capacity. For both reservoirs the evaporation was computed as depletion only when the change in storage and measured outflow did not balance. The method used to measure diversions into Division 4 was not verifiable, and appeared to take credit for all tunnel seepage. The method used to obtain the Lake elevation at Leon did not involve a fixed staff gage, and the zero point of active storage was also disputed. To determine the reservoir elevation, the gate at the outlet end of the tunnel had to be closed. After a 30-minute wait for the tunnel to stabilize, the well in the downstream end of the tunnel could be used to estimate the reservoir elevation.

The Leon Reservoir and Canal Company was asked to correct these problems before taking any water through Leon Tunnel. In the spirit of cooperation the request was not in the form of an order as long as reasonable progress was made. The request required the Company develop a new capacity table for both reservoirs using our GPS'ed surface area for (near) minimum and maximum storage by Division 5 staff or develop their own surface areas; install a gage rod at Leon Lake Reservoir; route stream flows and reservoir releases that are native to Division 4 around the measuring device for the Tunnel outlet; uncover the gage rod at Colby Horse Park; use computed evaporation measured outflow and change in storage to calculate inflow; and use a spreadsheet developed by Division 5 to track diversions and depletions. The Reservoir Company strenuously objected to development of new capacity tables, and soon it became too late to develop meaningful contours at low elevations for the lakes' elevation had raised. It was agreed that we would evaluate the capacity tables against the current year's administration and, if necessary, wait until the lakes were drawn down before requiring capacity tables.

In 2002 Division 5 staff developed the accounting, which properly accounted for

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change in storage, evaporation, and inflows at both reservoirs. Division 4 staff implemented the use of this spreadsheet, but was not comfortable with the daily accounting. The Reservoir Company installed a staff gage at the tunnel inlet to measure Leon Lake Reservoir's elevation, and routed flows native to Division 4 around the measuring device for Leon Tunnel outflows. Unfortunately, instead of simply uncovering the staff gage at Colby Horse Park, it was needlessly re-referenced without any basis for the datum, further confusing the storage calculations. By August the reported data confirmed the need for new capacity tables, and we communicated this to the Division 4 staff. Near the close of the irrigation season an order was issued to the Reservoir Company

to develop a capacity table at Leon Lake Reservoir and resurvey the gage rod at Colby Horse. We also expressed our doubt in the accuracy of the Colby Horse gage rod and suspected that the new gage rod at Leon is not set to zero.

In 2002 the Leon Lake Reservoir Company filed a change of water right application in Division 4 water court for the Division 5 water right at Leon Lake Reservoir. The claim is to change the transmountain water right from irrigation to irrigation, municipal, and a host of other uses.

### Palisade gage vs. Cameo gage

## C. SUCCESSSES FROM THE 2002 IRRIGATION YEAR DROUGHT

Many of the problems below would not have come to resolution or, at a minimum, the resolutions would have had a different outcome without the communication and trust developed through the previous three years of weekly--sometimes bi-weekly--HUP managing entities meetings, and other State-of-the-River meetings. Most meetings are held by conference call at 10am every Wednesday, and occasionally on Friday. We get together for face-to-face discussions for several meetings per year. Meetings in the first year often exposed the lack of trust between water users and governmental agencies, or between West Slope and East Slope water users, and sometimes between upstream and downstream users. The entities continue to have different views and objectives but with an atmosphere of cooperation focused on getting through this extreme drought. The previously noted call reductions by the Shoshone Power Plant, and the flows managed well-below-demand at the Cameo gage are the two biggest contributing measures taken to survive this irrigation season.

### • **Green Mountain Contract Pool**

The drought of 2002 found an unexpected weakness in the water supply for many Colorado River basin water users. On June 27, 2002 the USBR officially declared

a 100% shortage in Green Mountain Reservoir's contract pool. To avert curtailment of augmentation plans reliant on this pool, accomplishment of several objectives was required. First, the USBR did a critical needs assessment for these contractors. Critical contracts were determined as: Green Mountain was the only source; contractor must absolutely need the water; will not deliver what everybody wants; and some uses will receive no delivery. There are 83 active contracts for 9,686AF of the 20,000AF contract pool. One contract for 2,000AF was used for maintaining a fishery, and only requested 175AF for a plan of augmentation. Not all irrigation contracts were honored. Many municipal contracts were only partially needed, or the municipality had other sources of augmentation. Eventually the critical needs were set at 4,078.98AF.

<u>Contract-Holder</u>	<u>Total</u>	<u>Amount</u>
	<u>Contct</u>	<u>Reassigned</u>
Exxon-Mobil	6,000	5,500
Mid-Valley Metro	300	150
City of Rifle	350	150
Town of Carbondale	250	200
Town of Basalt	500	100
Basalt WCD	990	300
CRWCD	1,200	500
Ruedi Wtr&Pwr Auth	185	150



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TOTAL REASSIGNED 7,050AF

These reassigned Ruedi contracts were turned over to the Colorado River Water Conservation District. The administration and accounting by the Division Engineer's office and the USBR released Ruedi storage for HUP users and Green Mountain contracts below the Shoshone Power Plant. The water released for the HUP users in lieu of a Green Mountain release was exchanged into Wolford Mountain Reservoir and booked into an account for the Green Mountain contract users above Shoshone. The USBR contract year is July 1 through June 30, therefore 1,229AF was released for the April 12 through June 30 period in July and 4,000AF was exchanged into Wolford Mountain in August for the July 1, 2002 through June 30, 2003 contract year.

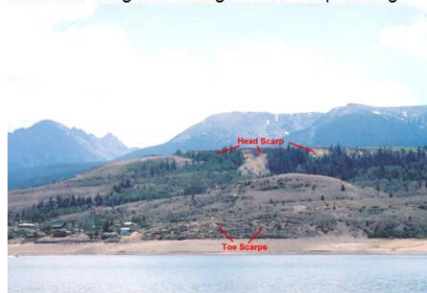
• **Heeney Slide**

Confronting two long-simmering Green Mountain storage issues was unavoidable in the drought of 2002. Because the reservoir did not fill the 66,000AF historic users pool ("HUP"), and no water was available for the contract pool, every drop of water was important. The reservoir has 154,645AF where the first 52,000AF is reserved for CBT replacement, and the next 100,000AF is considered the West Slope power pool. Of this 100,000AF the first 5,000AF is the Silt contract pool, then the 66,000AF pool is HUP, the next 20,000AF pool is the contract pool, and there is a 4,000AF regulatory pool. Therefore, 152,000 of 154,645AF is committed and the Reservoir has a dead pool of 6,860AF. This shortage of almost 9,785AF has largely been ignored, or at best sidestepped by the unofficial USBR position that the problem generally works itself out, because dry years place more demands on the West Slope Power pool and less on the CBT replacement pool, and wet years reverse the intensity of these demands.

The second issue began in the 1960's when Green Mountain Reservoir was drawn down rapidly to a low lake elevation, resulting in two reservoir rim landslides. One slide occurred within and around the Town of Heeney. As a result, a reservoir restriction was imposed in 1969 that limited the rate of drawdown to 1.5ft. per day and that the reservoir not be lowered below elevation

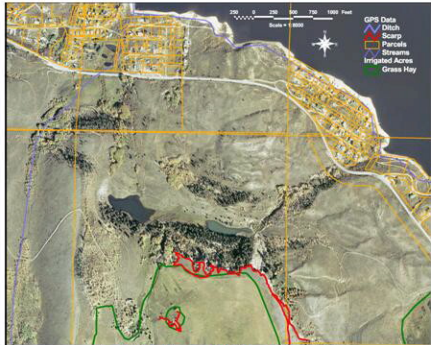
7,870ft. The restriction was revisited in the early again in the late 1970's. In 1978 the restriction was slightly relaxed allowing lowering of the lake to an elevation of 7,850 if instrumentation was installed with daily monitoring. The restriction was reviewed for the last time in the early 1980's, and remains in place today as last changed in 1978.

As it became apparent that Green Mountain would need storage below this restriction, the USBR notified the HUP managing entities of the problem. With Green Mountain 29,705AF short of a paper fill, and the unsettled accounting of the dead pool, the 20,000AF Heeney Slide Pool became an issue that had to be dealt with. In July the USBR informed the water community that Green Mountain's content would not be lowered below 27,000AF due to the landslide concerns at Heeney. Additionally, below a lake elevation of 7,870ft the drawdown rate would be limited. For the 2002 irrigation year the USBR and Northern Colorado Water Conservancy District agreed to the purchase of 10,000AF from Ruedi Reservoir. Each entity paid one-half of the \$650,000 price tag. Additionally NCWCD and USBR agreed that the other 10,000AF would be stranded within the 52,000AF CBT pool and not the 66,000AF HUP. This stalled final resolution of the problem to a time when the weight of drought is not as pressing.



View of Heeney Slide on West Shore from the East Shore Of Green Mountain Reservoir

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Aerial View of Heeney Slide

- **Middle Park Water in Granby**

The Middle Park Water Conservancy District through the Windy Gap Agreement can use up to 3,000AF of space in Granby Reservoir. The source of water is the Windy Gap Pump Canal. The pumping costs of any Middle Park water in Granby Reservoir is paid for by Middle Park. If Granby Reservoir spills, this water is the first out. The agreement requires all water to be used only in Middle Park and any water left in Granby from the previous year on July 1 reverts to Northern Colorado. Middle Park started the year with 626AF in Granby Reservoir, but only needed 4.2AF prior to July 1. With the agreement of Northern Colorado, the USBR, the CRWCD, and Middle Park, the Division Engineer implemented a plan to temporarily store this water in another reservoir. Because the water had to be used in Middle Park, the only two options were Green Mountain and Wolford Mountain Reservoirs. It was the opinion of the USBR that Middle Park water is Windy Gap water and this water cannot be stored in Green Mountain. Inflows to Wolford Mountain Reservoir were insufficient to exchange this water before the end of June. To resolve this dilemma we fortunately had the substitution pool in Wolford. All depletions in 2002 above Green Mountain Reservoir by Denver Water were owed to Green Mountain. In lieu of releasing this water from Dillon Reservoir, Denver has obtained a substitution decree for its interest in Wolford Mountain Reservoir. Beginning on June 20 and ending on June 30 31cfs, totaling 621.8AF, was released from Granby Reservoir. Concurrently the outflow of Green Mountain Reservoir was reduced by 31cfs. The accounting to make this legal has the Granby water released to the river to reduce the demand for either HUP releases or CBT replacement releases, then the 621.8AF conserved in Green Mountain is booked against Green Mountain's first fill, and finally in Wolford the 621.8AF from the substitution pool was booked into an account for Middle Park.

- **American Soda**

The American Soda Company contracts for 800AF in Wolford Mountain Reservoir, and a pending change of water right application,

99CW300, that moves 262.9AF of consumptive use from dry-up in the Roaring Fork Valley originally quantified in W-2206 to a pump on the Colorado River at Parachute. It has been the policy of the Division Engineer to administer unopposed pending water court applications as if they are decreed, assuming the State and Division Engineers don't have any unresolved issues. The lone objector Exxon-Mobil was only concerned with issues related to wells in upper Parachute Creek. Exxon-Mobil submitted a letter to the Division Engineer supporting a plan to use the Roaring Fork rights at the pump. This freed up the 800AF in Wolford Mountain Reservoir. American Soda assigned this water to the Division Engineer to find the best use for the water in mitigation of the drought impacts. The only request was that a portion of the water be used to support flows in the 15-Mile-Reach for the endangered fish.

- **Homestake Reservoir**

In April 1998 the Homestake Reservoir Agreement was executed whereby the Colorado River Water Conservation District and the Vail Consortium (Eagle River W/S District, the Upper Eagle Regional Water Authority and Vail Associates) agreed to allocate 500AF of Homestake Reservoir releases with 800AF of replacement water from Green Mountain, Ruedi or Wolford Reservoirs. In summary, for IY 1998, 1999 and 2000, there were no exchanges; for IY 2001, 1,600AF was exchanged; and for IY 2002, 468AF was exchanged.

Homestake Reservoir stored out of priority twice during the summer 2002. In early May Homestake accrued 365AF owed to the river. Releases were scheduled to be paid back concurrently from Ruedi Reservoir but the calls came off and the river account was put on hold. The account was eventually paid back in mid-August directly from Homestake Reservoir and was not part of the Agreement. The Agreement was implemented in mid-June when Homestake stored 468AF and replaced concurrently with releases from Wolford Reservoir.

- **Sylvan Lake**

The Division of Parks and Recreation needed to drain Sylvan Lake in Eagle County for repairs. In coordination with the River District, Sylvan Lake's 350AF was released and exchanged to Wolford Reservoir for possible refill later in the year. Construction was completed timely but because the Shoshone call did not come off, Sylvan could not refill and will rely on free river conditions during next runoff.

- **Silt Water Conservancy District**

Silt Water Conservancy District has a 5,000AF pool in Green Mountain, all of which was available in IY 2002. The District did not have the opportunity to use all its replacement water this past summer and agreed to provide the unused balance of 990AF for emergency drought benefits to Green Mountain beneficiaries. Although the District allowed the Bureau of Reclamation and the Colorado River Water Conservation District to utilize this water for entities that could benefit from Green Mountain releases, the rains in late September prevented the need to release Silt's donated water.

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#### **D. DAM SAFETY**

- **Help from Denver, Divisions 1, 2, & 4 + ADE John, Judy, George + creative scheduling by John Blair (off of 1-2-6) = survival—NANCY, if John's write-up doesn't cover this we need to put something together to show our appreciation for all the help.**

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The year 2002 brought one of the worst droughts on record. This meant that there was virtually no runoff or runoff-related incidents. The drought significantly increased the workload of other Division 5 personnel, so there were fewer inspections performed by the Glenwood office and the total number of inspections in Division 5 was less than previous years. However, for the dams inspected, the entire upstream slope and exposed outlet intake structures were inspected, which increased inspection times. Also, dam repair activity was on the increase because the storage level in most reservoirs was significantly reduced.

The physical status of our Dam Safety Engineer John G Blair was much improved over last year and he was able to do much more field work. However, he was still somewhat limited and a major surgery in August meant it was necessary for other Division 5 personnel and dam safety engineers from other Divisions to perform many regular, follow-up, and construction

inspections this year. This, along with there being no dam safety engineer in Division 6 to assist with inspections in Division 5, the dam safety workforce statewide was again stretched very thin. For this reason, many Class 1 and 2 dams normally inspected every year were again intentionally not inspected this year due to staffing constraints. A generalized risk assessment approach, in which the condition of the dam, monitoring efforts by the owners, and hazard rating was used to determine the dams that wouldn't be inspected this year. Using this tool, John Blair coordinated which dams would be inspected with the limited resources from Divisions 1, 2 and the Denver office to complete all of the planned and necessary inspections this year. The physical improvement of John Blair over the course of the year along with the risk assessment approach and, again, the statewide teamwork to complete the inspections can be viewed as a *significant dam safety highlight*.

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In summary, the total number of inspections performed in Division 5 in 2001 = **97**, which consisted of the following:

- 52 Inspections performed by the Division 5 Dam Safety Engineer:
  - 17 Class 1 regular inspections
  - 10 Class 2 regular inspections
  - 20 Class 3 regular inspections
  - 0 Class 4 regular inspections
  - 2 Construction inspections
  - 3 Follow-up inspections
  - 0 Outlet inspections
  
- 24 Inspections performed by other Dam Safety Engineers:
  - 5 Class 1 regular inspections
  - 5 Class 2 regular inspections
  - 5 Class 3 regular inspections
  - 0 Class 4 regular inspections
  - 2 Follow-up inspections
  - 7 Construction inspections
  
- 11 Inspections by other Division 5 staff engineers:
  - 1 Class 1 regular inspections
  - 3 Class 2 regular inspections
  - 0 Class 3 regular inspections
  
  - 5 Follow-up inspections
  - 1 Construction inspection
  
- 2 Inspections by federal entities and DOW:
  - 2 Class 1 regular inspections
  - 0 Class 2 regular inspections
  - 0 Class 3 regular inspections
  
- 8 Water Commissioner Observations:
  - 5 "Off-year" Class 2
  - 3 Follow-up inspections

With the drought there were no significant incidents that occurred in Division 5 this year and the following construction projects were completed:

- **Rehabilitations:**
  1. Dale Dam, located in District 51. This dam was breached earlier in the year per our recommendations. The entire embankment was rebuilt, a new outlet installed and a new spillway constructed.
  2. Sylvan Lake located in District 37. The upstream slope was repaired. The existing deteriorated outlet was lined and a new intake and outfall structure was constructed. Extensive maintenance work was performed to the downstream slope also.
  3. Werhonig and Gardner in District 45 on Battlement Mesa was rehabilitated to a non-jurisdictional fish and recreation reservoir
  
- **Enlargements and New Dams:**

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1. The Barton Porter Dam in District 45 was enlarged significantly by constructing an entire new embankment on its west side and enlarging the east embankment. The project is not yet completed.
2. A new dam called the Clifton Raw Water Supply Dam was completed in District 72.

**E. C GROUNDWATER AND WELL PERMITTING**

Although slowing economic conditions could be seen during the year 2002 the Division 5 staff still kept busy in the areas of groundwater and well permitting along with general research regarding water well ownership for real estate transactions and general well permitting issues.

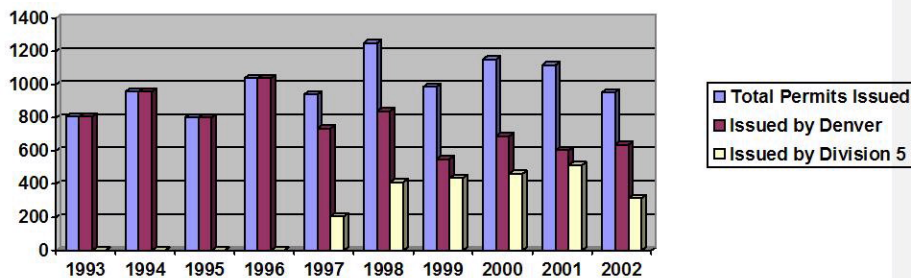
During calendar year 2002 a total of **952 permits were approved** for Division 5 – a decrease by **15 % from 2001**. It should be noted that drought conditions increased the number of replacement wells approved for Division 5 by 22% from calendar year 2001. Additionally paper forms such as SBU's, Change in Ownership and certain types of permits not reviewed by the Division Office were pre-processed and forwarded to Denver for review.

A breakdown of permits processed includes:

Exempt Permits	599
Non- Exempt Permits	220
Geothermal Permits (excluded from total count)	5
Exempt Replacements	112
Non – Exempt Replacements	21
Late Registrations (included in exempt count)	17

With the decentralized well permitting process in place, a total of **315 permits** (268 Exempt & 47 Non-Exempt) or **33% were issued at the Division level**. In addition, certain types of non-exempt well permit applications; change in ownership applications, and well location amendment requests are still pre-processed and forwarded to the Denver office.

Well Permits for Water Division 5 1993 through 2002:



Budget constraints and vacancy savings hit the Division 5 groundwater and well permitting program hard. High workload demands in other critical areas, such as water administration, greatly affected the well construction and completion observation program in addition to the Division 5 well tagging program, with little progress made in either program.

Furthermore the decrease in the total number of well permits approved at the Division level can be attributed to the half-time well commissioner vacancies and elimination of the overtime budget hours. Technology in the area of GIS, using data acquired from counties and using the Internet sites such as Colorado Counties Inc., determining ownership and parcel

information must be further implanted for proper well permitting. Use of County Assessor Parcel data with quick and easy access is important for the well permitting

program and may help lessen the impact of current and future budget shortfalls.

