

ANNUAL REPORT WATER DIVISION 5 2001 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 3.6 million AF-/YR. The two primary uses of this water are approximately 580,000AF/YR consumed for irrigation on 295,000 acres, and approximately 560,000AF/YR of transmountain diversions to Eastern Colorado.

I. 2001 WATER YEAR ACCOMPLISHMENTS AND EVENTS

A. WATER ADMINISTRATION AND RUNOFF CONDITIONS

• **Runoff Conditions**

Throughout the 2000-01 winter basin-wide snowpack was in the 80% to 90% range. A warm and dry spring dropped the April 1 snow pack of 84% to 78% on May 1st and nearly nonexistent on June 1. Generally the most reliable runoff forecasts are based on April 1 snow pack, but as the snowpack conditions degraded actual runoff fell below the April 1 forecast. The April 1 forecast was 84% of normal at the Colorado River at Dotsero, and 79% of normal at the Colorado River near Cameo. May through June snow and rainfall was below normal, and then summer precipitation was saved by a four-week period from mid-July through mid-August. The September through October period returned to dry and warm conditions.

With snow accumulation in the Blue River Basin remaining below normal all winter, releases at Green Mountain Reservoir were held nearat minimum outflow for power generation, yet the storage in Green Mountain remained below the end-of-month targets throughout the winter. With the persistence of low runoff forecasts, on May 7 Green Mountain outflows were reduced to belowfrom the minimum power release of 100cfs to the minimum operational bypass of 60cfs. With these extreme measures, Green Mountain Reservoir did not achieve a physical fill in 2001. Of our major reservoirs only Dillon Reservoir on the Blue River and

Vega Reservoir on Plateau Creek physically filled.

The flow of the Colorado River above Kremmling experienced particularly low flows. Depletions in Middle Park area of the Upper Colorado River have increased since the extreme dry year of 1977. The Windy Gap Project and Wolford Mountain Reservoir were completed. With the exception of the land inundated by these two projects, and dry-up for augmentation plans, the irrigated land has remained virtually the same. Several golf courses have replaced irrigated meadows, extending the irrigation season and thus increasing depletions. Numerous small reservoirs and ponds have been constructed for recreational or augmentation purposes. Development has increased the domestic and commercial depletions in the area. Our office received many complaints from ranchers, landowners, and fisherman along the river of river conditions not witnessed before. These low flows in the Middle Park area combined with releases from Wolford Mountain as substitution for releases from Williams Fork to replace depletions from Moffat Tunnel, Roberts Tunnel, and Dillon Reservoir resulted in flow on the Colorado River between Parshall and Kremmling for the months of July through September to be the most stressed reach of river.

Impacts of Dry Year Conditions

Work on the outlet ring seals at Green Mountain Reservoir was also delayed until next year. The work was in its second of a three-year project, 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.

Discussion of reservoir re-operation for endangered fish habitat enhancement (CROS) was tabled for the second

consecutive year early in June when it became clear that the projected peak combined with re-operations would be insufficient to provide any benefit to the endangered fish.

Due to the projected extreme low flows at the Colorado River at Palisade gage, on June 26, 2001 the USFWS informed the HUP Managing Entities that the target flows for the 15-mile reach would be 810cfs and may be reduced to 581cfs as the summer progressed. In early August flows dropped below 650cfs in the 15-Mile Reach.

Water Administration

SUMMARY OF COLORADO RIVER CALLS
2001 IRRIGATION YEAR

COLORADO RIVER MAINSTEM
GOVERNING CALL ABOVE
SHOSHONE POWER PLANT
(DISTRICTS 36, 37, 50, 51, 52, 53)

Date On	Date Off	No Days Call On	Calling Water Right	Decreed Amount	Administrative Number
11.01.00	04.19.01	169	Shoshone Power Plant	1250 cfs	20427.18999
04.20.01	04.24.01	5	Shoshone Power Plant	1250 cfs	20427.18999
04.25.01	04.27.01	2	Shoshone Power Plant	1250 cfs	20427.18999
04.27.01	04.30.01	4	Shoshone Power Plant	1250 cfs	20427.18999
06.24.01	06.25.01	1	Shoshone Power Plant	158 cfs	33023.28989
06.30.01	07.02.01	3	Shoshone Power Plant	158 cfs	33023.28989
07.03.01	07.16.01	14	Shoshone Power Plant	158 cfs	33023.28989
07.17.01	07.25.01	9	Shoshone Power Plant	1250 cfs	20427.18999
07.26.01	07.29.01	4	Shoshone Power Plant	1250 cfs	20427.18999
07.30.01	08.08.01	10	Shoshone Power Plant	1250 cfs	20427.18999
08.09.01	08.10.01	2	Shoshone Power Plant	158 cfs	33023.28989
08.11.01	08.30.01	20	Shoshone Power Plant	1250 cfs	20427.18999
08.31.01	10.31.01	62	Shoshone Power Plant	1250 cfs	20427.18999

COLORADO RIVER MAINSTEM
GOVERNING CALL ABOVE CAMEO DIVERSIONS
(DISTRICTS 38, 39, 45, 70, 72)

04.25.01	04.27.01	2	Grand Valley Water Users	730 cfs	22729.21241
08.28.01	09.18.01	22	Grand Valley Irrigation Company	119 cfs	30895.23491

09.26.01	09.27.01	2	Grand Valley Irrigation Company	119 cfs	30895.23491
09.28.01	10.16.01	19	Grand Valley Water Users	730 cfs	22729.21241

In addition to the mainstem calls summarized above, the Orchard Mesa Check was operated from April 11 through 19, July 22 through 25, and October 6 through 8. This was a total of 16 days exchanging 1,831AF of diversions upstream to the Government Highline Roller Dam for the benefit of the Orchard Mesa Power Plant. This is the second consecutive year the check has operated.

As fall irrigation continued discussions began looking forward to the 2002 storage season and the ring seal repair project that was delayed in 2001. The Grand Valley Water Users agreed to reduce their call, thereby preserving some carryover storage in Green Mountain Reservoir. In the event of another dry winter carryover storage will help fill the reservoir in 2002 and thus allow the ring seal project to continue without jeopardizing its beneficiaries. This carryover amounted to 9,690,446,26AF of storage on October 31, 2001 of the 66,000AF HUP pool.

• **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. Until 2001, only in 1994 was the substitution of 91CW252 implemented.