## F. **D HYDROGRAPHIC PROGRAM**

The Division 5 Hydrographer is responsible for the following:

- Measuring, recording and publishing the streamflows above Ruedi Reservoir associated with transmountain diversions for the Frying Pan-Arkansas Project. There are 4 manual and 4 satellite stations.
- Measuring, recording and publishing the streamflows for the Blue River below Breckenridge station for the Colorado Water Conservation Board for minimum streamflow compliance.
- Measuring, recording and publishing the streamflows for the Roaring Fork River below Maroon Creek station for the Aspen Consolidated District for permit compliance.
- Measuring and recording the streamflows for the Snake River at the Keystone Ski Area for the Colorado Water Conservation Board for minimum streamflow compliance.
- Measuring and recording the streamflows for Snowmass Creek below the Snowmass Water & San District diversion for the Colorado Water Conservation Board for minimum streamflow compliance. A new compound control was installed at the station this year, requiring rating measurements and the development of new rating tables.
- Measuring, recording and completing the streamflow record for the Government Highline Canal near Cameo.
- Measuring and recording the streamflow records for Bull Creek and Big Creek in District 72 for reservoir release/water administration purposes.
- Measuring diversions and/or bypass flows for water commissioners for administration.
- Providing finished record for approximately 3 streamflow stations and

- 6 reservoir elevation stations, as input to diversion records.
- Responding to data requests from Division 5 staff and the general public.
- Maintaining 27 satellite stations used for administrative purposes and monitoring 43 stations that are operated by other entities.
- Maintaining 3 satellite monitoring streamflow stations for the Colorado Water Conservation Board.

2002 presented special hydrographic challenges because of drought conditions in Division 5. One of the biggest issues to arise was the estimation and administration of transit losses during winter conditions. Several high-elevation reservoirs and one transmountain tunnel are making releases into winter stream channels and the accurate estimation of transit, or conveyance, losses for these releases has become critical to proper water administration. DWR may participate with the USGS next year in a study in Water District 36 that would attempt to measure transit losses on water released down 4 miles of the Snake River to a snowmaking diversion.

Lower than average streamflows in many streams and rivers in Division 5 in 2002 resulted in instream flow water rights not being satisfied. This required extra diligence in streamflow gaging and water administration. In addition, water rights administration of many tributaries was tighter than ever before experienced, necessitating many extra ditch and/or bypass flow measurements to rate measuring devices or to assist with administrative decision-making.

The Division 5 Hydrographer George Wear made 53 river measurements (including 33 measurements for the Fry-Ark Project) and 41 ditch/canal measurements during the 2002 hydrographic Water Year.

## **G. WATER RECORDS AND INFORMATION**

### **• —Augmentation Plan Administration**

Augmentation plans are steadily becoming a larger part of water administration in Division 5. The Division 5 staff, including all water commissioners and office staff, continue to fine-tune the daily administration and annual accounting of augmentation plans. This process includes administration of releases from small ponds for local augmentation, administering ditch bypasses, releasing water from larger regional reservoirs for replacement purposes, and the administration and accounting of a wide variety of other components associated with augmentation plans.

The amount of work that has been put forth during the litigation process in the past few years has aided significantly in the ability for water commissioners to administer augmentation plans. The effort that is put in to attain a “workable” augmentation plan remains as one of the most significant tools for the administration of augmentation plans. Simple language requested in a decree can save significant time in the field administering these plans.

Division 5 continues to work towards streamlining the administration of augmentation plans. With the assistance of water users, accounting templates, and regular administration of replacement releases, we are moving towards more efficient and more cooperative methods of administering augmentation plans.

The drought conditions encountered in 2002 revealed a number of augmentation plans that were not operational during extremely dry years. A number of plans throughout the Division that rely on dry-up credit were not able to make the necessary replacements due to the water rights that provided the historic credit being called out or not having a physical supply. Call scenarios that had not previously been seen also impacted a number of other plans that rely on

replacement releases from reservoirs that are outside of the stream basin where the depletions occur. These call scenarios included minimum stream flow calls placed by the CWCB.

In an attempt to address the augmentation plans that were out of compliance in 2002, the Division 5 staff sent out a number of “30-day letters” to water users. The “30-day letters” advised the water users that their augmentation plan was out of compliance by not making the necessary replacements and gave the water users 30 days to propose changes to their plans that would remedy the shortcomings of their plans in extremely dry years. The “30-day letters” worked very effectively with water users proposing a wide variety of solutions to revise their augmentation plans.

### **• Diversion Records**

The gathering of data from this past summer’s drought was instrumental for administration. Lower flows throughout the Basin warranted more frequent visits at more structures to help ensure the legal management of the senior rights. Our diversion records reflect this increased workload for reduced river flows. Because the budget did not allow for overtime, split-shift days were used to better manage the hydrograph and allocate the water when it was available. In those districts where diurnals are critical, the water commissioner visited the same headgate more often to maximize the allocation of priority water. Reservoir orders were smaller and stretched longer into the season which added more visits to those headgates. Statistically, the Division had 97,870 observations for 2,063,616cfs of water.

### **• —Diversion Record Spreadsheets**



## H. INFORMATION TECHNOLOGIES

Computer\_Info\_\_March\_2003

Name	PC Type	HD	Speed	RAM	OS	Printer	Monitor
Alan Comerer	E-4200	12.7	500	384	2000	HP OFFICEJET 520	VIMTRON 17"
Alan Martellaro	GX150	9.3	933	256	2000	NETWORKED	DELL 15"
Bill McEwen	EVO	18.6	1800	256	2000	HP OFFICEJET 520	Coloreal 17"
Bill Thompson	GX150	9.3	933	256	2000	HP OFFICEJET V40XI	VIMTRON 15"
Bob Klenda	GP7-550	19.1	550	256	2000	HP OFFICEJET V40XI	VIMTRON 15"
Don Mackey	E-4200	12.6	500	384	2000	HP OFFICEJET V40XI	EV700 17"
Dwight Whitehead	DP EN	18.6	1000	256	2000	NETWORKED	S720 15"
Frank Schaffner	DIV 6	DIV 6	DIV6	DIV6	2000	DIV6	DIV6
George Wear	GX150	9.3	933	256	2000	NETWORKED	VX900 17"
Jim Daxton	GP7-550	11.2	550	256	2000	HP OFFICEJET 520	VIMTRON 17"
Jim Lemon	GP7-550	19	550	256	2000	CANON MULTIPASS C3500	VIMTRON 17"
John Blair	EVO	18.6	1800	512	2000	NETWORKED	Coloreal 7500
Judy Sappington	DP EN	18.6	933	256	2000	NETWORKED	S720 17"
Bill Blakeslee	E-4200	17	500	256	2000	HP OFFICEJET 520	VIMTRON 15"
Kasi Rishel	DP EN	18.6	1000	256	2000	NETWORKED	S720 17"
Nancy Hitchcock	DP EN	18.6	1000	256	2000	NETWORKED	S720 17"
Ron Greene	E4200	18.9	500	384	2000	CANON MULTIPASS C3500	VIMTRON 15"
Scott Hummer	EVO	18.6	500	256	2000	HP OFFICE JET	Coloreal 17"
Steve Pope	GX150	9.29	933	256	2000	HP	DELL 15"
Tom Brigham	GP7-550		550	128	98	HP OFFICEJET 520	VIMTRON 17"
Tom Cox	EVO	18.6	1800	256	2000	HP OFFICEJET V40XI	Coloreal 17"
Grand Junction Office	GTWY	9.53	800	256	2000	HP LASERJET 4 PLUS	EV700 17"
Public Machine	E-4200	7.86	400	128	2000	LASERJET 4	VIMTRON 15"
GIS Machine	DP WS	37.2	1700	768	2000	DESIGNJET 750C PLUS	S920 19"
Kyle Whitaker	EVO	18.6	1800	256	2000	NETWORKED	DELL 15"
John Sikora	GX150	9.3	933	256	2000	NETWORKED	DELL 15"
Commissioner's	E-4200	12.7	500	256	2000	HP OFFICEJET PRO 1150C	EV 910 17"
Brian Romig	EVO	18.6	1800	256	2000	NETWORKED	VX900 17"
Laptop - George Wear	Omni 2100	3.71	200	160	95	NONE	LAPTOP
Laptop - Office	Omni 6100	18.5	1000	256	2000	NONE	LAPTOP
Laptop - John Blair	Insp 3800	9.22	600	128	2000	NONE	LAPTOP

PC Status - In 2002, our water commissioners were updated to have at least 256MB RAM, and at least an 8GB hard drive. With the exception of one commissioner and one laptop, everyone in Division 5 has the Windows 2000 operating system. By May 2003 everyone will have Windows 2000 operating system and a processor speed greater than 500 with at least 256MB of RAM. The backup exec tape still does not function, however, our server is soon to be replaced and hopefully within the next couple of months we are to

move to the high speed network. Currently, the IT staff is backing up our data.

Hardware/Software - We have received 6 PDAs for scheduling, task, and contact purposes. However, our future plans are to use these to enter diversion records in the field, as well as locating structures from downloaded GPS data. We also have made additional purchases of digital cameras and printers. These additions will help us with field inspections, court cases, and improving well/structure locations and aid us in our diversion record process. We look to

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replace our ailing HP Officejet Pro 1150C with a high-speed color printer. We have purchased one *TOPO Sync* license program for downloading on PDAs as well as calculate area (yet to come). We also look to improve our mapping analysis with the purchase of *Spatial Analyst* for ESRI's ArcView 8.3.

Training - For training in-house, we have brought in guest speakers Jody Grantham on Conflict Resolution and Doug Stenzel for the new Diversion Record program. Division 5 staff trained otherwise in diversion records, irrigated acres project, GPS, GIS,

Access, Windows and Office 2000. We also toured the Shoshone Power Plant in October.

Web Page - Division 5 recreated its own web page to better coincide with the Division of Water Resources' web page. Our website is still a work in progress, but it is now on the DWR intranet site. It contains information on Frequently Asked Questions, GIS, River Calls, along with various other information. It contains a calendar of events for scheduling purposes, and training opportunities. It will continue to be an aid to our Division employees.

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H.I. GIS PROJECTS

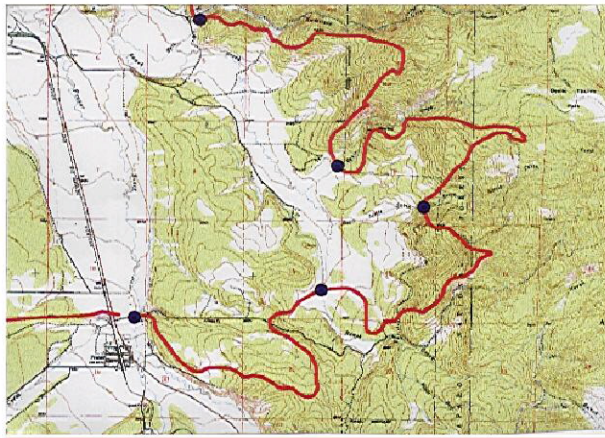
• A/B Area Mapping

Major GIS projects include the mapping of our A/B boundary, water commissioner maps, and public assisted maps. The A/B boundary mapping consists of using USGS quad maps to outline the A/B area. Using the contour lines on the map, the A/B boundary goes along ridge lines and connects with key calling structures on tributaries of the Colorado River. Districts 36, 50, and 51 are completed.

More GIS projects are in the works, including "booklets" for water commissioners

that will contain all their streams with irrigated acres and structures in 3-ring binders. *Spatial Analyst* will let us do major drainage basin studies. Updating our USGS quads, using GPS to locate all structures, map indexes and updating are all on the agenda. *TOPO* software will allow us to calculate areas for field inspections as well as locate structures easily. Also, we are working on a process of *Visual Basic* tools for various projects to have all of our data in digital format. This is a major undertaking and the reason why we purchased the digitizer last year.

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A/B Area lies within the key calling structures.
--- Based on augmentation boundaries, the identification of Key Water Diversion structures.

and surface drainage controlled by topography. this area represents where out-of-priority diversions can be replaced by releases from on-stream reservoirs without causing injury to a senior diverting right.

• A/B

Are

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## H.J. SUBSTITUTE SUPPLY PLANS

The December 17, 2001 Supreme Court decision in *Empire Lodge Homeowners v. Moyers* put all Substitute Supply Plan requests on hold until the passage of CRS 37-92-308, and development of new policy to administer this legislation. Many requests were simply denied; others reconfigured to be requests for exchange plans that could be approved by the Division Engineer. Subsequent to passage of the new statute there were three requests for SSP's. Two could not meet the notice requirements. Third was from the Town of Gypsum, which met the emergency clause, and was approved.

## K. SPECIAL PROJECTS AND ISSUES

### • **CRDSS - (Colorado River Decision Support System)**

The Division 5 Workbook, from the CRDSS project, was used this past year. The Workbook was used in tandem with a parallel spreadsheet to administer the Colorado River on a daily basis. Data from the four water users - Colorado River Water Conservation District, Colorado Springs, Denver Water and the USBR - was submitted electronically at regular intervals to an *ftp* site and then populated into the Workbook. Once populated with data, the Workbook was posted to our Internet site which can then be downloaded to anyone's computer. Once on an individual computer, "what if" scenarios can be conducted by the water user.

With the submittal of relative data, the accounting for the reservoirs and streamflows could be seen and critiqued. As such, there are some revisions and changes to make to the Workbook prior to its unflawed and successful use. The Denver IT staff has been very instrumental in providing their time in training us on quality control checks and programming changes with the Workbook.

The interface between the Workbook and diversion record database has not been implemented. Continuous editing and updates to HydroBase remain prior to completion of this link. The Workbook does

not collect all data necessary for diversion record calculations and fails to account for recent changes to the River system, such as the Palisade Pipeline returns, Colorado Springs' substitution, and numerous exchanges.

### • **SWAT**

Division 5 staff participated in three "SWAT" meetings during 2002. The team consists of city, county, state, and federal officials, and was originally formed for settlement for Case No. 88CW382, the Green Mountain exchange decree, as a technical committee to make recommendations to the parties litigating the case. The SWAT team concept continues today as a forum to resolve some of the major issues regarding Colorado River administration, and to maintain an open dialog between the Division of Water Resources, and the major water users of the river from both sides of the Continental Divide. The meetings are generally scheduled on an as-needed basis. Many issues such as the Blue River decrees, reservoir accounting, Annual Operational Plans of the major water users, CROS, RIPRAP, and reservoir maintenance are topics for discussion and coordination for the group.

The first meeting for 2002 was held on March 18 where discussion included: Colorado Springs' substitution from Homestake, implementation of the Division 5 Workbook, character of exchange, reservoir

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surcharge as stored water, and coordination for the upcoming year. The second meeting was held on May 15 where discussion included: curtailment of equal priorities, fish pool accounting, power interference, end of fill definition, and preparing for another substitution year. The third meeting was held on June 19. This meeting was called to deal with some significant issues relating to the drought and the accounting of Blue River water in June and July. The attendees included representatives of all the parties to the Blue River decrees. A request was made to allow Denver Water's Blue River returns to be used to augment irrigation wells on the South Platte. The other major item was the administration of Green Mountain Reservoir against the Blue River decrees when it is the most junior in priority (swing right) against a mainstem call. The river accounting Principles Document remained in its 18<sup>th</sup> draft. The only issue discussed in 2002 that should alter the document was the Green Mountain swing right issue.

- **RIPRAP (Recovery Implementation Program)**

Due to the projected extreme low flows at the Colorado River at Palisade gage, at the initial meeting for the season on June 19, 2001 the USFWS informed the HUP Managing Entities that the target flows for the ~~15-mile reach~~15-Mile-Reach would be greatly reduced to 150cfs, well below the dry year target of 810cfs as set in the Programmatic Biological Opinion. In early August target flows were dropped to 65cfs in

the 15-Mile-Reach. ~~??~~)

The US Fish and Wildlife Service had 10,974AF released from Ruedi Reservoir on behalf of the endangered fish in the 15-Mile-Reach in the Grand Junction area. The total of their pools in Ruedi for IY 2002 was 15,825AF. Rains in the Basin in late September increased the flows at the Colorado River near Palisade gage to be above the target level (between 65 and 85cfs during late summer) thus allowing decreased and eventually discontinued releases September 20. Releases for fish habitat in the 15-Mile-Reach were also made from Williams Fork Reservoir

(3,756AF which was a 30% reduction of the 5,412AF East Slope water) and Wolford Reservoir (307AF of the 6,000AF fish pool).

The extreme low target flows for the ~~15-mile reach~~15-Mile-Reach as requested by the USFWS, based on the monthly averages, were met throughout the summer. On a few occasions the daily flows were below the targets. The graph and table in **Appendix C** summarize the contributions made by each reservoir and graphically depict the impact of those releases as shown on the flows at the Palisade stream flow gage.

- **The HUP Managing Entities**

The kick-off meeting was held on June 19 in at the Bureau's Grand Junction Projects office. At that time the river was already on call and weekly state-of-the-river meetings had been held since late April in preparation for the drought. The HUP meetings were held weekly and occasionally biweekly into November. The primary purpose of the meetings is to manage the HUP in Green Mountain Reservoir, and integrate the most efficient use of RIPRAP releases into river administration. The many accomplishments of this group are detailed elsewhere in this report.

- **CROS (Coordinated Reservoir Operations Study)**

2002 marked the sixth year of Coordinated Reservoir Operations under the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River. Unfortunately, it was also the fifth consecutive year of below-average precipitation. The objective of the program is to coordinate operations of and releases from various reservoirs to enhance habitat in the ~~15-Mile-Reach~~15-Mile-Reach of the Colorado River below the Grand Valley Irrigation Canal for the benefit of endangered fish species. The plan bypasses storable inflow to increase the maximum peak at the Colorado River near Cameo gage. Co-operators limit such bypasses to amounts that would spill after the Cameo gage peaks. The minimum projected flow to trigger operation is 12,900cfs in the ~~15-Mile-Reach~~15-Mile-Reach, determined to be the minimum

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needed to provide habitat maintenance and enhancement, without exceeding 26,600cfs at Cameo.

A committee of several governmental agencies and water user groups oversee the Coordinated Reservoir Operations. Division 5 staff serve on the committee along with representatives of the United States Fish and Wildlife Service (USFWS), National Weather Service (NWS), United States Bureau of Reclamation (USBR), Colorado River Water Conservation District (CRWCD), Denver Water, Grand Valley Water Users Association (GVWUA), City of Colorado Springs, Orchard Mesa Irrigation District (OMID), and Grand Valley Irrigation Company (GVIC). Division 5 staff is charged with the responsibility to determine in consultation with the USFWS when it is appropriate to begin and end the releases, and to maintain accounting records of the operation.

The committee did not meet to plan any operations for 2002. On April 11, 2002 further discussion of CROS was called off, as it was very obvious at the time that runoff forecasted could not fill any of the participating reservoirs, and that stream flows at Cameo were unlikely to trigger the CROS releases. For the third consecutive year no releases were made to enhance peak flows in the 15-Mile-Reach.

- **GVWM (Grand Valley Water Management) Project (Grand Valley Water Management)**

During each irrigation season, demands for water from the 55-mile-long Highline Canal change daily based on crop needs, irrigators' schedules, and weather. Water in the canal that is not delivered to customers is "administratively spilled" into numerous natural washes in the valley, which carry the water back to the Colorado River. Near the end of the irrigation season overall demands drop, yet many laterals need a near-full canal to divert out of the canal. Studies show administrative spills in August, September and October average 31,400AF. The goal of the project is to significantly reduce these spills, while maintaining the

ability to deliver a reliable supply of irrigation water.

The aim of the project is to conserve Grand Valley Project water by improving efficiency of Government Highline Canal operations without interfering with delivery of irrigation water. Structural improvements to save water in the canal include piping laterals and lining the main canal as a result of the salinity control project, the construction of seven check dams in the main canal, and a bypass pipeline. These dams raise the water level in the canal, maintaining a constant operating level in the canal under varying flows. This allows deliveries to all laterals without a fully charged canal. In late summer the Palisade Pipeline—an administrative spill point above the **15-mile reach 15-Mile-Reach**—will deliver some of the Project savings to the Colorado River above the Palisade gage, approximately **nine9** miles down-ditch. The savings is intended to help recover endangered fish by increasing flows in this critical reach of river directly, or by conserving surplus water in Green Mountain Reservoir for later release to this reach.

The completion of the major components of the GVWM Project in 2001 could not have been timelier. These structures, the operational experience, and some alteration of the headgates at the Government Highline roller dam allowed operation of the canal at drastically lower flows than the past and, though deliveries were rationed, all lateral headgates were able to receive water. The decrees at the roller dam allow 1620cfs of diversions. Historically the dam could draw this amount out of the river only when river flows exceeded 2400cfs. Improvements now allow the 1620cfs to be diverted with river flows below 2200cfs. The structures of the GVWM Project allow the mainline canal to be reduced by up to 100 to 150cfs at the roller dam and up to 100cfs at the Palisade Pipeline. Total savings that exceed 150cfs may reduce allocation to users. Once the system is fully automated with the SCADA system for remote operation, additional savings will be realized. This water is generally used to augment flow for endangered fish in the 15-Mile-Reach via the Palisade Pipeline, but in extreme circumstances such as the drought of 2002,

it was also used to conserve storage in Green Mountain Reservoir. Spills this year at the Palisade Pipeline were below the design flows of 100cfs due to flow availability. The total savings at the headgate for IY 2002 have not been computed by the USBR. However, in IY 2002 the Palisade Pipeline returned 2,235AF to the head of the ~~15-mile reach~~ 15-Mile-Reach.

- **GM HUP Limits and the ~~1977-1984 "Slot Group" and '77-'84 slot~~** Green Mountain Reservoir was constructed on the Blue River in Summit County with a capacity of 152,000-AF, of which 52,000-AF was allocated to provide replacement water to ~~W~~western ~~S~~slope water users from CBT diversions and 100,000-AF was allocated for power purposes and to provide compensatory storage to benefit the ~~W~~western ~~S~~slope. In the 100,000-AF pool, there exist several "sub-pools," one of which is the Historic Users Pool (HUP) for 66,000 AF. Currently, this pool is used to replace depletions from historic beneficiaries to the Shoshone and Cameo calls, direct flow for irrigation of the GVIC and GVWUA, and surplus release to support flows above 1950cfs at Cameo pursuant to the Check Case, 91CW247.

The Operating Policy for Green Mountain Reservoir became effective January 22, 1984. It clearly indicates that the Historic Users Pool protects only rights perfected by use prior to October 15, 1977, and it clarifies what the preferred uses are. The Operating Policy provides that 66,000 AF "shall be deemed adequate to satisfy water rights perfected by use on or before October 15, 1977." There has been much debate as to the fairness a strict interpretation of this policy gives users with rights perfected by use between 1977 and 1984. This group of users is labeled as the "slot group." In 1996, the State Engineer issued a letter whereby October 15, 1977 is the date by which irrigation and domestic water rights had to be perfected by use to be entitled to protection from the HUP pool. The amount of water required to satisfy the consumptive use that falls within the slot group has been debated for years. The Division Engineer's position has historically been that the number is considerably less than previous

studies indicated. In recent years, the Division Engineer, in coordination with the Colorado River Water Conservancy District, has made efforts to quantify the amount of these rights. At present, there is a rough estimate of 350-AF, excluding Ute Water Conservancy District's conditional water rights, and excluding unadjudicated rights. The River District has allocated and released 200 AF in Wolford Mountain Reservoir for 2000, 2001, and 2002 to cover the estimated depletions of the slot group. Note previous estimates placed the need at less than 200AF. It is the desire of the Division Engineer to develop a permanent legal solution to replace out-of-priority diversions by these rights.

The major issue that needs to be resolved to define the HUP beneficiaries is the Ute Water Conservancy District's Plateau Valley rights. The Ute Water Conservancy District diversions are above the structures that make up the Cameo Demand, and therefore are 100% consumed below these structures. The 50-year projection of demands in the District will be covered by existing rights, and are approximately 25,000AF above current demands. Based on rough estimates, the amount of diversions potentially to be augmented by Green Mountain is approximately 5,000AF. The right has been made absolute but never been perfected by use. This large volume of water is the major stumbling block to resolve the HUP beneficiaries. Once the District's demand that will be protected by the HUP is defined, the Slot Group can be defined.

- **CFOPS (Coordinated Facilities Operations)**

The Coordinated Facilities Water Availability Study for the endangered fish of the upper Colorado River is in Phase -2. The purpose of Phase -2 is to investigate the feasibility of 19 alternatives developed in Phase -1 of the study. The goal is to supply 20,000AF to the ~~15-mile reach~~ 15-Mile-Reach during the 10 days of the peak of the run-off season. Generally, it is to be in addition to water supplied by CROS. The alternatives include: an expanded version of CROS, new storage projects, new efficiencies of existing distribution facilities, and a change in scheduling of Power Plant operations. The

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Phase 2 report was redrafted twice in 2002 to incorporate modifications to the data set and analyze perceived problems in the model with operation of the Orchard Mesa Check settlement and the yield of exchanges tied to the Blue River decrees. [The Division participated in one 3 CFOPS executive committee meeting during the 2002 irrigation year.](#)

The study is revealing several possible alternatives. Webster Hill Reservoir near Rulison is the best new storage option. It is on channel and can provide all the needs of CFOPS, as well as act as an equalizing pool for administrative releases two days away, and provide the 10,825AF of RIPRAP water temporarily split between Wolford and

Williams Fork Reservoirs. The problem with Webster Hill is that it is within the critical habitat of the endangered fish. Ruedi Reservoir is capable of providing 7,000AF of the 20,000AF needed. The latest draft report appears to endorse using Green Mountain Reservoir to provide the full 20,000AF for this option "creates the least disruption" to basin-wide storage and power production. The so-called "share the pain" option where most major reservoirs contribute may have the greatest support, provided insurance storage or power interference is developed.

The final report for Phase 2 will be completed in 2003.

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## L. WATER COURT

Litigation continues to dominate the workload of the Division's personnel. A total of 408 ~~new~~ water right applications were filed in Division 5 Water Court during calendar year 2002 — 373 ~~for the Colorado River administered by Div. 5 Water Resources and 35~~ for the White River administered by Div. 6 Water Resources. Of those 373 ~~applications~~, 26 ~~were~~ applications involving new augmentation plans and 3 ~~were~~ to amend existing aug plans. The State and Division Engineers formally objected in 5 ~~cases~~; entered 2 ~~protests~~ to referee rulings; and were petitioners in 1 ~~case~~ (not including Abandonment List 01CW337). Ninety-seven amended applications were also published in the résumé. Though the number of applications continues the trend of only slight annual increases, the number has not reached cases of the middle to late 1980's. Yet the workload exceeds any previous year, because year because the complexity of the average case continues to increase.

The following ~~cases~~ or issues are of special note:

### 1. *Miners Creek*

Filed by the Town of Breckenridge as Case 97CW283, ~~resolution remained elusive this year~~ it appears to be near resolution based on a recent filing for determination of questions of law. ~~The A~~ Among several other issues important to the CWCB, the questions of law critical to DWR include:

- ~~Diversion from Miners Creek (a tributary of the Blue above Dillon Reservoir) are~~ Diversions from Miners Creek (a tributary of the Blue above Dillon Reservoir) are not foreign or imported to the Blue River above Dillon Reservoir.
- Continued diversions will injure other water rights. Applicant believes that the transit losses shouldn't be charged, because the

losses along the ditch and in the channel the water is delivered to is no greater than the losses in the natural channel.

The court did rule on the issues of law, ruling against the applicant on all matters. Settlement on the case then made very little progress until late in the year, when the applicant indicated it was willing to discuss settlement. As the year closed, this case remained open.

### 2. *Whitewater Park Cases*

Three applications were filed in the Division 5 Court in December 2000. The Town of Breckenridge on the Blue River, the Eagle River Water and Sanitation District on Gore Creek (in the Vail city limits), and the City of Aspen on the Roaring Fork River filed

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[the applications. They pre-date the changes to accommodate in-stream uses signed into law in 2001. Both DWR and the CWCB filed statements of opposition in February of 2001. They mirror the Golden Kayak Park case now before the Supreme Court.](#) The State requested the court not hear these cases until the Supreme Court ruled on Golden. Breckenridge and Eagle Water and Sanitation insisted on trial. [The court set the cases for a 7-day trial in May of 2002.](#) Depositions were taken in February with the Assistant State Engineer and the Division Engineer each giving 7-hour depositions in February. The trial went on as scheduled and did take 6-½ of the 7 days. Division 5 alone used over 140 hours in trial and deposition including preparation, expert witness statements, and disclosure. This does not include the countless hours in review and negotiation leading up to trial setting.

[The City of Aspen application is for flows in a high water channel of the Roaring Fork, and remains on track for a stipulation.](#)

*3. Transit Losses in Plans of Augmentation*  
Plans for augmentation often include storage or some other release to a natural stream that must travel some distance to reach the location of augmentation. These plans must demonstrate they will be adequate, and therefore must include transit losses. These losses do change as conditions on the stream, weather, travel times, and time of year all change. The applicant's desire to lock in a definite augmentation requirement collides with our need to protect senior rights and the State Engineer's statutory authority to determine and assess the real-time transit losses. This became a hot issue in the negotiation of

augmentation plans for 2002. The State Engineer's position remained unchanged. An augmentation plan must include some value for transit losses to demonstrate the plan is adequate, but these decrees must include within the terms and conditions that assessment of the losses is subject to change as determined by the State Engineer. In discussion with the Basalt Conservancy District, the District has indicated they will set aside additional storage to cover increases in transit losses for their contractees within future substitute supply plans and court decrees.

*4. The Summit County and Vidler Water Company Plans for Augmentation(95CW122 and 97CW035, respectively)*

These are known as the umbrella plans and are the first of their kind in Water Division 5. It appears that two have been previously decreed in Division 2 and one in Division 7. These plans arose out of the identification of 1700 wells in Summit County by the Vidler Water Company that were out of compliance with their one single-family dwelling household use only limitations. Not all the wells are out of compliance but a substantial portion are. Division 5 has been an active party to the cases long before the State and Division Engineers filed statements of opposition. We developed GIS mapping of the critical structures and stream reaches throughout the Blue River Basin and worked with these entities to develop limits and administrative strategies for operation of the eventual plans. As the 2002 irrigation season closed, settlement of both cases appeared to approach closure. We are anticipating a final decree in both within 2003.

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**M. TABULATION**

**Division 5 Tabulation Backlog**

<b>Water District</b>	<b>Backlog—As Of 12/31/00</b>	<b>New—Decrees As of 12/31/01</b>	<b>Total Untabulated Decrees</b>	<b>Decrees Tabulated As of 12/31/01</b>	<b>Remaining Untabulated Decrees</b>
<b>36</b>	<b>258</b>	<b>31</b>	<b>289</b>	<b>91</b>	<b>198</b>



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37	219	52	271	0	271
38	834	47	881	141	740
39	44	8	52	40	12
45	32	17	49	0	49
50	3	7	10	0	10
51	61	13	74	74	0
52	2	2	4	4	0
53	34	4	38	38	0
70	9	2	11	11	0
72	103	16	119	119	0
<b>Total</b>	<b>1599</b>	<b>199</b>	<b>1798</b>	<b>518</b>	<b>1280</b>

The Division 5 tabulation remains to be a priority. The backlog has been decreased from 1700 decrees in 2000 to approximately 1100 decrees at the end of 2002. Division 5 continues to receive 300-350 new decrees each year that will be incorporated into the tabulation. With the help of water commissioners the tabulation backlog continues to decrease and districts in which the backlog has been eliminated are being kept current. Additional assistance was provided in 2002 in the form of additional funding for two part-time water

commissioners to work a couple of months each and focus on the tabulation.

This year was a publication year for the tabulation. At the time of publication, six of the eleven districts in Division 5 were current and two additional districts were less than one year behind. The long-range goal is to have the tabulation completely current by the next publication of the tabulation in July of 2004. Assuming approximately two hours per decree to tabulate a decree, Division 5 would need over 1 man-year to reduce the tabulation backlog.

**Division 5 Tabulation Backlog**

Water District	Backlog As Of 1/1/02	New Decrees 12/31/2002	Total Untabulated Decrees	Decrees Tabulated As of 12/31/02	Remaining Untabulated Decrees
36	203	31	234	142	92
37	273	48	321	12	309
38	754	37	791	203	588
39	39	11	50	26	24
45	53	15	68	22	46
50	11	1	12	11	1
51	13	21	34	24	10
52	0	0	0	0	0
53	0	5	5	0	5
70	0	0	0	0	0
72	24	37	61	35	26
<b>Total</b>	<b>1370</b>	<b>206</b>	<b>1576</b>	<b>475</b>	<b>1101</b>

**N. 2000 REVISED ABANDONMENT LIST (01CW337)**

The Revised Division Engineer's 2000 Abandonment List was submitted to the Water Court before December 31, 2001 as required by law with 152 water rights of the 201 water rights on the initial filing of the 2000 Abandonment List. The protest period for the revised list ended on July 1, 2002 having a total of 58 protests filed.

All of the original 201 rights were field-inspected by Water Commissioners. For the initial filing of the Abandonment List, our abandonment coordinator assembled all the relevant information and prepared a report to make the case for abandonment to the Division Engineer. In preparation for litigation on the next level, engineers from the Division 5 office field-inspected all the rights protested. We needed foot prints from all engineers on all the protested rights. These inspections were conducted in late summer and early fall of 2002. They required 3 to 4 hours each of field time for both the Water Commissioner and staff

engineer, and 2 to 3 hours of research and report preparation by the staff engineer.

By the end of the 2002 irrigation season at least one status conference for each of the protests had been held with the water court referee. Several of the cases had entered into positive negotiations and were on track for settlement, while a few of the cases were clearly headed for trial. A number of change cases had been filed after the protest period ended for the initial filing of the 2000 abandonment list, where the applicant failed to file a protest to the revised list. We will likely accept a late filing of protest.

In 2002, 42 cases were settled wherein 5 rights were part abandoned and part deleted from the list, and 9 rights were totally deleted from the list. There are 16 protests left to be reviewed involving 32 water rights.

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## **O. PERSONNEL AND BUDGET ISSUES**

### **• Staffing Changes**

Division 5 was not fully staffed in 2002 due to vacancies in WD 38 and retirements. Division 5 began November 2001 with no vacancies but experienced the following changes during the year:

Wayne Wells retired as lead Water Commissioner in District 72 in December 2001 and with vacation accruals he was on the payroll until February 2002.

Michael Cone due to family concerns took a leave of absence in December 2001 and officially resigned as Water Commissioner in District 38 in April 2002.

With State of Colorado budget deficits, vacancy savings has been the primary method of overcoming the budget shortages. Division 5 operated with two vacancies since December 2001. The vacancy in WD 72 was difficult to overcome

due to no full-time employees in WD 72 except the Lead Water Commissioner and the distance from the Glenwood Springs office. WD 72 has a number of contentious water administrative issues in normal years and with the drought of 2002, the issues were magnified and had to be handled out of the Glenwood office.

In July 2002, Steve Pope was promoted from EPS Tech II in WD 45 and Groundwater Well Commissioner to the EPS Tech III in WD 72. Steve was an excellent choice to fill this position because of his strong skills in water administration and well permitting as well as his interpersonal and management skills. Steve was extremely busy addressing the backlog of water administration issues due to the 7-month vacancy in this position as well as addressing the reduction in overtime budget.

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Division 5 has historically relied on approximately a \$30,000 overtime budget to meet water administration needs. Most of that budget is spent in WD 72 and the reduction and eventual elimination of overtime in 2002 had a tremendous impact in this water district on water administration.

Steve Pope's transfer and promotion to District 72 left a vacancy in District 45 and well permitting in the Glenwood office. The well permitting backlog was addressed by the Division 4-5-6 Team in the State Engineer's Office. Division 5 would like to thank Craig Lis and the Division 4-5-6 Team for their continued assistance in addressing the well permitting backlog while this part-time well commissioner remains vacant! The water administration duties in WD 45 were addressed by Bob Klenda, the lead water commissioner in WD 45. Bob historically was the largest single user of overtime money in Division 5. The reduction and eventual elimination of the overtime budget had the largest impact in WD 45 and Bob Klenda because of the vacancy and the elimination of overtime. Division 5 would like to thank Bob for his dedication and tremendous hard work in 2002!

In August 2002 we filled the vacancy in WD 38 with Patrick Murphy, a temporary employee and, due to budget constraints and the elimination of temporary employees, he was terminated in October 2002. The continued turnover and vacancies in the last two years in the Roaring Fork Valley is a major concern to Division 5. Many duties are left undone, and the Division of Water Resources is failing to provide adequate water administration, public information, and records in WD 38. One major notable result from the lack of water administration in District 38 is the Basalt Water Conservancy District (BWCD) failed to produce adequate accounting for their Substitute Supply Plan (SSP) and diversion records in 2002. The BWCD has 63 contractees in their SSP. The BWCD, which serves most of WD 38 and is the largest SSP in Division 5, did not file any records on time and delinquent filed only a small portion of the records for their contractees. The demand on the Glenwood office for water administrative duties and training of new employees in WD 38 has taken away from many other duties.

~~This list is much smaller than last year, but does continue to represent a loss of experience and a continued demand for training and support of personnel that exceeds our resources. The slow moving process to fill vacant positions continues to be a concern, as does the need for vacancy savings to relieve our personnel services of its deficit.~~

- **Impact of the Budgets on Operations**

### *Division 5 Operating Budget*

The Division 5 budget was impacted by the elimination of the Groundwater Management (SB-200) and training funds. The elimination of SB-200 funds resulted in a reduction of \$5,900 or 8% of the operating budget. The elimination of the training funds, while not monetarily significant, has had an impact on loss of staff improvement and job satisfaction. The budget crisis, vacancies and drought have resulted in Division 5 doing more with less resources. Computer, time management and personnel management training is extremely important in enabling the employees to handle difficult situations brought on by budget cuts.

### *Overtime Budget*

The elimination of overtime for 2002 resulted in a reduction in water administrative duties mainly in Districts 45 and 72 and well permitting. WD 45 had an overall decrease in the level of water administration. In WD 72 we eliminated frequent water administration of reservoirs on the Grand Mesa. Historically, we have provided twice-a-week administration for determination of natural flow with the reservoirs as well as turning stored water to the water users. We are experimenting with developing detailed spreadsheets for water administration of complex reservoir systems by the water users while providing periodic checks of the data collection by the users. This shift in responsibilities has resulted in the water commissioners training the reservoir companies in reservoir accounting and the reservoir companies had additional assessments to the water users to provide these additional services.

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Historically, Division 5 has addressed the shortage of permanent man-months for water commissioners through use of overtime. Division 5 is at least one full time water commissioner short when fully staffed to address the existing water commissioner duties. These man-months would not be used to hire an additional employee but to make existing water commissioners full time. Division 5 is experiencing a transformation from rural to urban areas. This transformation from rural to urban has resulted in approximately 300 to 400 new water rights each year and the duties of the water commissioner have increased from the traditional irrigation months of May through October to year round. Division 5 has not received any additional man-months for water commissioners since 1993 and has seen an increase in approximately 3,000 new water rights.

There were over 400 new water right applications in 2002 in Division 5 water court. There is increasing level of complexity in water right applications due to transfer of water from rural to urban uses. We have estimated we spend approximately 10 man-hours per application on consultation with the court and the applicants and 2 man-hours on tabulating signed Rulings. To address the increasing water court application workload, Division 5 requires approximately 4,800 man-hours per year. Assuming 1800 man-hours in a year, Division 5 requires over 2.67 FTE employees to address the litigation workload. Currently, Alan Martellaro, John Sikora and Kyle Whitaker each devote 0.5 man-years to litigation thus leaving over 1 FTE employee necessary to address the litigation workload. The result of lack of a full time equivalent (FTE) to address litigation, Alan normally exceeds the statutory limit on Summary of Consultations, and John and Kyle are more than 4 months behind in addressing proposed Rulings of the Referee. In 2002, there were a number of applications that were signed by the Referee that did not address the concerns in the Summary of Consultation.