On June 7 the projected deficit at Green Mountain was between 16,000 and 25,000AF. Colorado Springs had a small

amount of storage on hand in Upper Blue Reservoir but it had been stored out-of-priority with its 1948 water right and was owed to Green Mountain. Diversions by Colorado Springs with their 1948 right through the Hoosier Tunnel were ordered curtailed. Storage in Upper Blue Reservoir was allowed to continue under the CRS 37-80-120(1), the upstream storage statute. They delayed shutting off their tunnel and hoped to get approval to use Homestake Reservoir as a source of replacement. Prior to and subsequent to the notice from the Secretary of Interior, an owed river account developed. The State and Division Engineers agreed that Homestake Reservoir can provide substitution for Green Mountain to a mainstem call, but the terms of the Blue River Decrees did not allow it, and therefore must be accepted by the Secretary of Interior. Acceptance was not forthcoming, and the Continental Hoosier System was limited to diversions by the 1929 rights for the remainder of the year. With a call on the Colorado River expected between July 1 and July 14, on June 26 the deficit at Green Mountain was revised to a range of 21,000 to 31,900AF. Fortunately, the reservoir did not go out of priority until July 25, triggering the debate to determine the substitution amount and who owed what. On July 25 actual storage in Green Mountain Reservoir was only 11,000AF below a physical fill. The substitution amount would be this deficit less any storable bypasses or upstream

depletions that count against a paper Blue River fill.

The water quality below Wolford Reservoir has proven to be much better than anticipated in the settlement of case 91CW252, and therefore 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, and November through March. At the time of the settlement of 91CW252, the later periods were expected to be used to make releases of the anticipated poor quality water in Muddy Creek. For 2001 the distribution was set at 85% in the major irrigation season, 15% in October, and none from November through March. The determination of amount owed and who owed it on the other hand proved to be a drawn out process that hopefully will be the template for future years.

Colorado Springs argued that they were allowed up to 10% of the yield of the Blue River as measured at the outlet of Dillon Reservoir under that Blue River Decrees, and that Denver Water had subordinated to this yield. The State and Division Engineers argued this to be a contractual issue between Denver and Colorado Springs. We would administer the rights by the priorities awarded. Eventually, Denver and Colorado Springs developed an agreement, "without establishing a precedent for future arrangements," where they repaid the shortage (amount owed to Green Mountain) based on a ratio of their respective diversions from the start of fill date (April 30) through the date Dillon and the junior Con-Hoosier right went out of priority without regard to a Blue River call (June 24). Colorado Springs diverted only 6% (5,134AF of 86,859AF) and Denver diverted 94% (81,724 of 86,859AF) of the depletions during this period.

On July 25 Green Mountain was short of a physical fill by 10,738AF. During the April 30 through July 25 fill period, 300AF was bypassed for HUP users, and 2,393AF was bypassed that exceeded the 60cfs minimum operational outflow. The "Blue River Paper Fill" was therefore initially set by the USBR at 8,045AF, though much

haggling remained over upstream Blue River depletions. Final adjustments for these upstream depletions were 73AF for Straight Creek Tunnel (this may not apply to future years), 56AF for water rights junior to the Con-Hoosier 1948 right and that are HUP beneficiaries [Denver and Colorado Springs never agreed to this, arguing it should be all rights junior to Green Mountain Reservoir or 646AF for 2001], and 278AF for Green Mountain contract depletions that are upstream of Green Mountain. This revised the substitution amount to 7,638AF, where Denver Water owed 7,186AF and Colorado Springs owed 452AF.

Denver Water released 5,000AF from its Wolford Mountain storage; 1,000AF from Dillon Reservoir was not released but held for winter 50cfs release, and 1,186AF from William Fork. Colorado Springs, with no other acceptable storage, purchased the 452AF from the Colorado River Water Conservation District in Wolford Mountain Reservoir.

• **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 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.~~

Upon investigation of the complaint, we found several issues that needed to be

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rectified. The capacity tables for both reservoirs were not accurate. This resulted in several major errors, including the 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 diversion 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 a 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 correct these problems the Leon Reservoir and Canal Company has been asked to develop a new capacity table for the 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; 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.

Plateau Creek near Cameo, Government High Line Canal, Orchard Mesa Irrigation District, Grand Valley Canal and the Colorado River near Palisade. Due to the dynamics of the river and canals, an administrative flow at Cameo must be determined because the mass balance amongst the gages does not match. Data is collected daily, monthly and yearly and analyzed by both Division 5 staff and the USGS in Grand Junction to help understand the differences that occur during different flow regimes. Palisade gage vs. Cameo gage

To reduce the errors introduced by changing channel conditions at low flows the USGS has been very helpful by making additional stream gaging measurements at the two river gages and Plateau Creek upon request. This occurs immediately before we expect the river call from Cameo and various times after the river call is on. On a real-time basis the flow differential is calculated by summing inflows and outflows between the two gages. Then the gaged and modeled differential of the two gages are compared. Generally, the Colorado River near Cameo gage indicates there are greater flows at Palisade than the Palisade gage records. Because the Colorado River at Palisade has between 25% and 50% of the flow of the Colorado River near Cameo errors in the gaged flow at Cameo are greater, and adjustments of this differential are made to the Colorado River near Cameo gage to determine the flow for the purpose of administering the "Cameo Call."

• Palisade Gage vs. Cameo Gage

For administering the Colorado mainstem in the Grand Valley region, several satellite gages are used to collect data. These include the Colorado River near Cameo,

Formula for correcting the gaged flow =
adjust for travel time (Colorado River near Cameo - GhiCanCo + Plateau Creek) - GraValCo + Returns from Orchard Mesa Tailrace + Palisade Pipeline = Colorado River at Palisade)

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B. 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.
- THANK YOU, THANK YOU - Division 5 received a significant amount of help from other Divisions and the Denver office this last year inspecting dams and reviewing submittals. We appreciate the help we have received from Garrett Jackson and Mike Graber in Division 2.

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Dennis Miller in Division 1, and Mark Haynes and Alan Pearson in the Denver Office. THANK YOU for working extra hard to help us complete this important task.



• The year 2001 brought a below-average snowpack basin-wide. This meant that there were less runoff-related incidents than in past years. The lack of incidents or an increase in dam safety problems this year helped the situation with our dam safety engineer still unable to perform many dam safety inspections as a result of his accident last year. This made it 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 injury related physical inability for the dam safety engineer in Division 6 to perform her inspections, meant the dam safety work force statewide was stretched very thin. For this reason, many class 1 and 2 dams normally

inspected every year were intentionally not inspected this year. A generalized risk assessment approach was used, in which the condition of the dam, monitoring efforts by the owners, and hazard rating were considered equally to determine the dams not to be inspected. With the Division 5-dam safety engineer coordinating dam safety activities, there was great cooperation and teamwork used to complete all of the planned and necessary inspections this year. Given the present physical condition of the dam safety engineer and his three surgeries in 2001, the risk assessment approach along with the statewide teamwork to complete the inspections can be viewed as a significant dam safety highlight.