### *Dam Safety*

John Blair continued to recover through surgeries and rehabilitation from his car accident in 2001. John was on worker's

comp for approximately 4 months during 2002. John, through his determination to recover while still performing most of his dam safety duties, did a tremendous job. Division 5 received a significant amount of help in the form of dam safety inspections and construction oversight from dam safety groups in Division's 1, 2 and the Denver Office. Division 5 has built up a large backlog of inspections and dam classifications as a result of John only being able to work part time. This is a major dam safety concern with the aging dams and the drought year that did not fill most reservoirs. Division 5 did experience a failure of a non-jurisdictional dam in September 2002. The dam had cracked due to poor original construction, vegetation on the upstream slope and desiccation cracking. When the reservoir filled for the first time in the fall after a large rainstorm, the dam piped and failed. The concern in Division 5 is that during Spring runoff in 2003 there may be other failures to other structures because of desiccation cracking in the drought of 2002.

### *Promotions*

Kyle Whitaker was designated in June 2002 to receive a promotion from EIT 1 to a PE 1. Due to budget constraints in 2002, the promotion was delayed. Kyle deserves this promotion because of his continued performance in litigation assistance, tabulation, management of water commissioners, and augmentation plan coordination.

### • **Operational Concerns**

#### *HydroBase*

The delay in the development and limited release of the HydroBase Data Entry Tools had a large demand on Glenwood office time and water commissioners. The limited release of HydroBase improved the quality and ease of records input. However, because the limited release had bugs that resulted in complete files being deleted, many districts had to completely re-enter their data. There were no print capabilities or ability to combine multiple water commissioner districts' records together in the limited release of HydroBase. This resulted in a significant amount of time to produce water records and statistics.

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The KRONOS payroll/timekeeping program continues to be a concern to our water commissioners. A requirement of KRONOS is to have fast reliable Internet connections because the program requires users to be on-line while inputting data. Most of our water commissioners live in rural areas and their Internet connections are limited by the phone systems. Most are required to only access KRONOS through the State's servers. These two requirements reduce the likelihood that water commissioners can complete their timesheet before their Internet connection goes down. If an

interface can be downloaded to the water commissioners' machines and then, when it is time to turn in their timesheet if they could simply transfer the file to a database, that would save the amount of time they need to be on the system and reduce the frustration over the amount of time for the Internet connection. For administration purposes, it would be helpful if KRONOS tracked overtime, vacation, and sick leave time by Division. This would save us administrative time keeping an additional set of books thereby reducing the likelihood of error.

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## II. 2003 WATER YEAR

With the 2002 water year the driest year of record on the mainstem of the Colorado River, we are hopeful for improved run-off and storage conditions in 2003. Unfortunately the year began by continuing the trend of below average precipitation. By February ~~?????~~ 1, 2003 the snow pack was a dismal 75% of average with reservoir storage at 25% of average. On February 1, 2003 runoff forecasts varied from 57% of normal on Plateau Creek to 80% of normal on the Blue River. The runoff on the Colorado River near Cameo was expected to be 74% of average. We are holding out hope for the El Niño forecast to improve our expectations with above average precipitation for the March-April period. At this time projected 2003 water year storage minimums at our major reservoirs will be at historic low levels and 2 to 5 years of average runoff will be needed to fill them. (See Graph Appendix E)

In 2000 the USBR at Green Mountain Reservoir began a three-year project to renovate the two ring seal gates at the dam. The first of two gates was removed and sent to Grand Coulee for renovation. During 2001 and again in 2002 the project was put on hold. The repaired ring seal gate is awaiting installation during the summer of 2003. The old plan was to replace the second gate with the first, and send the second gate out for repair to later be installed in the first gate's place. The new plan is to put the first gate in its original place. The project is anticipated for completion in summer 2004 when the second gate is re-installed. The time schedule for each year is dependent on fill conditions for Green Mountain. Monitoring the forecasted runoff and assessing the risk of impacting river administration will set the schedule for progress on this project.

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### A. BASE OBJECTIVES

- The everyday operations of Division 5 Water Resources will continue to include:
- Administration of water rights,
- Collecting and recording diversion data,
- Tabulation of water rights,
- ~~Preparation of a decennial abandonment list,~~
- Performing well inspections,
- Inspecting dams and reservoirs,
- Reviewing water rights applications.

Informing public.

Attending Water Conservancy District meetings,

Contacting water users.

## B. SPECIAL PROJECTS AND WORK ITEMS FOR 2003

### Augmentation Plans

Division 5 will:

~~Investigate several major augmentation plans located throughout the Division. An established team approach will continue to be used, where augmentation plan coordinator staff and water commissioners will share in the research and administration planning duties.~~

~~• Fine-tune the existing system where water commissioners regularly administer small pond releases associated with small augmentation plans.~~

~~• Continue to develop augmentation plan accounting templates and standardized water user correspondence needed to assist in augmentation plan administration.~~

~~• Continue to utilize administrative-only structure ID's for reservoir pool releases or exchange pools in diversion record keeping.~~

~~The CDSS Division 5 Workbook will collect input via E-mail from the four largest water users in Water Division 5. During 2001 the Workbook should become operational. Once operational we will link data from the Workbook to the Division 5 diversion record spreadsheets. After we acquire some experience in this area, we will investigate developing a system to obtain data for all our spreadsheet input that relies on user-supplied data. Such a system has many benefits; the greatest benefits are improved efficiencies and the use of the same data by all.~~

### Abandonment List

Final settlement of the 2000 Abandonment List is down to the 16~~se~~ cases protested. All research, investigation, and fieldwork are now complete. The remaining efforts will focus on negotiations and in a few trial preparations. It appears that previous experience of 5 to 7 years to resolution is no guide for this project. All cases should be settled or set for trial prior to December 31,

2003. At this writing we should have at most 6 trials.

### Hydrographic Records Backlog

• Division 5 non-hydrographic staff will continue to volunteer to work up the remaining backlog of chart records. This should eliminate chart work backlog by the end of 2003.

• One Division 5 Technician will work up 2 records from beginning to end, including charts, computer entry, station analysis, etc. The Division 5 hydrographer will check these records with final review by Division 2. One record to be completed and published in Spring of 2003; the other to be completed by July 1, 2003.

• Engineer in Denver staff to complete 8 backlogged records, checked by Division 5 hydrographer with final review by Division 2. This task to be completed by October 1, 2003.

• Four 2002 records to be completed by Division 5 hydrographer in time for publication in Spring of 2003.

• Division 5 hydrographer to complete an additional 4 records by October 1, 2003.

• Records backlog will be reduced to 12 records with the completion of the above tasks by October 1, 2003. With continued support from Denver staff and Division 5 staff, and, given that 10 new records should be published for Division 5 each year, the backlog should be reduced to 4 records by October 1, 2004.

### CRDSS Workbook

The Division 5 Workbook became operational in 2002. The tasks now shift in 2003 to making this tool more effective in the administration of the river, more

functional for our water users, and to integrate its output seamlessly into our diversion records.

- **Transit Loss Litigation**

This issue became very visible in 2002. In the litigation of augmentation plans, it has been the position of the State and Division Engineers to not include locked-in amounts for transit losses within a decree. This has created a concern expressed by attorneys that their clients expect certainty in the final decree. Another area of concern in 2002 was the substitution agreement between Colorado Springs, Denver, and the River District. Denver Water's substitution had never been assessed transit losses because the replacing reservoir was downstream. The Colorado Springs substitution included a reservoir delivery from an upstream reservoir as part of the agreement requiring the Division Engineer to assess transit losses. The transit losses threatened the agreement; eventually all three parties agreed to kick in one-third the cost.

In the fall and winter of 2002-03, determination of winter transit losses became a hot issue for Clinton and Eagle Park Reservoir releases. A series of meetings have been held to study the losses. Regardless of the outcome of the study, this issue is likely to have a grander confrontation over legal issues.

- **Heeney Slide**

With 27,000AF of dead storage (20,000AF on top of the actual dead 7,000AF of "stranded" storage due to the Heeney slide), and 52,000AF for CBT replacement, 5,000AF for the Silt Project, and 66,000AF for the HUP, there is only 4,000AF of the 154,000AF at full capacity in Green Mountain available for the contract pool. Currently 9,700AF of the 20,000AF contract pool is under contract. Most of this 4,000AF is in the top foot of the reservoir, and it is the USBR's preference to not operate within one foot of the spillway crest. Clearly, the additional dead pool created by the Heeney Slide must have a permanent solution. The possible long-term solutions include: fix the

slide, move the town, build additional storage, or permanently augment with Ruedi storage. Stabilizing the slide has unknown costs, but the remaining options will cost \$10's of millions. Senate Document 80 required the USBR to construct a reservoir of at least 152,000AF on the Blue River. West Slope entities believe that this storage must be active and available in every year. Without it the CBT loses its legal ability to divert through Adams Tunnel. At this time the CRWCD and NCWCD have agreed to enter into a good-faith effort to find a solution, but it is unclear whether the USBR will bear the costs, as the CRWCD position demands. Whatever happens next, it is sure not to be in time to mitigate the expected low runoff of 2003; and should Green Mountain fill to capacity there will be less than 4,000AF to augment 9,686AF of contracts.

- **Slot Group and the Green Mountain HUP Policy**

A draft policy to be signed by the State Engineer has been proposed that will define the upper limits of the beneficiaries of the Green Mountain HUP. By defining this upper limit, those that fit in the "slot" perfected between 1977 and 1984 can be determined. The Division of Water Resources will take the lead in restarting these critical discussions. The majority of users represented in previous discussions endorse the policy as drafted. The biggest hurdle to resolution is a few users with larger demands than previously considered, and a few users with large conditional rights that pre-date 1977 that are not inclined to give up status as a beneficiary of Green Mountain Reservoir. Finding replacement for these uses may prevent simple resolution. Last year more pressing issues took center stage, and it appeared that discussion of this issue would be unproductive in the middle of a drought. The impacts from last year's drought will unlikely leave the memory of water users for many years. Therefore, the time to discuss this problem should not be put off, while demands on this pool increase.

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**C. PERSONNEL, BUDGET, AND OPERATIONS**

The reliance on technology to keep up with an ever-increasing workload continues to require greater demands for desktop support, network administration, hardware and software replacement, training, and specific software skills. Additionally, the continued trend toward increased security for our network limits this workload to Denver IT staff or our Division 5 IT liaison. Currently, the Division has a highly skilled IT liaison who fulfills his duties at an IT level, yet is paid as an EPS Tech II. This in-house computer expertise continues to reduce our reliance on Denver computer support staff. The concern is retention or future recruitment of similar high-quality expertise should the position continue to be funded at the Tech II level. The Division devotes a fair amount of resources training all new employees and, therefore, is very interested in retaining them. The demands make it imperative that Division 5 staff consists of at least a full-time IT professional.

The river administration Workbook developed as part of CRDSS has become outdated with technology and the complexity of the river operations. A major overhaul of this workbook is going to be required in 2003 to become a useful tool in river administration and water records.

HydroBase Data Entry Tools were finally introduced at the end of the 2002 irrigation season. Debugging programming and identifying immediate upgrades associated with new software set the end-of-year diversion record process behind schedule. The Data Entry Tools use GUI's (graphical user interface), which by their nature slow down the data entry. On the positive side

these tools do have utilities and sideboards to eliminate many of the sources for errors in previous programming, and the data is directly entered into the central database. Additional programming is needed for HydroBase to eliminate the existing bugs and to improve the expert systems to reduce data entry errors. With the added expert systems we would expect to reduce staff time consumed QC'ing water records data, and to increase the quality of the final data.

The increasing complexity of administration and litigation demands that we find new methods and skills to accomplish our mission. All of our staff must perform new and higher level tasks. For example, in some areas the traditional Water Commissioner regulation of headgates cannot be employed to administer a stream with a tangled web of interrelated plans of augmentation. The Water Commissioner will need the education and experience of an engineer, an attorney, and a software developer to survive. The cost of training staff will be moderately expensive, and will take years. Therefore, we need employees who are likely to stay. Development of higher top-end steps in the career path for our top technicians would improve employee job satisfaction and, therefore, increase retention of our most highly skilled people. A common suggestion is to develop Physical/Science Researcher Scientist positions tailored for Water Commissioners ready for advancement in the Water Resource field but lacking an Engineering or Geologist degree that generally allow the advancement in the Division of Water Resources.

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**D. DAM SAFETY ISSUES FOR THE FUTURE**



After the 2002 inspection season several significant decisions have been made statewide which will significantly improve the dam workload situation in Division 5. We need to thank the hard work of the new interim Dam Safety Program Manager Doug Boyer, who is on loan from the Bureau of Reclamation for 2 years, and Jack Byers for these changes. The most significant change that will occur immediately is the redistribution of the inspection responsibilities in Districts 50, 51, parts of District 53, and the Grand County portion of District 36 to the Division 6 dam safety engineer. Based upon the present 1-2-6-inspection frequency, this will reduce the present workload on the average by 15 dams a year. This significantly reduces the need for other Division 5 engineers to perform regular inspections. Another change that will occur in the near future is the present dam safety vacancy is filled is to place a half-design-review and half-field-dam-safety-engineer in Grand Junction to take over inspection responsibilities on the Grand Mesa in Division 4 and the western end of the Grand Mesa and the Grand Valley in Division 5. This will reduce the average annual inspection workload by another 6 dams in Division 5. These reductions are significant but will not be that noticeable in the workload of the dam safety engineer for 2003 as there is a backlog of inspections that were not done during the last 2 years under the present 1-2-6-inspection frequency due to his injuries, but this workload redistribution will at least allow him to catch up. In 2003 it will be necessary to inspect 74 dams just to meet the 1-2-6-inspection frequency. However, without the reduction in workload, he would have to inspect 88 dams without considering construction, follow-up inspections, and unexpected developments. Also, a risk assessment ACCESS-based computer program will be finalized this year and will be used for decision making and determining the inspection frequency in future years. Initially this process will increase the dam safety workload in 2003.

With this redistribution the future workload will more be manageable but still will be very full for the following reasons:

- Except for during drought years, the trend of reservoirs remaining full for a longer period of time continues as less water is used from the reservoirs in Division 5 due to the ever-continuing change in usage from irrigation to recreation. Many of these dams are old and were designed and built for irrigation. As a result, the trend for an increase in dam safety problems will continue to increase the dam safety workload.
- With the drought comes the increased desire to enlarge or rehabilitate existing dams. This will increase the amount of time to review the designs, plans and specifications submitted for these enlargements or rehabilitations. A new dam safety engineer in Grand Junction will help with this, but much of this will be dealt with by the existing Division 5 dam safety engineer.
- Another dam safety issue that will have an effect on the future workload is the proliferation of non-jurisdictional dams being built in the Division. As more people move into the area, more want to build a small recreational pond. Also with more development there is an increasing need for augmentation plans, which usually require augmentation ponds. Reviewing the "Notice of Intent to Construct" these non-jurisdictional dams will have some impact on the workload, but the big concern is the public safety risks and potential incidents that will occur as the population grows and we have little quality control over the construction of these ponds.
- As a result of the dam safety program being understaffed in Division 5 the last few years and the trend for an increase in dam safety problems, there has been a decline in the amount of time the Dam Safety Engineer can spend on other needed dam safety work. This has created a backlog of hazard evaluations that need to be done. As a result the list of dams identified over the last several years as needing their hazard ratings checked has grown to about 49. As the risk assessment approach becomes more of a reality, accomplishing the hazard evaluations will become a higher priority. It is estimated that it will take

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about 30 to 40 man-weeks to accomplish this. This does not include training time if other personnel are to be used. This last year, 10 hazard evaluations were accomplished.

- The extreme precipitation study for design rainfall amounts above 7500ft. elevation is near completion. When the methodology is finally completed, it will mean approximately 50 Class 1 and 2 dams will have to have a hydrology study performed. This will take another 40(+) man-weeks to accomplish.

The trend for an increase in dam safety problems has decreased the amount of time the Dam Safety Engineer can spend on other needed dam safety work. Also, the other staff members to a major degree and the Dam Safety Engineer to a minor degree have been needed on other work items in the Division at an increasing rate, such as the tabulation, augmentation plans, and the abandonment list. As a result, about 30 dams identified over the last several years as needing their hazard ratings checked have not been done. It is estimated that it will take about 25 to 30 man-weeks to accomplish this. This does not include training time if other personnel are to be used. Also, a legislative audit recommended that designated recreational areas should be considered in the hazard ratings. **This will increase the number of hazard evaluations to do dramatically. This will also increase the number of inspections to do as the hazard rating is increased.** This last year, only one hazard evaluation was accomplished and this was in conjunction with the one incident that occurred and was not even on the aforementioned list.

Another recommendation by the legislative audit was to curtail routine inspections of dams inspected by the federal government and the Denver Water Board. This was intended to decrease the Dam Safety Engineer's workload but in reality has increased it. We have not regularly inspected the dams owned by the Bureau of Reclamation, Bureau of Land Management, and the Denver Water Board in the past, so there is little impact by not doing these. The Bureau of Reclamation, as an indirect response to the audit because

~~they do not own the Collbran Project Dams, has relinquished its past inspection responsibilities of these dams to us. This suddenly places an additional inspection burden in Division 5 of 9 class 1, 1 class 2, and 5 class 3 dams associated with this project. In addition, many of these dams are very old and will likely develop problems in the future. Many will also need outlet inspections, hazard evaluations, and other engineering studies as the Bureau has maintained different standards for these dams for several years now.~~

~~Another item of concern is the health and recovery of our Dam Safety Engineer John Blair after his vehicular accident. It is unknown at this time if he will be able to perform all inspection duties in the future. It is certain he will not be able to do all the normal duties this next year. This will put an additional burden on other Division 5 personnel and other dam safety engineers.~~

## A P P E N D I C E S

### APPENDIX A: RIVER CALLS

APPENDIX B, pg-1: 2002 SUBSTITUTION YEAR "GREEN MTN FILL ACCOUNTING"  
APPENDIX B, pg-2: 2002 SUBSTITUTION YEAR "PAYBACK ACCOUNTING"  
APPENDIX B, pg-3: 2002 GREEN MOUNTAIN HUP "RULE CURVE"

APPENDIX C: RIPRAP  
GRAPH: *Impact of Late Irrigation Season Reservoir Releases in 15-Mile-Reach*  
TABLE: *15-Mile Reach*

APPENDIX D: RUEDI RESERVOIR OPERATIONS - TABLE

APPENDIX E: BASINWIDE RESERVOIR STORAGE LEVELS

APPENDIX F: WATER COURT ACTIVITIES

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**APPENDIX G: DIVISION 5 ORGANIZATIONAL CHART**

**APPENDIX H: OFFICE ADMINISTRATION AND WORKLOAD MEASURES**

*Personnel*

*Activity Summary*

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**APPENDIX I: TRANSMOUNTAIN DIVERSIONS – INFLOWS & OUTFLOWS**

**APPENDIX J: RESERVOIR STORAGE WATER SUMMARIES BY DISTRICT**

**APPENDIX K: WATER DIVERSION SUMMARIES**

*Number of Structures Reporting, and To Irrigation  
To Other Various Uses (in AF)*

APPENDIX A:

SUMMARY OF COLORADO RIVER MAINSTEM CALLS  
2002 IRRIGATION YEAR

STATUS OF CALL AT THE SHOSHONE POWER PLANT

(As determined using the Colorado River near Dotsero gage)