In summary, the total number of inspections performed in Division 5 in 2001 = 122, which consisted of the following:

<u>27</u>		<u>Inspections performed by the Division 5 Dam Safety Engineer:</u>
<u>0</u>		<u>Class 4 regular inspections</u>
<u>4</u>		<u>Class 1 regular inspections</u>
<u>8</u>		<u>Class 2 regular inspections</u>
<u>2</u>		<u>Class 3 regular inspections</u>
<u>0</u>		<u>Construction inspections</u>
<u>13</u>		<u>Follow-up inspections</u>
<u>0</u>		<u>Outlet inspections</u>
<u>45</u>		<u>Inspections performed by other Dam Safety Engineers:</u>
<u>0</u>		<u>Class 4 regular inspections</u>
<u>16</u>		<u>Class 1 regular inspections</u>
<u>14</u>		<u>Class 2 regular inspections</u>
<u>13</u>		<u>Class 3 regular inspections</u>
<u>1</u>		<u>Follow-up</u>
<u>1</u>		<u>Construction inspections</u>
<u>15</u>		<u>Inspections by other Division 5 staff engineers:</u>
<u>0</u>		<u>Class 1</u>
<u>3</u>		<u>Class 2</u>

7	Class 3
4	Follow-up
1	Construction inspections
<u>5</u> Inspections by federal entities and DOW:	
4	Class 1
0	Class 2
1	Class 3
<u>30</u> Inspections by Water Commissioners:	
10	"Off-year" Class 2
20	Follow-up

This year there were two significant incidences that occurred in Division 5. The highlights of these incidences are as follows:

- **Overtopping of Lake Christine**

In December of 2001, the Lake Christine Dam, which was relatively unknown and previously thought to be non-jurisdictional, overtopped. This dam has no spillway and the outlet becoming clogged by debris and beaver activity caused this. The small overtopping flows did minimal damage to the dam, but percolated into the unconsolidated right abutment material causing a massive slide to land on top of the old highway 82 that enters Basalt. Quick response by Division 5 personnel, the Division of Wildlife, and the State Highway department helped prevent a more catastrophic overtopping failure to occur. Plans and specifications are now being developed to construct a spillway and to improve the safety of this dam.

- **Major Seismic Event**

On August 9, 2001 a major earthquake was recorded at 4:38 p.m. It was centered 5 miles NNW of Glenwood Springs, and was registered at 4.0. The seismic hazard or ground acceleration was 0.3g with the

highest potential for damage south of Alsbury Reservoir on East Divide Creek.

Alsbury Reservoir Dam is relatively new. The reservoir site has landslide and seepage problems, making it a prime candidate for earthquake related damage. On August 10 our dam safety engineer found nothing alarming, but there was concern with a drop in toe drain seepage, an increase in the size of a wet area above the toe drain outfalls, and a possible increase in seepage to the east of the outlet channel. Follow-up visits and monitoring of the piezometers judged the dam's performance to remain unchanged by the event.

There were a number of other dams visited and inspected for potential earthquake-related damages. Concerns centered on cracking in spillway concrete or the dam embankment, increased seepage, movement in the abutments, and landslides near the dam site. No significant changes or potential earthquake related problems were found. Division 5 engineers inspected the following dams between August 10 and 13:

- Alsbury
- Harvey Gap (also inspected by the USBR)
- Heart Lake
- Consolidated
- Hughes
- Flannery

Additionally, the USBR inspected Rifle Gap Reservoir Dam.

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C. C GROUNDWATER AND WELL PERMITTING

Continued rapid growth and strong economic conditions kept the Division 5 staff busy in the areas of ground water and well permitting along with general research regarding water well ownership for real estate transactions and growth issues.

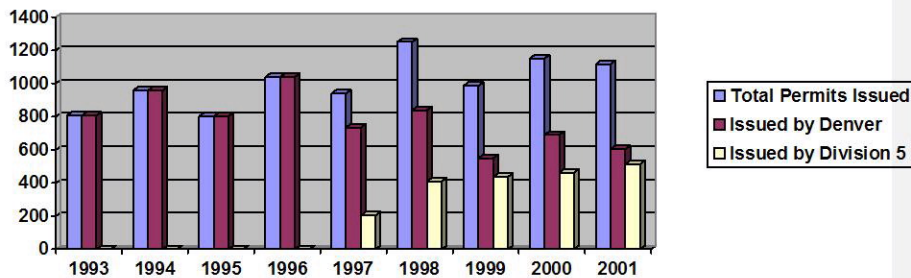
During calendar year 2001 a total of 1117 permits were approved for Division 5 --a decrease by 3% from 2000. Additionally the number of Monitoring Hole Notices (MH) received by the Division increased from 4 in 2000 to 73 in 2001. Eliminating the ability of converting monitoring and observation holes to production wells, per the amended Well Construction Rules effective June 1, 2000, has given more control and better quality assurance in the well permitting process. Additionally Ground Water forms such as SBU's, Change in Ownership and certain types of permits not reviewed by the Division Office were preprocessed and forwarded to Denver for review.

A breakdown of permits processed includes:

<u>Exempt Permits</u>	745
<u>Non- Exempt Permits</u>	268
<u>Geothermal Permits (excluded from total count)</u>	3
<u>Exempt Replacements</u>	85
<u>Non – Exempt Replacements</u>	19
<u>Late Registrations (included in exempt count)</u>	35

With the decentralized well permitting process in place a total of 514 permits (419 Exempt & 95 Non-Exempt) or 46% 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 preprocessed and forwarded to the Denver office.

Well Permits for Water Division 5 1993 through 2001:



Division 5 is still implementing the well construction and completion observation program by conducting random inspections by water commissioners and completing reports, which are forwarded to the Board of Examiners for review. This program has been limited in scope and if better control were desired regarding the quality of well construction and meeting minimum construction standards, a full fledged well inspection program would need to be instituted.

The Division 5 well tagging program, identifying wells that are junior to a river call but not covered by Green Mountain Reservoir historic users pool, perfected by use prior to October 15, 1977 has been slow in developing. The slow development can be attributed to high workload demands in other critical areas and the project may need to be revisited or modified to gain the desired outcome.

Advances in technology in the area of GIS by using data acquired from counties and using the Internet site of "Colorado Counties Inc." regarding Assessor Parcel data in verifying well location, parcel size and proof of parcel creation, continue to be implemented. Additionally, use of GPS determining well locations has been a valuable tool in the area of well inspections for historic use and water court case applications.

D. D HYDROGRAPHIC PROGRAM



(Hydrographer George Wear measuring in Chapman Gulch, Pitkin County)

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 four manual and four 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 Consolidation 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 & Sanitation District diversion for the Colorado Water Conservation Board for minimum streamflow compliance. Also, measuring the streamflows and rating the staff gage for Snowmass Creek at the Wildcat Bridge for minimum streamflow compliance.

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- Measuring, recording and completing the streamflow record for the Government Highline Canal near Cameo. The canal is now measured with a bank-operated cableway installed last year.
- Measuring diversions and/or bypass flows for water commissioners for administration.
- Providing finished record for approximately three streamflow stations and six 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.

With the help of the National Weather Service, satellite monitoring was added to 2 published streamflow stations that were previously manual (i.e., continuous strip chart) stations. These 2 stations are the Fryngpan River at Meredith and the North Fork Fryngpan River near Norrie.

The cableway at the Fryngpan River at Thomasville station was converted to bank operation this year. This station has over 50 years of published record and is the primary index gage for FryngPan-Arkansas Project diversions. At high flows in the spring, it is impossible to wade the river; therefore, a cableway system is needed. During a scheduled cableway inspection performed in May, it was determined that the cableway was unsafe for cable car operation. Converting the existing cableway to bank operation proved to be the safe, economical option to allow continuing measurements of high flows at the station. The conversion was completed November 16, 2001. In addition to the cableway conversion, the A-frame at the Thomasville station and the two A-frames at the Fryngpan River at Meredith station were secured with metal straps bolted into their foundations.

The Division 5 hydrographer made 63 river measurements (including 31 measurements for the Fry-Ark Project) and 23 ditch/canal measurements during the 2001 hydrographic Water Year.

E. 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 both water commissioners and office staff, continues 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 augmen-

tation 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.

• Diversion Records

Division 5 works approximately 30 spreadsheets to help complete diversion records. Complex accounting from projects such as the C-BT, Denver Water's exchanges, Ute Water and many augmentation plans warrant the use of spreadsheets for ease of record keeping and diversion records. Most spreadsheets link to either hydrographic records, other satellite monitoring data and/or user supplied data. These spreadsheet workbooks include a sheet we call the DD tab (for daily diversion data). The DD tab generates diversion data in the standard format to diversion records in DWR's database format to be automatically generated. All lead water commissioners have a hands-on approach to help finalize their records using this process.

New staff and vacancies in the two water districts with the largest diversion record files were among several causes for the annual diversion record project to exceed the established deadlines. In general, both the quantity and quality of diversion records in Water District 38 have degraded for the second consecutive year as a result of staffing problems. With the retirement of the lead Water Commissioner in Water District 72 the records for this district had less oversight. Records throughout the rest of the Division received a quality control effort that was an improvement over the 2000 irrigation year records.

• **Diversion Record Spreadsheets**

F. INFORMATION TECHNOLOGIES

PC Status - In 2001, all of our water commissioners have at least 128MB RAM, and everyone has at least an 8 GB hard drive. All except two office employees were updated with Windows 2000 machines. We are hoping to start replacing field machines with either Windows 2000 or XP machines

within the next couple of years. The backup exec tape drive is no longer working. The IT group in Denver is looking to replace our tape drive. Currently no automatic backup exists. CD ROM backups are being done to ensure a reasonable backup.

<u>Water Commissioner</u>	<u>PC type</u>	<u>RAM</u>	<u>HARD DRIVE</u>	<u>Windows</u>	<u>Monitor</u>	<u>Printer</u>
<u>Blakeslee</u>	<u>GW P5-200</u>	<u>128</u>	<u>8.1G</u>	<u>98</u>	<u>17"</u>	<u>HPOJ600</u>
<u>Brigham</u>	<u>GP7-550</u>	<u>128</u>	<u>20G</u>	<u>98</u>	<u>15"</u>	<u>HPOJ520</u>
<u>Comerer</u>	<u>GP7-550</u>	<u>128</u>	<u>20G</u>	<u>98</u>	<u>19"</u>	<u>HPOJ520</u>
<u>Cox</u>	<u>E4200 400</u>	<u>256</u>	<u>10.6G</u>	<u>95</u>	<u>17"</u>	<u>HPOJ520</u>
<u>Daxton</u>	<u>E4200 400</u>	<u>128</u>	<u>8.4G</u>	<u>95</u>	<u>17"</u>	<u>HPOJ520</u>
<u>Greene</u>	<u>GW P5-200</u>	<u>16</u>	<u>8.4G</u>	<u>98</u>	<u>15"</u>	<u>CANON C3500</u>
<u>Hummer (SVT Office)</u>	<u>GW E-4200 400</u>	<u>128</u>	<u>8.1G</u>	<u>95</u>	<u>17"</u>	<u>HPOJC2890A</u>
<u>Klenda</u>	<u>GW E-4200 400</u>	<u>128</u>	<u>8.1G</u>	<u>95</u>	<u>17"</u>	<u>HPOJ520</u>
<u>Lemon</u>	<u>EV - 500</u>	<u>128</u>	<u>20G</u>	<u>98</u>	<u>17"</u>	<u>CANON C3500</u>
<u>Mackey</u>	<u>GP7-550</u>	<u>128</u>	<u>20G</u>	<u>98</u>	<u>19"</u>	<u>OfficeJet VX</u>
<u>McEwen</u>	<u>GW P5-200</u>	<u>64</u>	<u>13G</u>	<u>98</u>	<u>15"</u>	<u>HPOJ520</u>
<u>Schaffner (Div 6)</u>	<u>GW E-3000 550</u>	<u>10G</u>	<u>98</u>	<u>15"</u>	<u>15"</u>	<u>HPOJ520</u>
<u>Thompson</u>	<u>GP7-550</u>	<u>128</u>	<u>20G</u>	<u>98</u>	<u>19"</u>	<u>HPOJ520</u>
<u>(GJ Office)</u>	<u>GP7-800</u>	<u>128</u>	<u>10G</u>	<u>98</u>	<u>17"</u>	<u>HPOJ-R40</u>
Office						
<u>Blair</u>	<u>E4200 500</u>	<u>256</u>	<u>13G</u>	<u>98</u>	<u>19"</u>	<u>OfficeJet 1150C</u>
<u>Hitchcock</u>	<u>Compaq</u>	<u>128</u>	<u>18G</u>	<u>2000</u>	<u>17"</u>	<u>N/A</u>
<u>Martellaro</u>	<u>Dell Optiplex GX150</u>	<u>128</u>	<u>10G</u>	<u>2000</u>	<u>17"</u>	<u>N/A</u>
<u>Pope</u>	<u>Dell Optiplex GX150</u>	<u>128</u>	<u>10G</u>	<u>2000</u>	<u>17"</u>	<u>N/A</u>