Date On	Through	No Days Call On/Off	Calling Water Right	Decreed Amount	Admin Number	Swing Right Admin No	Comments
11.01.01	11.24.01	24	Shoshone Power Plant	1250 cfs	20427.18999	None	
11.25.01	12.04.01	10	FREE RIVER				Off for Maint.
12.05.01	04.04.02	121	Shoshone Power Plant	1250 cfs	20427.18999	None	700 cfs 1/7-3/12
04.05.02	04.15.02	11	Shoshone Power Plant	1250 cfs	20427.18999	31258.00000	Green Mtn.
04.16.02	04.17.02	2	Shoshone Power Plant	1250 cfs	20427.18999	31359.00000	Williams Fork
04.18.02	04.22.02	5	Shoshone Power Plant	1250 cfs	20427.18999	31258.00000	Green Mtn.
04.23.02	04.28.02	6	Shoshone Power Plant	1250 cfs	20427.18999	None	
04.29.02	04.30.02	2	Shoshone Power Plant	1250 cfs	20427.18999	31258.00000	Green Mtn.
05.01.02	05.13.02	13	FREE RIVER				
05.14.02	05.15.02	2	Shoshone Power Plant	1250 cfs	20427.18999	31258.00000	Green Mtn.
05.16.02	06.12.02	28	FREE RIVER				
06.13.02	06.16.02	4	Shoshone Power Plant	1250 cfs	20427.18999	31359.00000	WF; call=1000cfs
06.17.02	06.26.02	10	Shoshone Power Plant	1250 cfs	20427.18999	31258.00000	Green Mtn.
06.27.02	07.05.02	9	Shoshone Power Plant	1250 cfs	20427.18999	None	Call = 1250 cfs
07.06.02	07.07.02	2	Shoshone Power Plant	1250 cfs	20427.18999	31258.00000	Green Mtn.
07.08.02	10.31.02	116	Shoshone Power Plant	1250 cfs	20427.18999	None	

STATUS OF CALL IN THE GRAND VALLEY

(As determined using the Colorado River near Cameo gage)

Date On	Through	No. Days Call On/Off	Calling Water Right	Decreed Amount	Admin Number	Swing Right Admin No	Comments
04.24.02	04.28.02	5	Grand Valley Irrigation Company	119 cfs	30895.23491	None	
04.29.02	04.30.02	2	FREE RIVER				
05.01.02	05.01.02	1	Grand Valley Irrigation Company	119 cfs	30895.23491	39291.00000	Ruedi
05.02.02	05.02.02	1	Grand Valley Irrigation Company	119 cfs	30895.23491	35238.00000	Dillon
05.03.02	05.07.02	5	Grand Valley Irrigation Company	119 cfs	30895.23491	31258.00000	GMR; call=1950
05.08.02	06.23.02	47	FREE RIVER				
06.24.02	06.26.02	3	Grand Valley Irrigation Company	119 cfs	30895.23491	31258.00000	GMR
06.27.02	07.02.02	6	Grand Valley Irrigation Company	119 cfs	30895.23491	None	
07.03.02	07.05.02	3	Grand Valley Water Users Ass'n	730 cfs	22729.21241	None	
07.06.02	07.07.02	2	Grand Valley Irrigation Company	119 cfs	30895.23491	31258.00000	GMR
07.08.02	07.08.02	1	Grand Valley Irrigation Company	119 cfs	30895.23491	None	
07.09.02	10.04.02	88	Grand Valley Water Users Ass'n	730 cfs	22729.21241	None	
10.05.02	10.31.02	13	FREE RIVER				

**2002 SUBSTITUTION YEAR  
GREEN MOUNTAIN FILL ACCOUNTING**  
All Numbers Are In Acre-Feet

**Green Mountain Reservoir Physical Fill**

Storage on July 7, 2002 (last date GM was in priority)		76,796
Release of Stored Water Between April 12 (start-of-fill) and July 7		
C-BT Replacement Releases	7,767	
Silt Replacement Releases	1,216	
Direct HUP Release for Cameo Call	5,472	
Releases for HUP Beneficiaries above Cameo	835	
Reservoir Evaporation when Out-of-Priority	251	
Regulatory releases in excess of 60 cfs	<u>0</u>	
		15,541
		<u>92,337</u>
Volume needed to achieve fill		
Water Right		154,645
Storage plus releases through July 7		<u>-92,337</u>
		62,308

**Adjustments**

a. Straight Creek out-of-priority diversions against Green Mountain		-31
b. Elliot Creek bypass while Green Mountain was in priority to store		-323
c. Clinton Gulch Evaporation		-50
d. Breckenridge water stored in Green Mt between April 12 and July 7		462
e. Middle Park Water released from Lake Granby		626
f. Upstream HUP depletions by beneficiaries jr to Dillon		-75
g. Upstream HUP depletions by beneficiaries sr to Dillon & jr to GM*		-135
h. Contract depletions above Green Mountain		<u>-191</u>
Total Adjustments		283

- The issue as to whether upstream HUP depletions by beneficiaries with water rights senior to Dillon Reservoir and junior to Green Mountain are "Owed to Green Mountain" has not yet been resolved.

**Green Mountain Reservoir Fill Shortage**

Volume needed to achieve fill		62,308
Adjustments		<u>283</u>
Amount needed to achieve a "Blue River Decree Fill"		62,591

**APPENDIX B, pg 2:**

**2002 SUBSTITUTION YEAR  
PAYBACK ACCOUNTING  
All Numbers Are In Acre-Feet**

**Payback to Green Mountain**

	<u>Denver Water</u>	<u>Colorado Springs</u>	<u>Total</u>
Total Diverted:	29,693	3,143	32,836
Clinton Evaporation:	50	0	50
Total Owed:	29,743	3,143	32,886

**Payment Source**

Dillon Res:	1,000	0	1,000
Williams Fork:	10,000	0	10,000
Wolford (Denver):	18,593	1,139	19,732
Summit County:	150	0	150
Wolford (River Dist):	0	1,043	1,043
Upper Blue:	<u>0</u>	<u>961</u>	<u>961</u>
Total:	29,743	3,143	32,886

**Upper Blue Releases (961 acre-feet)**

To Ski areas	143	to be released from the West Slope pool in Wolford Mtn
To Denver Water	<u>770</u>	to be released from the Denver Water pool in Wolford Mtn
	913	

**Transit Losses (assessed by the SEO on releases from Upper Blue)**

16	from Denver Waters account in Wolford
16	from the River District account in Wolford
<u>16</u>	purchased by Colorado Springs from the River District
48	

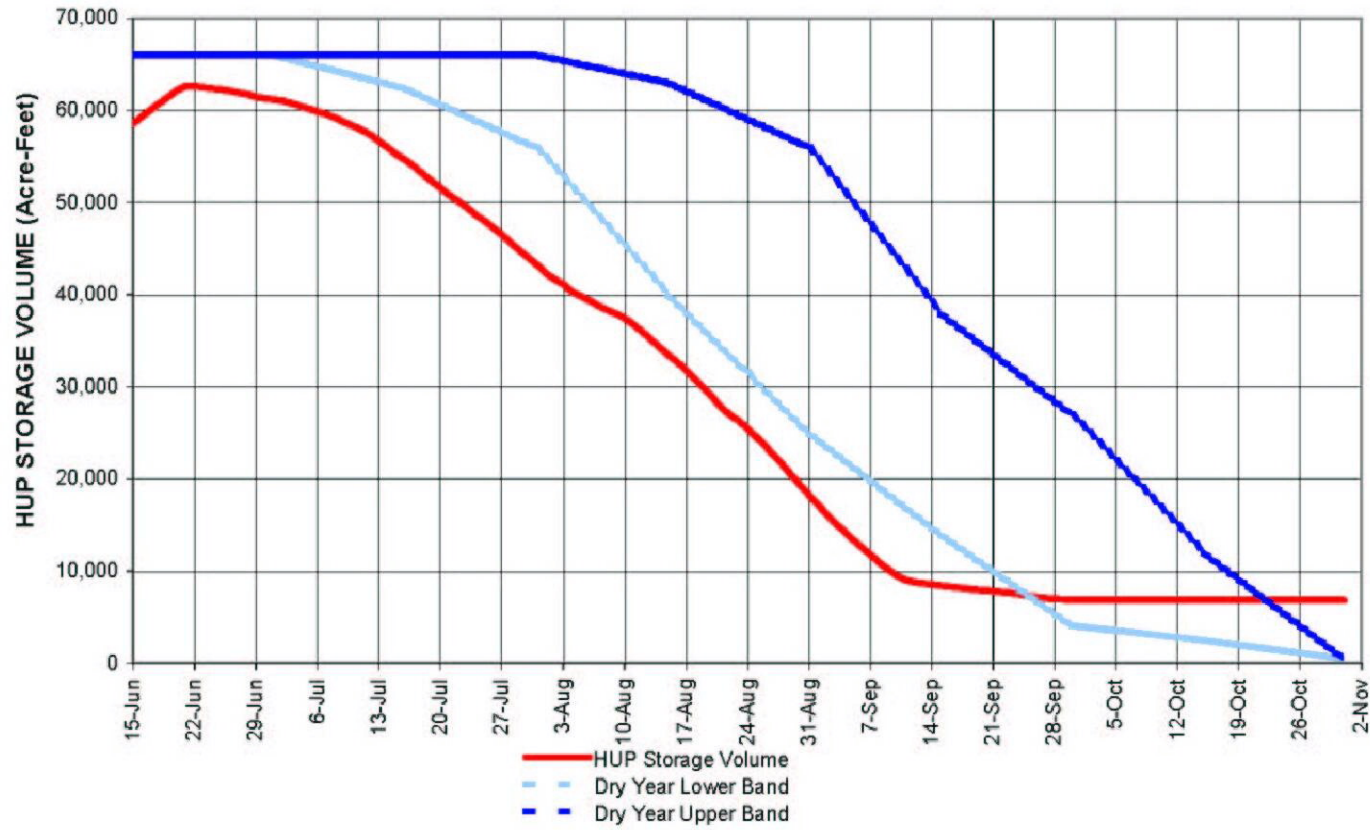
**Total Releases from Reservoirs**

Dillon	1,000	(reserved for winter in-stream flows)
Williams Fk	10,000	
Wolford Mtn Denver	20,518	
Wolford Mtn River Dist	1,218	
Green Mtn Contract	<u>150</u>	
	32,886	



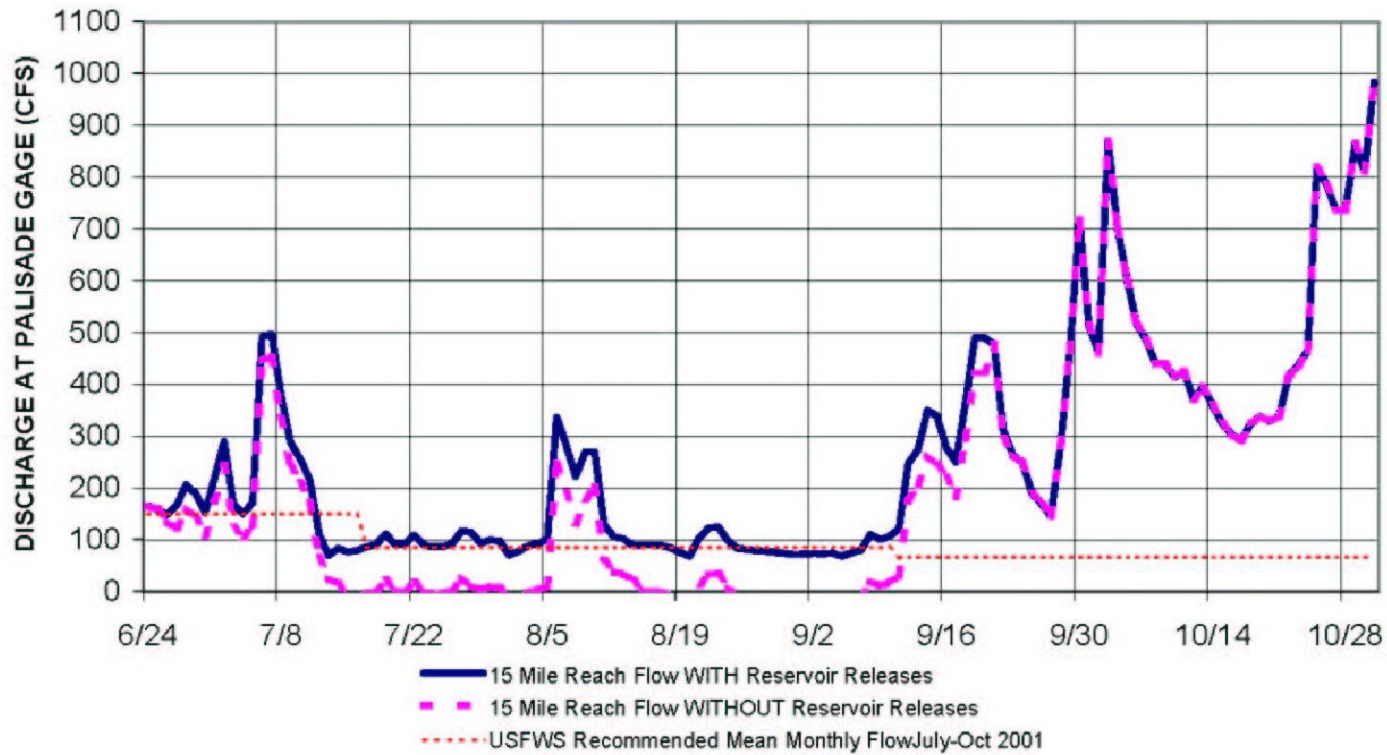
APPENDIX B, pg 3: RULE CURVE

2001 GREEN MOUNTAIN RESERVOIR HUP OPERATIONS



APPENDIX C:

IMPACT OF LATE IRRIGATION SEASON RESERVOIR RELEASES IN THE 15 MILE REACH  
(As Measured at the Colorado River at Palisade Gage)  
2002 LATE SUMMER/FALL



Reservoir Releases and 15 Mile Reach Flows

2002	RELEASES TO 15 MILE REACH (CFS)						DELIVERIES AT 15 MILE REACH						15-Mile Reach Flow (cfs)		Target Flow Met?		day count	Target line for graph	
	Green Mtn No Surplus	Ruessl	Willford	Williams Fk	Granby	Willow Ck	AFTER TRANSPORT LAGS AND LOSSES (CFS)						TOTAL (CFS)	WITH I Deliveries	WITH OUT Deliveries	Target flow +/-			varies +/-
							Green Mtn	Ruessl	Willford	Williams Fk	Granby	Willow Ck							
Declared	15,825 AF	308 AF	3,788 AF	0 AF	0 AF														
6/24/2002	0	15	0	0	0	0	0	0	0	0	0	0	0	165	165	0	0	1	150
6/25/2002	0	60	0	0	0	0	0	0	0	0	0	0	0	169	169	0	0	2	150
6/26/2002	0	50	0	0	0	0	0	14	0	0	0	0	14	148	135	1	1	3	150
6/27/2002	0	50	0	0	0	0	0	45	0	0	0	0	45	166	121	0	1	4	150
6/28/2002	0	50	0	0	0	0	0	45	0	0	0	0	45	206	161	0	0	5	150
6/29/2002	0	50	0	0	0	0	0	45	0	0	0	0	45	189	144	0	1	6	150
6/30/2002	0	50	0	0	0	0	0	45	0	0	0	0	45	152	107	0	1	7	150
7/1/2002	0	50	0	0	0	0	0	45	0	0	0	0	45	219	174	0	0	8	150
7/2/2002	0	50	0	0	0	0	0	45	0	0	0	0	45	289	244	0	0	9	150
7/3/2002	U	50	U	U	U	U	U	45	U	U	U	U	45	189	124	U	1	10	150
7/4/2002	0	50	0	0	0	0	0	45	0	0	0	0	45	150	105	0	1	11	150
7/5/2002	0	50	0	0	0	0	0	45	0	0	0	0	45	172	127	0	1	12	150
7/6/2002	0	50	0	0	0	0	0	45	0	0	0	0	45	491	446	0	0	13	150
7/7/2002	0	50	0	0	0	0	0	45	0	0	0	0	45	497	452	0	0	14	150
7/8/2002	0	50	0	0	0	0	0	45	0	0	0	0	45	379	334	0	0	15	150
7/9/2002	0	50	0	0	0	0	0	45	0	0	0	0	45	287	242	0	0	16	150
7/10/2002	0	50	0	0	0	0	0	45	0	0	0	0	45	255	210	0	0	17	150
7/11/2002	0	50	0	0	0	0	0	45	0	0	0	0	45	217	172	0	0	18	150
7/12/2002	0	75	0	0	0	0	0	45	0	0	0	0	45	110	86	1	1	19	150
7/13/2002	0	100	0	0	0	0	0	45	0	0	0	0	45	89	24	1	1	20	150
7/14/2002	0	100	0	0	0	0	0	68	0	0	0	0	68	83	16	1	1	21	150
7/15/2002	0	100	0	0	0	0	0	90	0	0	0	0	90	76	-14	1	1	22	150
7/16/2002	0	100	0	0	0	0	0	90	0	0	0	0	90	79	-11	1	1	23	150
7/17/2002	0	100	0	0	0	0	0	90	0	0	0	0	90	86	-4	0	1	24	85
7/18/2002	0	100	0	0	0	0	0	90	0	0	0	0	90	90	0	0	1	25	85
7/19/2002	0	100	0	0	0	0	0	90	0	0	0	0	90	111	21	0	1	26	05
7/20/2002	0	100	0	0	0	0	0	90	0	0	0	0	90	90	0	0	1	27	85
7/21/2002	U	100	U	U	U	U	U	90	U	U	U	U	90	90	U	U	1	28	85
7/22/2002	0	100	0	0	0	0	0	90	0	0	0	0	90	108	18	0	1	29	85
7/23/2002	0	100	0	0	0	0	0	90	0	0	0	0	90	89	-1	0	1	30	85
7/24/2002	0	100	0	0	0	0	0	90	0	0	0	0	90	86	-4	0	1	31	85
7/25/2002	0	100	0	25	0	0	0	90	0	0	0	0	90	86	-4	0	1	32	85
7/26/2002	0	90	0	25	0	0	0	90	0	0	0	0	90	92	2	0	1	33	05
7/27/2002	0	75	0	25	0	0	0	90	0	0	0	0	90	110	20	0	1	34	85
7/28/2002	U	75	U	25	U	U	U	81	U	23	U	U	104	114	11	U	1	35	85
7/29/2002	0	75	0	25	0	0	0	68	0	23	0	0	90	93	3	0	1	36	85
7/30/2002	0	75	0	25	0	0	0	68	0	23	0	0	90	99	9	0	1	37	85
7/31/2002	0	75	0	25	0	0	0	68	0	23	0	0	90	97	7	0	1	38	85
8/1/2002	0	75	0	25	0	0	0	68	0	23	0	0	90	70	-20	1	1	39	85
8/2/2002	0	75	0	25	0	0	0	60	0	23	0	0	90	70	-12	1	1	40	05
8/3/2002	0	75	0	25	0	0	0	68	0	23	0	0	90	68	-2	0	1	41	85
8/4/2002	U	75	U	25	U	U	U	68	U	23	U	U	90	65	-3	U	1	42	85
8/5/2002	0	75	0	25	0	0	0	68	0	23	0	0	90	100	10	0	1	43	85
8/6/2002	0	75	0	25	0	0	0	68	0	23	0	0	90	336	246	0	0	44	85
8/7/2002	0	75	0	0	0	0	0	68	0	23	0	0	90	281	191	0	0	45	85
8/8/2002	0	75	0	0	0	0	0	68	0	23	0	0	90	221	131	0	0	46	85
8/9/2002	0	75	0	0	0	0	0	08	0	23	0	0	90	209	179	0	0	47	85
8/10/2002	0	75	0	0	0	0	0	68	0	0	0	0	68	270	202	0	0	48	85
8/11/2002	U	75	U	U	U	U	U	68	U	U	U	U	68	128	60	U	1	49	85
8/12/2002	0	75	0	25	0	0	0	68	0	0	0	0	68	105	37	0	1	50	85
8/13/2002	0	75	0	25	0	0	0	68	0	0	0	0	68	102	34	0	1	51	85
8/14/2002	0	75	0	25	0	0	0	68	0	0	0	0	68	88	22	0	1	52	85
8/15/2002	0	75	0	25	0	0	0	68	0	23	0	0	90	90	0	0	1	53	85
8/16/2002	0	75	0	25	0	0	0	08	0	23	0	0	90	90	0	0	1	54	85