Rishel	Compaq	128	18G	2000	17"	N/A
Romig	E4200 500	256	18G	NT	19"	N/A
Sappington	Compaq	128	18G	2000	17"	N/A
Sikora	Dell Optiplex GX150	128	10G	2000	17"	N/A
Wear	Dell Optiplex GX150	128	10G	2000	17"	N/A
Whitaker	Dell Optiplex GX150	128	10G	2000	17"	N/A
Whitehead	Compaq	128	18G	2000	17"	N/A
Misc						
GIS Machine	Compaq Workstation 3000	785	37G	2000	17"	N/A
Conference Room	AMD-K6 3D+	256	19G	98	19"	N/A
Public	P5-90	32	10G	98	15"	N/A
Servers						
Glenwood1	DELL 4300	512M	4G+13G	NT	-	-
Grand Junction	GW P5-133	64M	2G	-	-	HPOJ Pro 1170cxi

Hardware - We have received a digitizer to complete our well and structure plotting to replace worn-out maps. With the addition of our GIS Workstation, we estimate it will be about 1.5 years once we start updating to complete the project. We currently have acquired 4 new digital camera and 2 additional Garmin GPS units. These additions will help us with field inspections, court cases, and improving well/structure locations.

Training - Our training budget has been fully used. We have sent our personnel to training classes that include Visual Basic training, Colo. Water Officials Assn. meetings, and Program Assistant meetings. For training in-house, we have brought in guest speakers Gary Foss on White Water Safety; Dave Merritt of Colorado River Water Conservation District; Dennis Davidson of Natural Resource Conservation Service, and John Van Sciver of the Colorado Water Conservation Board. Also, co-employees give lectures on Excel, Access, Tabulation, Water Law, and general information. We have surveys to find out

what our personnel require and want to learn about as well as post-training to find out what they have learned which will be posted to our web site.

Web Page - Division 5 recreated its own web page to better coincide with the Division of Water Resources' web page. We are still trying to get the web page located on the water4 server, which has not yet yielded any results. Currently located at //Glenwood1-div/webpage/div5.htm, it has links to commonly used sites. It also contains information on Frequently Asked Questions as well as a place to download our various forms. It will have a section on GIS information and a page to disseminate a variety of helpful general information. It will contain a calendar of events for scheduling purposes. And whenever someone from Division 5 goes to training, what he or she learned will be posted on a training page. River Call information will be real time on our River Call web page. However, it is still in the infancy stage.

F.G. GIS PROJECTS

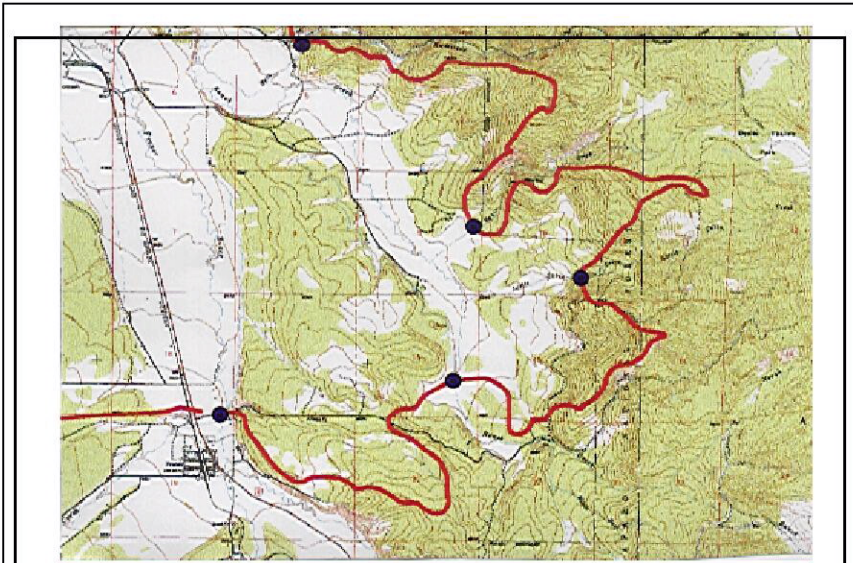
- **A/B Area Mapping**

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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. Our district and divisions' boundaries were completely redone to match the 1:24k quad maps,

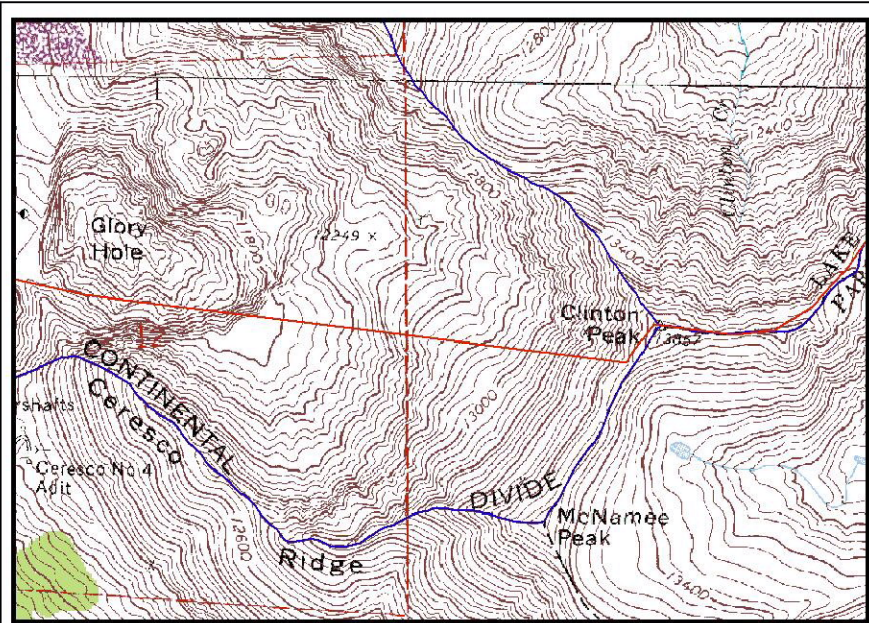
which needed to be redone in order for the A/B line to be more accurate.

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. Another project is to use our digitizer by inputting all wells, structures, and fields digitally instead of on paper maps. The completion of the A/B line and organization of our aerial photos is also on the agenda.



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.



District Boundaries

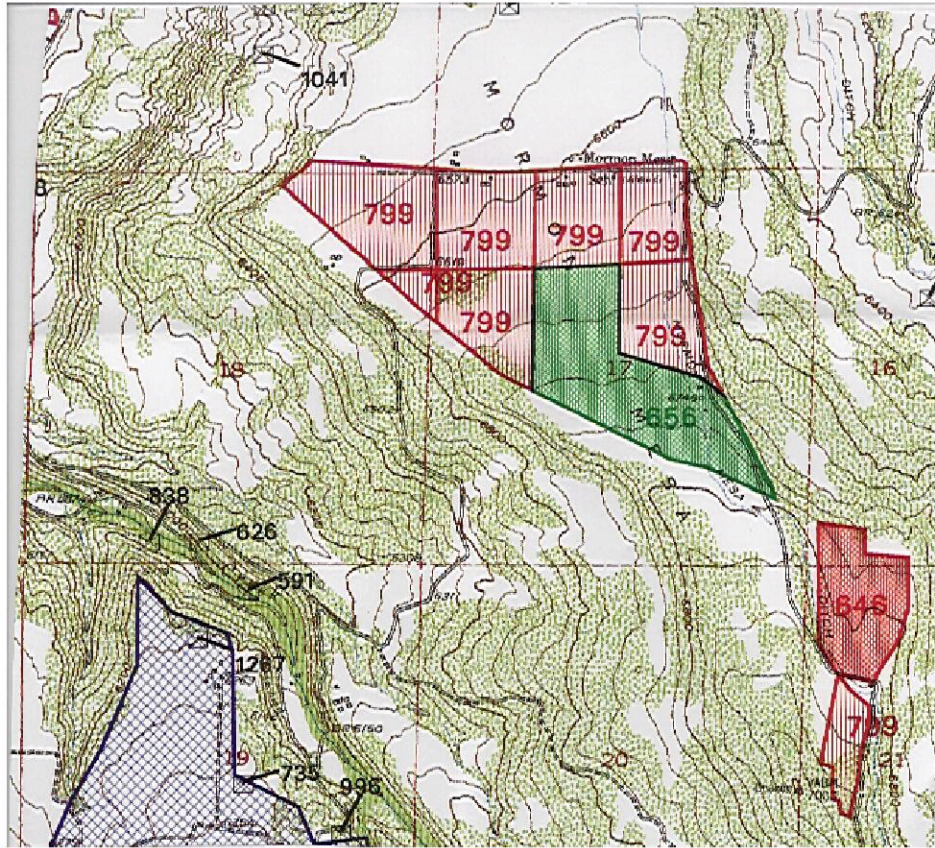
District boundaries were re-digitized to not only match our area A/B line when necessary but also give us a more accurate display of our boundary lines. Here the new district boundary is drawn in blue and the old one is drawn in red. Updating and organizing our GIS data is very important and valuable to our Division.

• **Area mapping**

• **Irrigated Acreage Project**

Pilot project completed and W/S studied started (based on results of pilot project developed by div 5 staff).

Water Commissioners were given maps that were provided by a consultant contracted to the Colorado Water Conservation Board. Two maps were provided with each quad. On one of the maps approximately 15% of the crops were labeled and the line work corrected to accurately display field boundaries.



Maps like the one above are used to correct headgate information and line work.

G.H. SUBSTITUTE SUPPLY PLANS

We had eight requests for substitute water supply plans (SSP) during irrigation year 2001; seven were approved and one is pending.

- West Divide Water Conservancy District had the Alsbury Reservoir SSP approved, the Four Mile Creek SSP and their overall SSP is still under review.
- Basalt Water Conservancy District had their overall SSP approved.
- Glenwood Canyon SSP for the rest areas was approved.
- The other approved new requests include requests for SSP's for mining activities, a fire station well, and a guest ranch .

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H.I. I. SPECIAL PROJECTS AND ISSUES

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

The CRDSS special project for Water Division 5 is known as the Division 5

Workbook. The workbook will be the primary tool used to administer the Colorado River and for river accounting. A summary of the [Division 5 Workbook's functions is:](#)

1. Determine undepleted natural flow of the Colorado River.
2. Distribute the natural flow to water users in priority.
3. Determine the Colorado River call and calculate replacement releases from Green Mountain Reservoir.
4. Revise and update the Colorado River Accounting spreadsheets currently produced [by the U.S. Bureau of Reclamation \(USBR\) with on a daily basis data but not used for real-time river administration nor accounting by the U.S. Bureau of Reclamation \(USBR\) to include new projects such as Wolford Mountain Reservoir, and new water rights such as Second Fill rights at Green Mountain and Dillon Reservoirs, the OMID check, Palisade Pipeline, and Endangered Fish deliveries.](#) Integrate the revised Colorado River Accounting spreadsheet into the CRDSS Workbook.
5. Maintain "owed to the river" accounting for certain specified water projects.
6. Automate the worksheet so that data from water users, water commissioners, streamflow gages, and other sources will be automatically linked to the Workbook. This will minimize the manual entry of data that now occurs. Operators of key water diversion projects will e-mail water user information to the central database on a daily basis or other time period established by the Division Engineer.
7. Upload the results of the Workbook to an FTP site, providing near real-time data to anyone interested.
8. Export diversion and storage data directly from the Workbook into the State's diversion record database without the need to keypunch the data.

During 2001 the Division 5 Workbook [was not implemented as anticipated slowly continued its ascent into reality. No progress was made.](#) Real-time electronic data - such as streamflow data from the USGS and DWR, and e-mail from four large

water users (Colorado River Water Conservation District, Colorado Springs, Denver Water and the USBR) - can be accepted into the Workbook [as was the case in 2000.](#) ~~The delays to the implementation of the Workbook for this year were encountered due~~ [continues to be related to the focus of the IT staff on the replacement of the satellite monitoring system and the migration from Informix to Sequel Server.](#) Once the data transfer is ready, the importer will link the data to the Workbook. Due to the heavy demands on the Information Technology group in our Denver office, deadline schedules have [again](#) been modified. It is anticipated that the Workbook will be available, with provisional data during the first trial year, for water year 2002.