2002 Division 5 Water Resources Annual Report

Reservoir Releases and 15 Mile Reach Flows

ZUJZ	RELEASES TO 15 MILE REACH (CFS)						DELIVERIES AT 15 MILE REACH						15-Mile Reach Flow (cfs)		Target Flows Met?			Target line for graph	
	Green Mtn Nn Rvrtplus	Ruedi	Wolford	Williams Fk	Granby	Willow Ck	AFTER TRANSPORT LAGS AND LOSSES(CFS)					TOTAL (CFS)	WITH Deliveries	WITHOUT Deliveries	Target flow 1=no	varies 0=yes	day count		
							Green Mtn	Ruedi	Wolford	Williams Fk	Granby								Willow Ck
8/17/2002	0	75	0	25	0	0	0	68	0	23	0	0	90	89	-1	0	1	55	85
8/18/2002	0	75	0	25	0	0	0	68	0	23	0	0	90	84	-6	1	1	55	85
8/19/2002	0	75	0	25	0	0	0	68	0	23	0	0	90	75	-15	1	1	57	85
8/20/2002	0	75	0	25	0	0	0	68	0	23	0	0	90	68	-22	1	1	58	85
8/21/2002	0	75	0	25	0	0	0	68	0	23	0	0	90	104	14	0	1	59	85
8/22/2002	0	75	0	25	0	0	0	68	0	23	0	0	90	123	33	0	1	60	85
8/23/2002	0	75	0	07	0	0	0	08	0	23	0	0	90	124	34	0	1	01	85
8/24/2002	0	75	0	75	0	0	0	68	0	23	0	0	90	98	8	0	1	02	85
8/25/2002	0	75	0	75	0	0	0	68	0	23	0	0	90	84	-7	1	1	03	85
8/26/2002	0	50	0	75	0	0	0	68	0	60	0	0	128	81	-47	1	1	04	85
8/27/2002	0	25	0	75	0	0	0	68	0	68	0	0	135	78	-57	1	1	05	85
8/28/2002	0	25	0	75	0	0	0	45	0	68	0	0	113	77	-25	1	1	06	85
8/29/2002	0	25	0	75	0	0	0	23	0	60	0	0	90	75	-15	1	1	07	85
8/30/2002	0	25	0	75	0	0	0	23	0	68	0	0	90	73	-17	1	1	08	85
8/31/2002	0	25	0	75	0	0	0	23	0	68	0	0	90	71	-19	1	1	09	85
9/1/2002	0	25	0	75	0	0	0	23	0	68	0	0	90	72	-18	1	1	70	85
9/2/2002	0	25	0	75	0	0	0	23	0	68	0	0	90	73	-17	1	1	71	85
9/3/2002	0	25	0	75	0	0	0	23	0	68	0	0	90	73	-17	1	1	72	85
9/4/2002	0	25	0	75	0	0	0	23	0	68	0	0	90	74	-16	1	1	73	85
9/5/2002	0	25	0	75	0	0	0	23	0	68	0	0	90	68	-22	1	1	74	85
9/6/2002	0	25	0	75	0	0	0	23	0	68	0	0	90	74	-16	1	1	75	85
9/7/2002	0	25	0	75	0	0	0	23	0	68	0	0	90	80	-10	1	1	76	85
9/8/2002	0	25	0	75	0	0	0	23	0	68	0	0	90	110	20	0	1	77	85
9/9/2002	0	25	25	27	0	0	0	23	0	68	0	0	90	100	10	0	1	78	85
9/10/2002	0	25	50	0	0	0	0	23	0	68	0	0	90	106	16	0	1	79	85
9/11/2002	0	26	50	0	0	0	0	23	0	68	0	0	90	120	30	0	1	80	85
9/12/2002	0	40	30	0	0	0	0	23	23	24	0	0	69	246	177	0	0	01	85
9/13/2002	0	75	0	0	0	0	0	23	45	0	0	0	68	273	206	0	0	02	85
9/14/2002	0	62	0	0	0	0	0	43	45	0	0	0	88	350	262	0	0	03	85
9/15/2002	0	75	0	0	0	0	0	68	27	0	0	0	95	339	244	0	0	04	85
9/16/2002	0	75	0	0	0	0	0	56	0	0	0	0	56	277	221	0	0	05	85
9/17/2002	0	75	0	0	0	0	0	68	0	0	0	0	68	250	182	0	0	06	85
9/18/2002	0	75	0	0	0	0	0	68	0	0	0	0	68	363	296	0	0	07	85
9/19/2002	0	0	0	0	0	0	0	68	0	0	0	0	68	489	422	0	0	08	85
9/20/2002	0	18	0	0	0	0	0	08	0	0	0	0	08	489	422	0	0	09	85
9/21/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	477	477	0	0	00	85
9/22/2002	0	0	0	0	0	0	0	15	0	0	0	0	15	311	294	0	0	01	85
9/23/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	263	263	0	0	02	85
9/24/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	249	249	0	0	03	85
9/25/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	189	189	0	0	04	85
9/26/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	169	169	0	0	05	85
9/27/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	146	146	0	0	06	85
9/28/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	281	281	0	0	07	85
9/29/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	465	465	0	0	08	85
9/30/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	717	717	0	0	09	85
10/1/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	514	514	0	0	10	85
10/2/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	461	461	0	0	11	85
10/3/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	870	870	0	0	12	85
10/4/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	701	701	0	0	13	85
10/5/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	600	600	0	0	14	85
10/6/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	516	516	0	0	15	85
10/7/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	487	487	0	0	16	85
10/8/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	440	440	0	0	17	85
10/9/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	438	438	0	0	18	85

2002 Division 5 Water Resources Annual Report

Reservoir Releases and 15 Mile Reach Flows

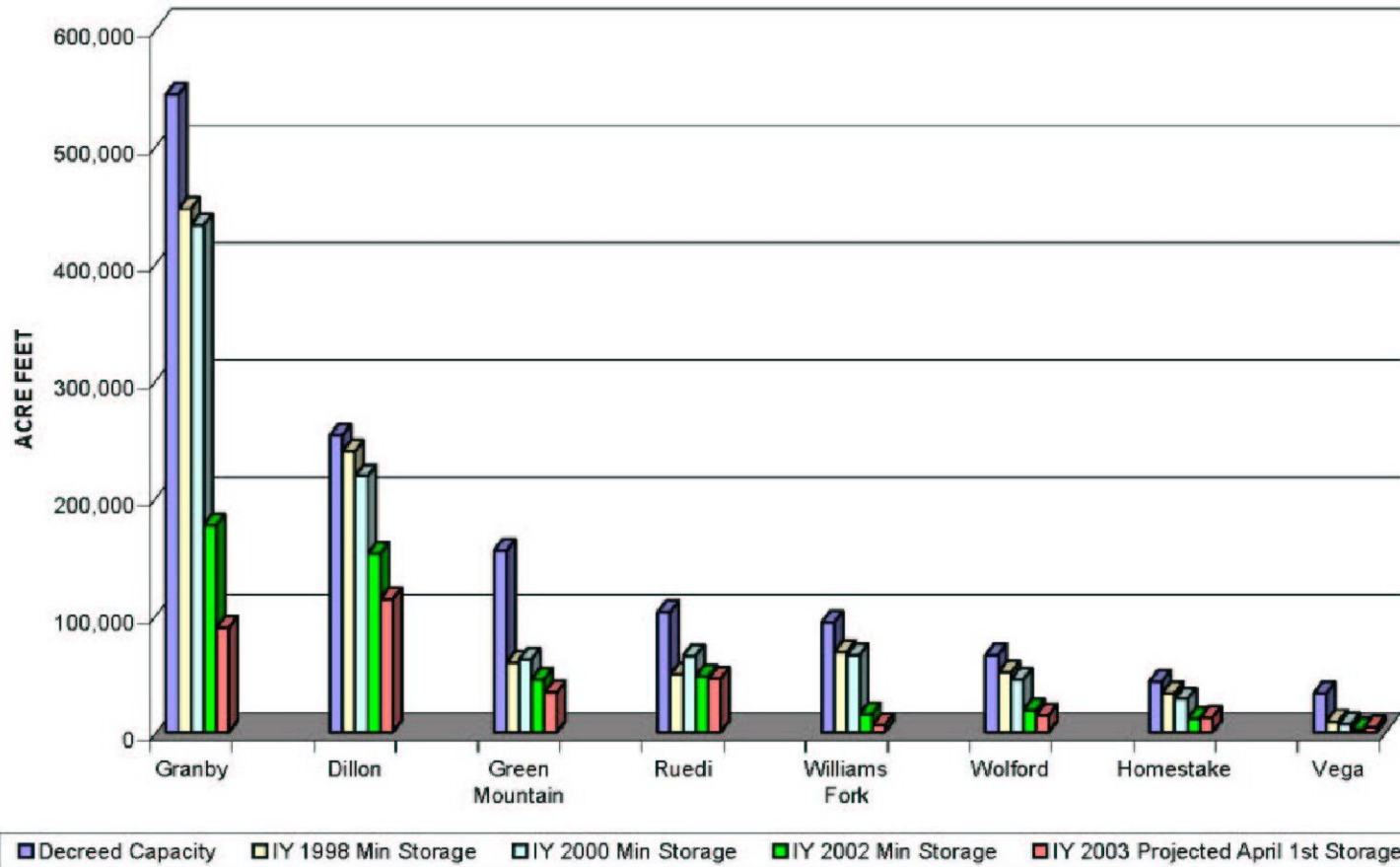
2002	RELEASES TO 15 MILE REACH (CFS)						DELIVERIES AT 15 MILE REACH						15-Mile Reach Flow (cfs)		Target Flows Met?		Target line for graph						
	Green Mtn No Surplus	Ruedl	Wolford	Williams Fk	Granby	Willow Ck	AFTER TRANSPORT LAGS AND LOSSES(CFS)						TOTAL (CFS)	WITH Deliveries	WITHOUT Deliveries	Target flow: 1=no 0=yes		varies	day count				
							Green Mtn	Ruedl	Wolford	Williams Fk	Granby	Willow Ck								3-day, 10%	3-day, 10%	3-day, 10%	3-day, 10%
							Declared	15,825 AF	308 AF	3,788 AF	0 AF	0 AF											
10/10/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	414	414	0	0	109	65				
10/11/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	425	425	0	0	110	65				
10/12/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	370	370	0	0	111	65				
10/13/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	394	394	0	0	112	65				
10/14/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	359	359	0	0	113	65				
10/15/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	325	325	0	0	114	65				
10/16/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	303	303	0	0	115	65				
10/17/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	291	291	0	0	116	65				
10/18/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	323	323	0	0	117	65				
10/19/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	337	337	0	0	118	65				
10/20/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	329	329	0	0	119	65				
10/21/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	337	337	0	0	120	65				
10/22/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	416	416	0	0	121	65				
10/23/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	436	436	0	0	122	65				
10/24/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	465	465	0	0	123	65				
10/25/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	618	618	0	0	124	65				
10/26/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	785	785	0	0	125	65				
10/27/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	735	735	0	0	126	65				
10/28/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	736	736	0	0	127	65				
10/29/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	864	864	0	0	128	65				
10/30/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	810	810	0	0	129	65				
10/31/2002	0	0	0	0	0	0	0	0	0	0	0	0	0	983	983	0	0	130	65				
11/1/2002																							
TOTAL CFS	0	5,533	155	1,894	0	0	0	4980	140	1705	0	0	6824	33,463	26,639	25	64						
TOTAL AF	0	10,975	308	3,757	0	0	0	9877	277	3381	0	0	13535	66373	52838								
Remaining	0	4,850	0	31	0	0																	

**APPENDIX D: RUEDI RESERVOIR OPERATIONS**

Release Made For	Allocated Amt (AF)	Released Amt (AF)	Release Dates
USFWS in 15 Mile Reach	5,000	5,000	6/24 – 7/29
USFWS in 15 Mile Reach	10,825	5,974	7/29 – 9/20
Unused Contracts	7,050		
Exchange to Wolford		4,000	8/1 – 8/28
GM Contract Depletions		1,229	10/16 – 10/18
HUP	10,000	9,075	8/24 – 9/30
Fry-Ark Out of Priority	As needed	815	4/24 – 5/7

APPENDIX E: BASINWIDE RESERVOIR STORAGE LEVELS

DIVISION FIVE HISTORIC & PROJECTED RESERVOIR LEVELS



**APPENDIX E: BASINWIDE RESERVOIR STORAGE LEVELS**

DIVISION 5 HISTORIC & PROJECTED RESERVOIR LEVELS

<u>Reservoir</u>	Decreed Capacity	Dead Storage	IY1998	IY2000	IY2002	Projected IY2003
			Minimum Storage	Minimum Storage	Minimum Storage	April 1st Storage
Granby	543,758	74,190	446,182	432,359	176,678	89,100
Dillon	252,678	3,000	238,992	218,205	152,096	113,400
Green Mountain	154,645	26,860	59,323	62,119	45,114	33,700
Ruedi	102,369	61	49,277	64,953	47,344	45,500
Williams Fork	93,637	1,000	68,586	65,615	15,332	5,900
Wolford	65,993	0	50,778	44,985	18,714	14,500
Homestake	43,504	NA	33,300	28,210	11,289	12,500
Vega	32,934	823	9,405	7,045	2,178	4,400

Notes: Green Moutain Reservoir dead storage includes 20,000 AF of "stranded" storage. IY2003 April 1st projections based on November, 2002 data.



**APPENDIX F: WATER COURT ACTIVITIES**

CALENDAR YEAR 2002

<u>Applications Made to Water Court...(02CW...)</u>	408
<u>  Div 5 DWR – Colorado River.....</u>	373
<u>  (Div 6 DWR) – White River.....</u>	35
<u>Amended Applications – Div 5 Colorado River.....</u>	97
<u>No. of Consultations With Referee.....</u>	458
<u>No. of Complaints.....</u>	3
<u>No. of Withdrawn Cases.....</u>	8
<u>No. of Dismissals.....</u>	31
<u>No. of Denials.....</u>	1

**NO. OF CASES DECREED BY WATER COURT**      **171** (see breakdown below)

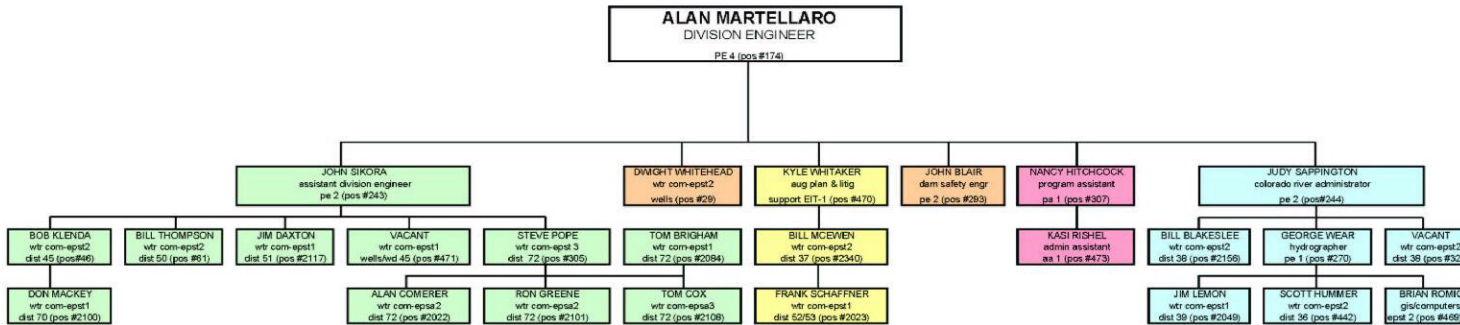
<u>TYPE OF DECREE</u>	<u># Cases</u>	<u># Structures</u>
<u>Findings of Diligence on Conditional Rights</u>	60	162
<u>Cancellations of Conditional Rights</u>	39	71
<u>Conditional Rights Made Absolute</u>	8	26
<u>Surface Water Rights Adjudicated</u>	44	157
<u>Underground Water Rights Adjudicated</u>	4	72
<u>Water Storage Rights Adjudicated</u>	5	58
<u>Plans for Augmentation Adjudicated</u>	26	
<u>Structures Augmented in Combination Cases</u>		61
<u>Change of Water Rights</u> <small>(includes location, use, amount, alt pts dvr, chg pts dvr)</small>	18	56
<u>Instream Flow Rights Adjudicated</u>	0	n/a
<u>Amend Augmentation Plans</u>	3	n/a
<u>Exchanges</u>	8	n/a
<u>Combination Cases (includes combinations of above not otherwise tallied, e.g., surface/storage/-aug plan OR underground/change pt dvr/aug plan, etc.)</u>	31	<u>itemized</u> in structures <u>above</u>
<b>Total:</b>		<b>663</b>

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APPENDIX G: DIVISION 5 ORGANIZATIONAL CHART



Group picture taken 5/21/01 and does not include John Sikora, Bill Blakeslee, nor Steve Pope.

STATE OF COLORADO  
 DIVISION OF WATER RESOURCES

DIVISION FIVE  
 GLENWOOD SPRINGS, COLORADO

March 11, 2003



ORGANIZATIONAL CHART

**APPENDIX H: OFFICE ADMINISTRATION & WORKLOAD MEASURES**  
**PERSONNEL**

NAME	WORKING TITLE FY 2002	DISTRICT	FY 02 MONTHS 7/1/01 - 6/30/02		FY 02 MILES DRIVEN (REIMBURSABLE)	
			Budgeted	Worked	2 wheel	4 wheel
<b>OFFICE STAFF</b>						
Alan Martellaro	PE-IV Division Engineer		12	12	422	-
John Sikora	PE III Assistant Division Engineer		12	12	2331	-
Judy Sappington	PE II Colorado River Administrator		12	12	675	-
*George Wear	EIT-1 Aug Plan Coordinator PE I Hydrographer 8/22/01		12	2 10		-
John Blair	PE II Dam Safety Engineer		12	12	208	-
Dwight Whitehead	EPST II Wells Commissioner		12	12	724	-
Steve Pope	EPST I Wells & Wtr Commissioner EPST II promoted 8/7/01	Office/45	12	11.5	3326	1649
Brian Romig	EPST II GIS and IT Support		12	12	1090	-
Kyle Whitaker	EIT-1 Aug Plan Coordinator 9/20/01		12	9	1854	305
Nancy Hitchcock	PA I Program Assistant		12	12	174	-
Kasi Rishel	AA I Administrative Assistant		7.2 + 4 days	7.2	-	-
<b>FULL TIME EMPLOYEES IN THE FIELD</b>						
Scott Hummer	EPST II Water Commissioner	36	12	12	-	-
Vacant	EPST II Water Commissioner	38	12	0	-	-
Bill Blakeslee	EPST I Wtr Comm (temp) 7/23/01 EPST II Water Commissioner 11/16/01	38	12	4 8	8224	55
Bob Klenda	EPST II Water Commissioner	45	12	12	789	220
Bill Thompson	EPST II Water Commissioner	50	12	12	-	928
Wayne Wells *Steve Pope	EPST III Wtr Comm (retired 1/31/02) EPST III Water Commissioner 6/17/02	72	12	6 0.5	-	-
<b>PERMANENT PART TIME EMPLOYEES IN THE FIELD</b>						
Bill McEwen	EPST II Water Commissioner	37	11	11	4368	62
Jim Lemon	EPST I Water Commissioner	39	9	9	-	1846
Jim Daxton	EPST I Water Commissioner	51	8	8	11903	621
Frank Schaffner	EPST I Water Commissioner	52/53	8	8	4757	1504
Don Mackey	EPST I Water Commissioner	70	8	8	7372	2700
Tom Brigham	EPST I Water Commissioner	72	10	10	1382	11,162
Alan Comerer	EPSA II Water Commissioner	72	6	6	3645	2464
Tom Cox	EPSA III Water Commissioner	72	9	9	-	7969
Ron Greene	EPSA II Water Commissioner	72	6	6	3476	3374
<b>TEMPORARY PART TIME EMPLOYEES IN THE FIELD</b>						
Michael Cone	EPST I Water Commissioner	38	6	4	3006	313
<b>Total Worker Months:</b>			<b>267.2</b>			
<b>Total FTE:</b>			<b>21.43</b>			
<b>Subtotal Reimbursable Miles Driven:</b>					<b>59,726</b>	<b>35,172</b>

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APPENDIX H: OFFICE ADMINISTRATION AND WORKLOAD MEASURES (continued)

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ACTIVITY SUMMARY

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CALENDAR YEAR 2002

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<u>ACTIVITY</u>	<u>TOTALS</u>
<u>Professional and Technical Staff (FTE)</u>	7.0
<u>Clerical Staff (FTE)</u>	<u>1.6</u>
<u>Water Commissioner FTE (Full/Part Time)</u>	8/6.58
<u>Decreed Surface Water Structures (cumulative)</u>	<u>To be determined when tabulation complete</u>
<u>Surface Rights Administered (Site Visits) (from time sheets)</u>	10,451
<u>Number of Decreed Wells (cumulative)</u>	<u>To be determined when tabulation complete</u>
<u>Consultations With Referee</u>	<u>408</u>
<u>Water Court Appearances (from time sheets)</u>	1
<u>Meetings With Water Users (Public Meetings) (from time sheets)</u>	98
<u>Meetings To Resolve Water Related Disputes</u>	<u>Not on time sheets</u>
<u>Contacts to Give Public Assistance on Water Matters ** (from time sheets)</u>	<u>Total Contacts**</u> <u>( 5,596 personal contacts)</u> <u>(12,417 phone)</u>
<u>Dams Visited (from time sheets)</u>	1,893
<u>Wells Visited (from time sheets)</u>	423
<u>Surface Structures Administered by Phone (from time sheets)</u>	719

\*\* Contacts - Excludes Office Staff of PE's, EIT & GIS/IT Support

APPENDIX I: TRANSMOUNTAIN DIVERSIONS – OUTFLOWS & INFLOWS

2002 TRANSMOUNTAIN DIVERSIONS – OUTFLOWS

RECIPIENT								SOURCE			
WD	ID	Name	Stream	10-Year Average		Current Year		WD	ID	Stream	
				AF	Days	AF	Days				
7	4658	STRAIGHT CREEK TUNNEL	CLEAR CREEK	260.9		365	132.0	365	36	STRAIGHT CREEK	
7	4626	VIDLER TUNNEL	CLEAR CREEK	473.3		68	352.2	164	36	SNAKE RIVER	
23	4685	BOREAS PASS DITCH	TARRYALL CREEK	161.7		56	29.2	71	36	BLUE RIVER	
23	4699	HOOSIER TUNNEL	MAIN FORK OF SO. PLATTE RIVER	7,770.5		137	2,361.5	79	36	BLUE RIVER	
80	4684	ROBERTS TUNNEL	MAIN FORK OF SO. PLATTE RIVER	73,140.7		260	122,372.0	357	36	BLUE RIVER	
11	4641	COLUMBINE DITCH	TENNESSEE CREEK	1,747.7		92	780.2	56	37	SO. FORK OF EAGLE RIVER	
11	4642	EWING DITCH	TENNESSEE CREEK	1,017.0		125	178.2	68	37	SO. FORK OF EAGLE RIVER	
11	4614	HOMESTAKE TUNNEL	SO. PLATTE VIA ARKANSAS RIVER	28,621.0		96	24,954.6	81	37	HOMESTAKE CREEK	
11	4648	WURTZ DITCH	TENNESSEE CREEK	2,752.0		107	646.1	63	37	SO. FORK OF EAGLE RIVER	
11	4625	BOUSTEAD TUNNEL	LAKE FORK CREEK	56,739.4		363	15,862.1	365	38	FRYING PAN RIVER	
11	4613	BUSK-IVANHOE TUNNEL	LAKE FORK CREEK	4,455.0		197	2,711.0	197	38	FRYING PAN RIVER	
11	4617	TWIN LAKES TUNNEL	LAKE FORK CREEK	37,944.6		364	20,497.6	365	38	ROARING FORK RIVER	
3	4601	GRAND RIVER DITCH	CACHE LA POUFRE RIVER	16,576.7		117	9,430.7	176	51	NO. FORK COLORADO RIVER	
4	4602	EUREKA DITCH	CACHE LA POUFRE RIVER	0.0		0	0.0	0	51	NO. FORK COLORADO RIVER	
4	4634	ALVA B ADAMS TUNNEL	BIG THOMPSON RIVER	213783.6		349	250,085.3	324	51	NO. FORK COLORADO RIVER	
6	4655	MOFFAT TUNNEL	BOULDER CREEK	43,825.9		350	32,327.9	365	51	FRASER RIVER	
7	4625	BERTHOUD PASS DITCH	CLEAR CREEK	788.8		65	247.0	36	51	FRASER RIVER	
6	505	AUGUST P GUMBLICK TUNNEL	BOULDER CREEK VIA FRASER RIVER	INCLUSIVE IN MOFFAT TUNNEL						51	WILLIAMS FORK RIVER
6	4603	VASQUEZ PIPELINE	BOULDER CREEK VIA FRASER RIVER	INCLUSIVE IN MOFFAT TUNNEL						51	WILLIAMS FORK RIVER
40	758	LEON TUNNEL CANAL	SURFACE CREEK	1,307.8		74	1,613.7	73.8	72	LEON CREEK	
						TOTAL: 484,581.2					

2002 Division 5 Water Resources Annual Report

2002 TRANSMOUNTAIN DIVERSION - INFLOWS

RECIPIENT								SOURCE		
WD	ID	Name	Stream	10-Year Average		Current Year		WD	ID	Stream
				AF	Days	AF	Days			
36	4677	ARKANSAS WELL	TENMILE CREEK	264.1	361	244.0	365.0	11		ARKANSAS RIVER
38	4682	ROARING FORK BYPASS FLOW	ROARING FORK RIVER	1,875.3	324	1,307.3	232.0	11		TWIN LAKES
45	4657	DIVIDE-HIGHLINE FEEDER	DIVIDE CREEK	967.7	42	709.1	49.0	40		CLEAR FORK MUDDY CREEK
50	4600	SARVIS CREEK DITCH	RED DIRT CREEK	552.2	67	175.9	42.0	58		SARVIS CREEK
53	4716	DOME CREEK DITCH	EGERIA CREEK	281.5	73	36.9	49.0	58		BEAR CREEK
53	4715	STILLWATER DITCH	EGERIA CREEK	1,943.5	95	725.0	78.0	58		BEAR CREEK
72	4713	REDLANDS POWER CANAL	COLORADO RIVER	537,423.5	354	504,678.0	356.0	42		GUNNISON RIVER
72	4711	GRAND JUNCTION MUNICIPAL	COLORADO RIVER	5,567.4	325	0.0	0.0	42		KANNAH CREEK
				TOTAL:		507,876.2				

APPENDIX J: RESERVOIR STORAGE WATER SUMMARIES BY DISTRICT

RESERVOIR STORAGE SUMMARIES BY DISTRICT

2002				AMOUNT IN STORAGE (AF)				
WD	ID	RESERVOIR NAME	SOURCE STREAM	Minimum		Maximum		End Of Year
				AF	Date	AF	Date	
36	3533	BLACK LAKE	BLACK CREEK	1,997.2	11/01/01	1,997.2	10/31/02	1,997.2
	3535	BUFFEHR ENLG RESERVOIR	TENMILE CREEK	NA	NA	NA	NA	NA
	3538	CATARACT LAKE	CATARACT CREEK	1,652.8	11/01/01	1,652.8	10/31/02	1,652.8
	3575	CLINTON GULCH RESERVOIR	TENMILE CREEK	3,925.0	04/30/02	4,325.0	05/31/02	4,135.0
	4512	DILLON RESERVOIR (BRDP)	BLUE RIVER	152,096.0	10/31/02	224,988.0	11/01/01	152,096.0
	3542	GOOSE PASTURE TARN	BLUE RIVER	716.5	03/31/02	891.0	05/31/02	891.0
	3543	GREEN MOUNTAIN RESERVOIR	BLUE RIVER	45,114.0	09/02/02	84,787.0	06/19/02	49,471.0
	3548	HOAGLAND RESERVOIR NO 1	ELLIOTT CREEK	50.0	11/01/01	110.0	06/01/02	50.0
	3643	KEYSTONE POND	SNAKE RIVER	100.0	11/01/01	100.0	10/31/02	100.0
	3606	OFFICER GULCH POND	TENMILE CREEK	NA	NA	NA	NA	NA
	3565	REYNOLDS RESERVOIR	SODA CREEK	NA	NA	NA	NA	NA
	3569	UPPER BLACK CREEK RESERVOIR	BLACK CREEK	NA	NA	NA	NA	NA
	3570	UPPER BLUE LAKE RESERVOIR	BLUE RIVER	0.0	11/13/01	1,045.0	10/12/02	507.6
	3571	WAY RESERVOIR	BEAVER CREEK	60.0	11/01/01	70.0	06/04/02	65.0
36		Total of All Others < 50 AF		165.7		226.2		24.6
36		Total For District 36		205,877.2		320,192.2		210,990.2

RESERVOIR STORAGE SUMMARIES BY DISTRICT

2002				AMOUNT IN STORAGE (AF)				
WD	ID	RESERVOIR NAME	SOURCE STREAM	Minimum		Maximum		End Of Year
				AF	Date	AF	Date	
37	3600	BENCHMARK LAKE	EAGLE RIVER	25.0	05/01/02	125.0	06/13/02	125.0
	3608	BLACK LAKE	GORE CREEK	148.2	04/01/02	362.0	06/01/02	362.0
	3510	BLACK LAKE NO 2	GORE CREEK	91.0	05/02/02	113.6	06/01/02	113.6
	3698	BOLTS LAKE	CROSS CREEK	0.0		0.0		0.0
	3513	CHALK MOUNTAIN RESERVOIR	EAGLE RIVER	175.8	11/01/01	225.7	08/01/02	192.8
	3699	CLIMAX MOLY NO 4 RES	EAGLE RIVER	1,784.0	04/01/02	3,100.0	11/01/01	2,459.8
	4516	HOMESTAKE RESERVOIR	HOMESTAKE CREEK	11,289.3	04/30/02	31,047.0	11/01/01	17,054.9
	3520	L E D E RESERVOIR	GYPSUM CREEK	3.0	10/31/02	44.0	05/24/02	3.0
	3522	NOECKER RESERVOIR	EBY CREEK	0.0	06/07/02	80.0	04/18/02	0.0
	3524	O Z LAKE (aka Sylvan Lake)	BRUSH CREEK	40.0	09/27/02	452.0	05/21/02	40.0
	3527	ROBINSON RESERVOIR	EAGLE RIVER	131.4	10/31/02	669.6	08/01/02	131.4
	3530	WELSH RESERVOIR	ALKALI CREEK					
37		Total of All Others < 50 AF		88.3		117.7		94.3
37		Total for District 37		13,776.0		36,336.6		20,576.8



RESERVOIR STORAGE SUMMARIES BY DISTRICT

2002				AMOUNT IN STORAGE (AF)				
WD	ID	RESERVOIR NAME	SOURCE STREAM	Minimum		Maximum		End Of Year
				AF	Date	AF	Date	
38	3711	ALICIA LAKE RESERVOIR	LIME CREEK	673.0	11/01/01	673.0	10/02/02	673.0
	4000	BEAVER LAKE	CRYSTAL RIVER	72.5	13/31/02	72.5	11/01/01	72.5
	3722	CONSOLIDATED RESERVOIR	WEST COULTER CREEK	0.0	10/31/02	484.0	05/07/02	0.0
	3774	CRAWFORD DAM NO 1	BLUE CREEK	160.0	10/31/02	160.0	11/01/01	160.0
	3773	CRAWFORD DAM NO 2	BLUE CREEK	56.0	13/31/02	56.0	11/01/01	56.0
	3721	CROOKED CREEK RES	LIME CREEK	38.0	11/01/01	40.0	10/31/02	38.0
	4087	CRYSTAL SPRING LAKE	CRYSTAL SPRING	80.0	10/31/02	80.0	11/01/01	80.0
	4095	FLANNERY RESERVOIR	THREE MILE CREEK	24.4	10/31/02	84.4	11/01/01	24.4
	3779	GRIZZLY RESERVOIR	LINCOLN CREEK	125.0	10/31/02	125.0	11/01/01	125.0
	3727	HIMMELAND LAKE	FRYING PAN RIVER	90.0	10/31/02	92.0	11/01/01	90.0
	3728	HOPKINS RESERVOIR	LANDIS CREEK	0.0	10/31/02	2.0	05/01/02	0.0
	3729	HUGHES RESERVOIR	THREE MILE CREEK	25.0	10/31/02	30.0	11/01/01	25.0
	3732	IVANHOE RESERVOIR	FRYING PAN RIVER	246.0	10/31/02	900.0	11/01/01	246.0
	3832	JACOBSON LAKES & PONDS	ROARING FORK RIVER	225.0	10/31/02	225.0	11/01/01	225.0
	4154	KODIAK LAKE & WETLANDS	ROARING FORK	60.0	10/31/02	60.0	11/01/01	60.0
	3736	LAKE ANN RESERVOIR	SOPRIS CREEK	20.0	10/31/02	20.0	11/01/01	20.0
	3955	MCNULTY RESERVOIR #2	SHIPPEE RUN CREEK	0.0	10/31/02	0.0	11/01/01	0.0
	3740	RALSTON RESERVOIR	COULTER CREEK	0.0	10/31/02	0.0	11/01/01	0.0
	3713	RUEDI RESERVOIR	FRYING PAN RIVER	47,344.0	10/31/02	76,735.0	06/30/02	47,344.0
	3744	SPRING PARK RESERVOIR	CATTLE CREEK	33.3	10/31/02	322.1	04/19/02	33.3
	3747	THOMAS RESERVOIR	THOMAS CREEK	160.0	10/31/02	160.0	11/01/01	160.0
	3753	UPPER CHAPMAN RES	FRYINGPAN RIVER	0.0	10/31/02	0.0	11/01/01	0.0
	3750	VAN-CLEVE FISHER RES	MESA CREEK	0.0	10/31/02	0.0	11/01/01	0.0
	3759	WILDCAT RESERVOIR	SNOWMASS CREEK	1,100.0	10/31/02	1,100.0	11/01/01	1,100.0
	3760	WOODS LAKE RESERVOIR	LIME CREEK	300.0	11/01/01	300.0	10/31/02	300.0
	3752	VON SPGS RESERVOIR	COULTER CREEK	0.0	11/01/01	0.0	10/31/02	0.0
	3835	LAKE DEBORAH RESERVOIR	SNOWMASS CREEK	57.0	11/01/01	57.0	10/31/02	57.0
38		Total of All Others < 50 AF		130.9		178.8		136.9
38		Total for District 38		51,020.1		81,956.8		51,026.1

RESERVOIR STORAGE SUMMARIES BY DISTRICT

2002				AMOUNT IN STORAGE (AF)				
WD	ID	RESERVOIR NAME	SOURCE STREAM	Minimum		Maximum		End Of Year
				AF	Date	AF	Date	
39	3999	CHAMBERS POND NO 1	COLORADO RIVER	100.0	11/01/01	137.0	04/15/02	100.0
	4000	CHAMBERS POND NO 2	COLORADO RIVER	200.0	11/01/01	239.0	04/15/02	200.0
	4002	CHAMBERS POND NO 4	COLORADO RIVER	170.0	11/01/01	180.0	04/15/02	170.0
	3927	CITY OF RIFLE POND NO 1	COLORADO RIVER	0.0		0.0		0.0
	3505	GRASS VALLEY RESERVOIR	RIFLE CREEK	729.4	10/30/02	5,600.0	04/15/02	729.4
	3506	HARRIS RESERVOIR	WEST RIFLE CREEK	14.8	12/01/01	30.0	04/01/02	20.0
	3940	MEADOW CREEK RESERVOIR	ELK CREEK	885.6	11/01/01	984.0	04/15/02	885.6
	3941	MIDDLE FORK RESERVOIR	PARACHUTE CREEK	85.0	10/30/02	100.0	04/15/02	85.0
	3507	PARK RESERVOIR	WEST ELK CREEK	8.2	10/30/02	114.8	04/01/02	8.2
	3508	RIFLE GAP RESERVOIR	RIFLE CREEK	1,012.0	10/01/02	9,431.0	04/15/02	1,746.0
39		Total of All Others < 50 AF		40.5		156.7		96.7
39		TOTAL FOR DISTRICT 39		3,245.5		16,972.5		4,040.9

RESERVOIR STORAGE SUMMARIES BY DISTRICT

2002				AMOUNT IN STORAGE (AF)				
WD	ID	RESERVOIR NAME	SOURCE STREAM	Minimum		Maximum		End Of Year
				AF	Date	AF	Date	
45	3603	PORTER RESERVOIR	EAST AKALI CREEK	25.0	11/01/01	102.8	04/30/02	0.0
45	3695	ALSBURY RESERVOIR	EAST DIVIDE CREEK	50.0	10/31/02	106.5	11/01/01	50.0
45	3524	ANDERSON POND	COLORADO RIVER	20.0	11/01/01	20.0	10/31/02	20.0
45		Total of All Others < 50 AF		0.0		23.5		1.0
45		TOTAL FOR DISTRICT 45		95.0		252.8		71.0

RESERVOIR STORAGE SUMMARIES BY DISTRICT

2002				AMOUNT IN STORAGE (AF)				
WD	ID	RESERVOIR NAME	SOURCE STREAM	Minimum		Maximum		End Of Year
				AF	Date	AF	Date	
50	3644	ALBERT RESERVOIR	ALBERT CREEK	0.0	11/01/01	42.0	05/02/02	0.0
	3606	ANTELOPE RESERVOIR	ANTELOPE CREEK	0.0	06/29/02	250.0	05/27/02	12.0
	3651	BASIN RESERVOIR	MUDDY CREEK	9.5	11/01/01	80.0	05/01/02	10.0
	3645	BINCO RESERVOIR	ALBERT CREEK	0.0	06/02/02	123.0	05/02/02	0.0
	3618	HINMAN RESERVOIR	PASS CREEK	275.0	09/16/02	580.0	05/17/02	275.0
	3623	LAKE AGNES	MUDDY CREEK	225.0	10/31/02	420.0	05/21/02	225.0
	3646	MARTIN RESERVOIR	COLBURN CREEK	0.0	06/16/02	216.0	05/14/02	120.0
	3625	MATHESON RESERVOIR	TROUBLESOME CREEK	0.0	11/01/01	500.0	05/08/02	0.0
	3627	MC ELROY RESERVOIR	PASS CREEK	0.0	11/01/01	243.0	05/17/02	0.0
	3629	MC MAHON RESERVOIR NO 2	RED DIRT CREEK	8.0	10/31/02	1,600.0	05/22/02	0-8
	3655	MILK CREEK RESERVOIR	MILK CREEK	0.0	09/13/02	88.0	05/02/02	0.0
	3656	NORTH MEADOW RESERVOIR (aka Martin)	MUDDY CREEK	0.0	11/01/01	60.0	06/13/02	0.0
	3631	OAKS RESERVOIR	MILK CREEK	4.0	10/31/02	35.0	05/21/02	4.0
	3632	PARSONS RESERVOIR	CARTER CREEK	29.0	10/31/02	80.0	05/13/02	29.0
	3642	WHITELEY PEAK RESERVOIR	DIAMOND CREEK	130.0	07/16/02	550.0	05/11/02	135.0
	3657	WOLFORD MOUNTAIN RESERVOIR	MUDDY CREEK	18,713.5	10/31/02	43,880.6	10/31/02	18,713.5
	3643	WOODS RESERVOIR	DUNNING CREEK	2.5	11/01/01	25.0	06/13/02	3.0
	3666	DUMONT LAKE	MUDDY CREEK	90.0	01/01/01	165.0	06/05/02	150.0
	3637	RUDOLPH RESERVOIR	HILL CREEK	29.0	06/03/02	12.0	10/31/02	12.0
50		Total of All Others < 50 AF		0.0		250.0		105.0
50		TOTAL FOR DISTRICT 50		19,515.5		49,199.6		19,793.5