- **SWAT**

Division 5 staff continued to participate in the "SWAT" team discussions involving Colorado River administration. The team consists of city, county, state, and federal officials, and was originally formed for settlement for Case No. 88CW382 as a discussion group to resolve administration of Green Mountain and other large reservoir issues. The SWAT team meetings continue 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 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 Green Mountain's ring seal project were topics for discussion and coordination for the group. The SWAT team held three meetings during 2001.

[One significant issue discussed by the SWAT team was Williams Fork Reservoir accounting. The reservoir has a senior fill and a junior fill that each equal the capacity of the reservoir. Previous administration of the reservoir based on the records of the Division 5 River Administrator filled both pools concurrently. Assuming both priorities could divert, it was up to Denver Water to](#)

declare which priority was being filled. The accounting done by Denver Water filled the pools successively. The issue was resolved at the tail of the 2000 irrigation season, the resolution is now a part of the Division-5 Reservoir Accounting Principles, currently in it's 18th draft. 2 x 96KAF and other reservoir accounting issues at GM and WF. This is the major ongoing document of the group. The accounting of Williams Fork Reservoir allows the senior to fill without paper filling the junior, but if the senior is not full and the operator chooses to fill with the junior, the senior right is paper filled. All storable inflow is charged to the senior fill. Storable inflow is only charged to the junior, when the operator declares the storage under the junior, or if the senior right is full and space exists.

- **Green Mountain HUP Managing Entities and RIPRAP** (Recovery Implementation Program)

The initial operational meeting for the season was June 26 to discuss Green Mountain's HUP operations for the year. Due to the projected extreme low flows at the Colorado River at Palisade gage, on June 26, 2001 the USFWS informed the HUP Managing Entities that the target flows for the ~~15-mile reach~~15-Mile-Reach would be 810cfs and may be reduced to 581cfs as the summer progresses. In early August flows dropped below 650cfs. After confirming migration of a Razorback Sucker, the USFWS on August 8 changed the target flows to 1240cfs. This change represented a belief that premature depletion of storage pools that support the target flows for higher flows during a migration event was the most beneficial use of these pools.

Target flows for the ~~15-mile reach~~15-Mile-Reach, based on the monthly averages, were met throughout the summer. The graph and table (See Appendix Outline) summarize the contributions made by each reservoir and graphically depict the impact of those releases as shown on the flows at the Palisade streamflow gage. ~~??~~.

- **The HUP Managing Entities**

The Green Mountain HUP Managing Entities experienced a rough start to the storage release season. A disagreement in the interpretation of the Orchard Mesa Check Case in 91CW247 surfaced. The position of the Division Engineer is that releases for upstream replacement or directly to the Cameo Demand cannot be made until the projected flow at Cameo is 1950cfs, or a surplus declaration is made for storage in the Green Mountain HUP. The Grand Valley entities maintained they had a right to call for the full 2260cfs of the Cameo Demand. Eventually, a surplus declaration was made without a Cameo Call, and discussion continued into September. On August-10, 2001 a meeting was held with the HUP Managing Entities, the State Engineer, Assistant Attorney General Wendy Weiss, and legal counsel for the Grand Valley Water Users Association. A second meeting on September 19, 2001 added legal counsel for the Orchard Mesa Irrigation District. The result of these meetings developed a mutual understanding which interpret 91CW247 where the United States will not exercise its Power Right from April 1 through October 31 of any year "so as to place an administrative call which results in the curtailment of diversions by upstream water rights" as the Cameo Call is limited to 1950cfs. The result of reducing the demand delays the call date by a few days to several weeks. During this time the Twin Lakes Tunnel and the Fryingpan-Arkansas Project as well as the largely undeveloped oil shale rights between Rifle and DeBeque reap the benefits of the Check Case settlement. Additionally, Green Mountain Reservoir will be making releases under a surplus declaration while these rights divert. The meetings also developed a list of methods to improve the outcome of the Managing Entities within the river administration duties of the Division Engineer.

They include;

- a) Project date of first river call at Cameo, and make a surplus declaration prior to that date;
- b) With shorter travel times than Green Mountain Reservoir, use Ruedi Reservoir to fill holes in the river, then pay back Ruedi

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with Green Mountain. [L; limits on weekend gate changes at Ruedi and outflow during the major fishing season reduces the utility of this solution;](#)

- c) To improve reservoir release routing and closely monitor the Green Mountain rule curve, the Div_5 ~~W~~workbook must be fully operational prior to 2002 administrative season; and
- d) Recognize that experience improves reactions especially as rainstorm runoff diminishes.

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

2001 marked the fifth year of Coordinated Reservoir Operations under the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River. 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 needed to provide habitat maintenance/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 began meeting in April to assess spring streamflow, weather, and snowpack conditions and evaluate the potential for augmenting peak flows. Runoff forecasted on April 1st for the Colorado River near Cameo was 70% of average as of Feb. 1, 2002. It appeared remotely possible that CROS would be triggered. By early May the committee dropped plans to re-operate the reservoirs, as projected peak flows plus benefits from CROS for the ~~15-Mile-Reach~~[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 GVWM Project achieved another milestone in 2001 by completing the construction of the seven check structures for the Government Highline Canal and the Palisade Pipeline. The check dams were all operated manually. A SCADA system will eventually be used to operate the check dams remotely. Spills this year at the Palisade Pipeline were below the design flows of 100cfs due to moss accumulation on the intake screen. The total savings at the headgate for the 2001Y have not been computed by the USBR. However, the Palisade Pipeline diverted intermittently between August 22 and November 6 a savings of 4263AF into the 15-mile reach 15-Mile-Reach.

• **GM HUP Limits 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 Wwestern Sslope water users from C-BT diversions and 100,000 AF was allocated for power purposes and to provide compensatory storage to benefit the Wwestern Sslope. In the 100,000-AF pool, there exists several "sub-pools", one of which is the Historic Users Pool (HUP) for 66,000-AF. Currently, this pool is used to replace for depletions from historic beneficiaries to the Shoshone and Cameo calls, direct flow for irrigation to the GVIC and GVWUA calls, and surplus release to the Grand Valley pursuant to the Check Case, 91CW247.