RESERVOIR STORAGE SUMMARIES BY DISTRICT

2002				AMOUNT IN STORAGE (AF)				
WD	ID	RESERVOIR NAME	SOURCE STREAM	Minimum		Maximum		End Of Year
				AF	Date	AF	Date	
51	4006	BULL RUN CREEK RESERVOIR	BULL RUN CREEK	108.0	09/09/02	135.0	05/16/02	105.0
	4055	CBT GRANBY RESERVOIR	COLORADO RIVER	176678.0	09/30/02	358539.0	11/01/01	179644.0
	3695	CBT SHADOW MOUNTAIN GRAND LAKE	NO. FORK OF COLO RIVER	17358.0	10/31/01	17909.0	02/28/02	17358.0
	3710	CBT WILLOW CREEK RESERVOIR	WILLOW CREEK	7370.0	12/31/01	9130.0	07/31/02	7698.0
	4012	COTTONWOOD RESERVOIR	GARDINER CREEK	23.8	08/01/02	119.0	05/01/02	23.8
	3715	EAST BRANCH RESERVOIR	UTE CREEK	1000.0	10/01/02	1750.0	05/15/02	1000.0
	3660	F W LINKE NO 2 RESERVOIR	TEN MILE CREEK	30.0	07/15/02	61.0	05/01/02	10.0
	3665	HANKINSON RESERVOIR	FRASER RIVER	0.0	10/01/02	116.0	05/01/02	0.0
	4009	JACK ORR RESERVOIR	COLORADO RIVER	245.0	11/01/01	245.0	11/01/01	245.0
	3752	KINGS RESERVOIR	BUFFALO CREEK	130.0	09/09/02	173.0	11/01/01	130.0
	3679	LANGHOLEN RESERVOIR	BATTLE CREEK	6.0	04/30/02	64.0	05/16/02	7.0
	3686	MEADOW CREEK RESERVOIR	MEADOW CREEK	0.0	09/18/02	2831.0	05/31/02	11.0
	3687	MOORE RESERVOIR	WILLIAMS FORK RIVER	80.0	09/19/02	85.0	06/14/02	80.0
	3688	MUSGRAVE RESERVOIR	ROCK CREEK	0.0	05/18/02	200.0	05/28/02	0.0
	3755	TAUSSIG RESERVOIR NO 1	REEDER CREEK	0.0	06/03/02	750.0	07/18/02	30.0
	3694	SCHOLL RESERVOIR	CORRAL CREEK	0.0	11/01/01	0.0	10/31/02	0.0
	3732	GAYLORD RESERVOIR	POLE CREEK	142.8	11/01/01	144.1	10/31/02	144.1
	4051	SUN VALLEY RESERVOIR	NO. FORK OF COLO RIVER	72.0	11/01/01	72.0	10/31/02	72.0
	3701	SYLVAN RESERVOIR	LITTLE MUDDY CREEK	0.0	11/01/01	228.0	05/30/02	6.0
	3738	UTE CREEK RESERVOIR	UTE CREEK	93.0	11/01/01	93.0	10/31/02	93.0
	3709	WILLIAMS FORK RES	WILLIAMS FORK RIVER	15332.0	10/31/02	88740.0	10/31/02	15332.0
51		Total of All Other Reservoirs Less Than 50 AF		0.0		100.5		100.5
51		TOTAL FOR DISTRICT 51		218,668.6		481,484.6		222,289.4

RESERVOIR STORAGE SUMMARIES BY DISTRICT

2002				AMOUNT IN STORAGE (AF)				
WD	ID	RESERVOIR NAME	SOURCE STREAM	Minimum		Maximum		End Of Year
				AF	Date	AF	Date	
52	3940	JONES RESERVOIR	HENRY CREEK	50.0	10/31/02	63.4	11/01/01	50.0
	3982	MARMA LAKE	PINEY RIVER	53.0	10/02/02	55.0	11/01/01	53.0
	3946	OXFORD RESERVOIR	COLORADO RIVER	0.0	10/02/02	2.5	11/01/01	0.0
	3949	ROCK GAP DAM	HARTMAN GULCH	18.0	10/02/02	27.8	11/01/01	18.0
52		Total of All Others < 50 AF		23.5		100.5		23.5
52		TOTAL FOR DISTRICT 52		144.5		249.2		144.5

RESERVOIR STORAGE SUMMARIES BY DISTRICT

2002				AMOUNT IN STORAGE (AF)				
WD	ID	RESERVOIR NAME	SOURCE STREAM	Minimum		Maximum		End Of Year
				AF	Date	AF	Date	
53	3959	CLYDE RESERVOIR	EGERIA CREEK	0.0	10/31/02	40.0	04/30/02	0.0
	3960	CRESENT LAKE RESERVOIR	DERBY CREEK	0.0	10/31/02	150.0	07/26/02	0.0
	3961	ED WHARPER RESERVOIR	EGERIA CREEK	0.0	10/31/02	107.0	04/29/02	0.0
	3962	EGERIA RESERVOIR	EGERIA CREEK	0.0	10/31/02	96.0	04/30/02	0.0
	3966	GRIMES BROOKS RESERVOIR	RED DIRT CREEK	42.0	10/31/02	87.0	05/02/02	42.0
	3968	HADLEY RESERVOIR	EGERIA CREEK	NO INFO AVAILABLE				
	3971	HEART LAKE RESERVOIR	DEEP CREEK	2,500.0	10/31/02	2,800.0	06/15/02	2,500.0
	3972	HIDDEN SPRINGS RESERVOIR	HORSE CREEK	46.0	10/31/02	50.0	11/01/01	46.0
	3974	JONES NO 1 RESERVOIR	SHEEP CREEK NO 2	39.0	10/31/02	71.0	11/01/01	39.0
	3975	JONES NO 2 RESERVOIR	SHEEP CREEK NO 2	213.0	10/31/02	400.0	05/16/02	213.0
	3978	KELLY RESERVOIR	EGERIA CREEK	38.0	05/23/02	138.0	05/01/02	71.0
	3982	LUARK RESERVOIR	SPRING CREEK	0.0	10/31/02	0.0	11/01/01	0.0
	4020	MACKINAW LAKE RES NO 2	DERBY CREEK	0.0	10/31/02	100.0	02/16/02	0.0
	3986	MORRIS RESERVOIR	TOPONAS CREEK	0.0	11/01/01	24.0	05/06/02	0.0
	3988	NEWTON GULCH RES	KING CREEK	0.0	11/01/01	55.0	05/23/02	0.0
	3992	REID NO 3 RESERVOIR	EGERIA CREEK	16.0	10/31/02	20.0	11/01/01	16.0
	3995	STERNER RESERVOIR	EGERIA CREEK	0.0	11/01/01	124.0	04/30/02	0.0
	3997	SWEETWATER RESERVOIR	SWEETWATER CREEK	490.0	11/01/01	490.0	05/01/02	490.0
	3999	TONIER GULCH RES	TOPONAS CREEK	0.0	11/01/01	64.0	04/19/02	0.0
	4001	TOPONAS ROCK NO 2 RES	TOPONAS CREEK	0.0	10/31/02	142.0	05/03/02	0.0
	4004	WOHLER RESERVOIR	ELK CREEK	28.0	10/31/02	80.0	11/01/01	28.0
53		Total of All Others < 50 AF		226.5		379.4		232.5
53		TOTAL FOR DISTRICT 53		3,638.5		5,417.4		3,677.5

RESERVOIR STORAGE SUMMARIES BY DISTRICT

2002				AMOUNT IN STORAGE (AF)				
WD	ID	RESERVOIR NAME	SOURCE STREAM	Minimum		Maximum		End Of Year
				AF	Date	AF	Date	
70		FURR PONDS NO. 1-19	DRY FORK	0.0	07/31/02	28.3	11/01/01	0.0
70		Total of All Others < 50 AF		2.7		2.7		2.7
70		TOTAL FOR DISTRICT 70		2.7		28.3		2.7



2002 Division 5 Water Resources Annual Report

RESERVOIR STORAGE SUMMARIES BY DISTRICT

2002				AMOUNT IN STORAGE (AF)				
WD	ID	RESERVOIR NAME	SOURCE STREAM	Minimum		Maximum		End Of Year
				AF	Date	AF	Date	
72	3833	ANDERSON BROS RES NO 1	LEON CREEK	0.0	08/31/02	170.0	04/01/02	0.0
	3887	BIG BEAVER RESERVOIR	BULL CREEK	0.0	06/04/02	123.4	05/13/02	2.5
	3904	BIG CREEK NO 1 RESERVOIR	BIG CREEK	329.0	03/18/02	763.9	11/05/01	721.3
	3905	BIG CREEK NO 3 RESERVOIR	BIG CREEK	316.1	10/31/02	1,549.6	11/05/01	316.1
	3906	BIG CREEK NO 4 RESERVOIR	BIG CREEK	0.0	07/11/02	92.6	06/05/02	32.1
	3907	BIG CREEK NO 5 RESERVOIR	BIG CREEK	0.0	02/27/02	104.6	11/05/01	69.0
	3909	BIG CREEK NO 7 RESERVOIR	BIG CREEK	654.2	06/24/02	1,222.6	05/13/02	855.2
	3841	BOB MC KELVIE RESERVOIR	PLATEAU CREEK	0.0		0.0		0.0
	3888	BULL BASIN NO 1 RES	BULL CREEK	0.0	09/17/02	124.4	05/13/02	0.0
	3889	BULL BASIN NO 2 RES	BULL CREEK	0.0	06/11/02	14.0	05/13/02	0.0
	3890	BULL CREEK NO 1 RES	BULL CREEK	0.0	07/23/02	76.9	05/13/02	0.0
	3891	BULL CREEK NO 2 RES	BULL CREEK	0.0	07/02/02	69.8	05/13/02	0.0
	3892	BULL CREEK NO 3 RES	BULL CREEK	0.0	07/09/02	59.2	05/13/02	0.0
	3893	BULL CREEK NO 4 RES	BULL CREEK	0.0	09/06/02	202.5	05/13/02	0.0
	3894	BULL CREEK NO 5 RES	BULL CREEK	2.5	10/15/02	249.1	05/21/02	2.5
	3834	COLBY HORSE PARK RES	LEON CREEK	41.6	10/08/02	172.2	05/28/02	58.8
	3883	COON CREEK NO 1 RES	COON CREEK	57.1	09/06/02	172.2	05/28/02	58.8
	3884	COON CREEK NO 2 RES	COON CREEK	0.0	07/05/02	57.6	04/22/02	0.0
	3885	COON CREEK NO 3 RES	COON CREEK	0.0	05/28/02	30.0	04/22/02	0.0
	3923	COTTONWOOD LAKES RES NO 1	COTTONWOOD CREEK	1,062.8	03/04/02	1,703.0	11/15/01	1,534.2
	3924	COTTONWOOD LAKES RES NO 2	COTTONWOOD CREEK	0.0	06/27/02	100.4	06/05/02	1.4
	3925	COTTONWOOD LAKES RES NO 4	COTTONWOOD CREEK	0.0	07/29/02	253.7	11/13/01	13.6
	3926	COTTONWOOD LAKES RES NO 5	COTTONWOOD CREEK	0.0	07/08/02	256.7	11/06/01	60.8
	4065	CURRIER RESERVOIR NO 2	BUZZARD CREEK	NO INFO AVAILABLE				
	3910	DAWSON RESERVOIR	BIG CREEK	0.0		0.0		0.0
	3920	ECHO LAKE RESERVOIR	BIG SALT WASH	0.0	10/23/02	37.2	06/10/02	0.0
	3914	GROVE CREEK RESERVOIR NO 1	GROVE CREEK	0.0	08/02/02	188.8	05/01/02	0.0
	3915	GROVE CREEK RESERVOIR NO 2	GROVE CREEK	0.0	07/18/02	38.0	05/15/02	0.0
72		Subtotal This Page		2,463.3		7,832.4		3,726.3

RESERVOIR STORAGE SUMMARIES BY DISTRICT

2001				AMOUNT IN STORAGE (AF)					
WD	ID	RESERVOIR NAME	SOURCE STREAM	Minimum		Maximum		End Of Year	
				AF	Date	AF	Date		
				72	3849	HAWXHURST RESERVOIR	HAWXHURST CREEK		0.0
	3957	HIGHLINE RESERVOIR	COLORADO RIVER	NO INFO AVAILABLE					
	3929	JENSEN RESERVOIR	COTTONWOOD CREEK	0.0	10/31/02	90.7	07/02/02	0.0	
	3961	JERRY CREEK RESERVOIR NO 1	PLATEAU CREEK	756.1	11/01/01	1,134.1	02/28/02	1,026.1	
	3962	JERRY CREEK RESERVOIR NO 2	PLATEAU CREEK	5,430.2	10/31/02	6,322.6	02/28/02	5,430.2	
	3837	KENDALL RESERVOIR	LEON CREEK	42.5	08/21/02	87.0	05/01/02	42.5	
	3838	KIRKENDALL RESERVOIR	LEON CREEK	0.0	06/25/02	90.0	05/01/02	0.0	
	3839	LEON LAKE RESERVOIR	LEON CREEK	0.0	09/01/02	648.3	07/07/02	38.3	
	3895	LOST LAKE RESERVOIR	BULL CREEK	0.0	07/09/02	24.2	06/28/02	0.0	
	3871	MESA CREEK NO 1 RESERVOIR	MESA CREEK	115.2	10/24/02	280.2	12/01/01	167.8	
	3872	MESA CREEK NO 2 RESERVOIR	MESA CREEK	42.2	11/06/01	42.2	10/09/02	42.2	
	3873	MESA CREEK NO 3 RESERVOIR	MESA CREEK	0.0	07/05/02	75.3	06/11/02	15.0	
	3874	MESA CREEK NO 4 RESERVOIR	MESA CREEK	0.0	11/06/01	61.8	05/01/02	0.8	
	3842	MONUMENT NO 1 RESERVOIR	LEON CREEK	0.0	08/01/02	572.0	05/15/02	0.0	
	3843	MONUMENT NO 2 RESERVOIR	LEON CREEK	0.0		152.0		0.0	
	3854	PALISADE CABIN RESERVOIR	RAPID CREEK	550.1	10/01/02	767.1	05/07/02	562.7	
	3932	PARKER BASIN RESERVOIR NO 1	COTTONWOOD CREEK	33.5	08/01/02	233.4	11/06/01	58.9	
	3933	PARKER BASIN RESERVOIR NO 2	COTTONWOOD CREEK	20.9	09/12/02	60.7	05/06/02	53.5	
	3934	PARKER BASIN RESERVOIR NO 3	COTTONWOOD CREEK	39.2	08/29/02	104.8	05/02/02	55.5	
	3858	RAPID CREEK NO 1 RESERVOIR	RAPID CREEK	67.7	11/06/01	294.7	05/17/02	90.7	
	3859	RAPID CREEK NO 2 RESERVOIR	RAPID CREEK	0.0	11/06/01	68.5	04/24/02	0.0	
	3901	STUBB MCKINNEY CLARK RESERVOIR	SPRING CREEK	0.0	07/05/02	58.7	05/13/02	0.0	
	3931	T E KITSON RESERVOIR	COTTONWOOD CREEK	0.0	07/25/02	184.3	11/13/01	11.1	
	3902	TWIN BASIN RESERVOIR	BULL CREEK	0.0	05/31/02	16.9	05/13/02	0.0	
	3844	VEGA RESERVOIR	PLATEAU CREEK	2,178.0	09/30/02	15,676.0	04/30/02	2,698.0	
	3919	Y T RESERVOIR	GROVE CREEK	70.6	08/01/02	99.0	05/01/02	70.6	
72		Subtotal This Page		9,346.1		27,269.6		10,363.9	
72		Subtotal Previous Page(s)		2,463.3		7,832.4		3,726.3	
72		Total of All Other Reservoirs Less Than 50 AF		60.2		148.2		133.3	
72		TOTAL FOR DISTRICT 72		11,869.6		35,250.2		14,223.5	

**APPENDIX K: WATER DIVERSION SUMMARIES**

**DIVISION 5 -- 2002  
WATER DIVERSION SUMMARIES**

WD	STRUCTURES REPORTING			ALL OTHER STRUCTURES		ESTIMATED NUMBER OF VISITS TO STRUCTURE	TOTAL DIVERSIONS AF	TOTAL DIVERSIONS TO STORAGE AF	TO IRRIGATION		
	WITH RECORD (1)	NO WATER AVAILABLE (2)	NO WATER TAKEN (3)	NO INFO AVAILABLE (4)	NO RECORD (5)				TOTAL DIVERSIONS AF	NUMBER OF ACRES IRRIGATED	AVERAGE AF PER ACRE
36	287	28	122	208	174	11,015	446,196	61,417	60,376	11,508	5.25
37	228	10	231	133	377	1,007	120,703	13,883	62,803	10,704	5.87
38	674	66	182	1,137	302	11,230	276,420	16,500	120,474	14,195	8.49
39	470	72	179	94	227	842	119,213	11,868	86,662	18,379	4.72
45	506	145	116	14	125	1,419	81,424	456	63,711	15,612	4.08
50	168	5	12	8	35	9,374	58,301	6,664	46,795	22,524	2.08
51	289	47	199	229	236	26,093	535,557	44,442	109,121	23,185	4.71
52	63	123	35	14	94	337	11,030	28	10,579	2,480	4.27
53	144	120	132	71	117	1,010	670,536	1,679	38,428	9,925	3.87
70	194	62	28	8	105	265	5,296	11	4,211	2,836	1.48
72	283	132	128	356	322	35,278	1,675,645	25,126	827,328	5,224	158.37
<b>TOTAL</b>	<b>3,306</b>	<b>810</b>	<b>1,364</b>	<b>2,272</b>	<b>2,114</b>	<b>97,870</b>	<b>4,000,321</b>	<b>182,074</b>	<b>1,430,488</b>	<b>136,572</b>	<b>10.47</b>

**DIVISION 5 – 2002  
WATER DIVERSION SUMMARIES TO VARIOUS USES (AF)**

WD	TRANSMOUNTAIN OUTFLOW	TRANSBASIN OUTFLOW	MUNICIPAL	COMMERCIAL	INDUSTRIAL	RECREATION	FISHERY	DOMESTIC & HOUSEHOLD	STOCK
36	125,246	0	8,104	78	761	235	1,698	594	700
37	26,871	0	12,046	19	202	0	0	58	1,240
38	39,071	576	2,896	63	8	0	120	1,127	189
39	0	0	2,799	41	660	96	9,587	2,308	1,267
45	0	268	1,348	11	154	0	1	459	14,459
50	0	0	375	1	0	0	1	19	29
51	292,091	7,404	2,125	237	797	1,579	1,681	234	1,398
52	0	213	0	0	0	1	0	24	82
53	0	0	6,954	74	0	6	43	831	99
70	0	18	81	0	21	0	0	19	912
72	728	0	17,599	0	0	0	908	177	10,786
<b>TOTAL</b>	<b>484,007</b>	<b>8,479</b>	<b>54,327</b>	<b>524</b>	<b>2,603</b>	<b>1,917</b>	<b>14,039</b>	<b>5,850</b>	<b>31,161</b>

WD	AUGMENTATION	EVAPORATION	GEOHERMAL	SNOWMAKING	MINIMUM STREAMFLOW	POWER GENERATION	WILDLIFE	RECHARGES	OTHER
36	825	9,534	0	1,318	0	175,310	0	0	0
37	8	1,722	0	403	0	1,448	0	0	0
38	14,298	2,134	0	139	1,308	77,416	18	0	0
39	2,599	1,144	0	0	0	181	1	0	0
45	166	242	0	0	0	149	0	0	0
50	1,745	2,672	0	0	0	0	0	0	0
51	65	20,894	0	196	0	53,293	0	0	0
52	0	103	0	0	0	0	0	0	0
53	1	614	0	0	0	621,807	0	0	0
70	14	9	0	0	0	0	0	0	0
72	63	1,530	0	8	0	790,898	0	0	486
<b>TOTAL</b>	<b>19,784</b>	<b>40,598</b>	<b>0</b>	<b>2,064</b>	<b>1,308</b>	<b>1,720,502</b>	<b>19</b>	<b>0</b>	<b>486</b>