• 1977- 1984 "Slot Group"

The Operating Policy for Green Mountain Reservoir, effective January 22, 1984, does

not clearly indicate what water rights are protected by the Historic Users Pool. Although 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 coverage of depletions by the rights 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 not having a contract 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 Conservationnncy 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, conditional water rights, and unadjudicated rights. The River District has allocated and released 200-AF in Wolford Mountain Reservoir for 2000 and 2001 to cover these proposed depletions. It is the desire of the River District to develop a permanent solution to replace out-of-priority diversions by these rights.

The Ute Water Conservancy District diversions are routed around the structures that make up the Cameo Demand, and therefore are 100% consumed against 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. A meeting was held with Ute Water to discuss this problem, and clarify the amount that may fit in the Slot Group. Based on rough estimates, the amount of diversions under Ute's rights within the Slot Group is approximately 5,000AF.

The latest discussions to categorize the conditional and unadjudicated rights allow a simple -search- of -the -Water -Rights Tabulation over-laid on the extensive GIS mapping of the "A/-B line" done by Division 5 to determine eligibility. These discussions

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should conclude during the 2002 calendar year.

• **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 during the

10 days of the peak of the run-off season. CFOPS can be considered a formal rigid version of CROS. 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. Phase -2 will be completed by the spring of 2002. The Division participated in three CFOPS executive committee meetings during the 2001 irrigation year.

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H.J. WATER COURT

Litigation continues to dominate the workload of the Division's personnel. A total of 379 new water right applications were filed in Division 5 Water Court during calendar year 2001 — 356 for the Colorado River administered by Div. 5 Water Resources and 23 for the White River administered by Div. 6 Water Resources. Of those 356 applications, 55 were applications involving new augmentation plans and 7 were to amend existing aug plans. The State and Division Engineers formally objected in 14 cases; entered 0 protests to referee rulings; and were petitioners in 0 cases. Forty-one amended applications were also published in the resumé. 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 of the complexity of the average case continues to increase.

The following cases 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 case should be either tried or settled in 2002. The 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 Diversion 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.

2. I-70 dry up

Several Water Court applications were filed in 2001 which involve a change of use or "quantification" of historic irrigation between Silt and Rifle that was dried-up in the middle to late 1970's for the construction of I-70. Our standard position requires the applicants to incorporate the 25+ years of non-use into the historic analysis. The applicants requested that we consider the dry-up as involuntary (the land was adverse possessed, but the water rights were not), and therefore allow the representative period to be the 20 years immediately prior to the dry-up. A claim by one of the applicants in support of this request alleged a parallel to tax law that gave additional time to deal with the capital

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gains resulting from adverse possession. We stayed with our standard position of using at least the last 20 years as the representative period of record, because the period of non-use was so extensive. The next problem for these applications is the structures are on the mainstem of the Colorado River where diversion records prior to 1972 are spotty and are non-existent prior to the mid 1950's. Irrigation and domestic diversions on the mainstem in use prior to 1977 have a full legal physical supply. Without diversion records and the increasing difficulty finding affidavits to support use dating back to the early 1990's, these change of rights are limited to very little yield. We subsequently agreed to allow the period of record to extend back to the date of appropriation for changes that involve structures where there is no question of full physical and legal supply, and continuous use without an affidavit.

3. Workload

2-3. Upper Yampa Return Flows
Companion cases were filed in Water Division -6 and Water Division -5. They were both set for trial in 2001, and the

Division 5 case would follow. The critical issues were settled in the Division -6, where first use of the water was limited to the originally decreed purposes within the Upper Yampa Conservancy District. After the trial in Division -6, a stipulation was reached in Division -5 that set the method for quantifying the return flows under the dominion and control of the Conservancy District, which could be sold for any use in the Colorado River basin.

4. 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 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 City of Aspen application is for flows in a high water channel of the Roaring Fork, and may be on track for a stipulation. The Breckenridge and Vail cases appear to be on track for trial. The issues are similar to Golden.

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J.K. TABULATION

The tabulation backlog has steadily grown over the past few years. The tabulation backlog was in excess of 1600 decrees by the end of the year in 2000. Through the support of the State Engineer additional allocated funds for Division 5 provided winter work for two part-time water commissioners to assist with the tabulation. Due to the dedication of the water commissioners who have assisted with this project, the backlog has been reduced to fewer than 1350 decrees. A total of approximately 500 decrees were tabulated during this period, which started in mid-January and continued into May. We anticipate focusing on the tabulation January through May in future years until the backlog is eliminated and then tabulate new decrees as they come forth. The goals for this period were to completely eliminate backlog in Districts 39, 45, 50, 51, 52, 53, 70, and 72, and to reduce the backlog in Districts 36, 37, and 38 by half. We fell short of this goal, but plan to surpass it in 2002.

The following table summarizes the existing backlog and the progress that has been made to this point:

Division 5 Tabulation Backlog

Water District	Backlog As Of 12/1/01	New Decrees As of 12/31/01	Total Untabulated Decrees	Decrees Tabulated As of 12/31/01	Remaining Untabulated Decrees
36	258	36	294	91	203
37	219	54	273	0	273
38	834	61	895	141	754
39	44	13	57	40	17
45	32	21	53	0	53
50	3	8	11	0	11
51	61	26	87	74	13
52	2	4	6	6	0
53	34	7	41	41	0
70	9	3	12	12	0
72	103	22	125	101	24
Total	1599	255	1854	506	1348

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The following table summarizes the existing backlog and the progress that has been made to this point.

Division 5 Tabulation Backlog

Water District	Backlog—As Of 12/31/00	New—Decrees As of 12/31/01	Total Untabulated Decrees	Decrees Tabulated—As of 12/31/01	Remaining Untabulated Decrees
36	258	31	289	91	198
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
Total	1599	199	1798	518	1280

K.L. ABANDONMENT LIST 2000

The Division Engineers 2000 Abandonment List totaled 201 Water Rights with Return Receipt Certified Mail sent to 177 last known owners. By the December 31, 2000 deadline a total of XXXXX??? protests were filed. The protests were reviewed and field inspections conducted where additional field information was needed. A total of XXX Water Rights were removed from the list, leaving XXXX Water Rights on the list. The Revised Division Engineers 2000 Abandonment List was submitted to the Water Court before December 31, 2001 as required by law.

The Division Engineer's 2000 Abandonment List totaled 201 water rights with Return Receipt Certified Mail sent to 177 last known owners. By the July 1, 2001 deadline a total of 64 protests were filed, consisting of 117 water rights. The protests were reviewed and field inspections conducted where additional field information was needed. A total of 49 water rights were removed from the list, leaving 152 water rights on the list. The Revised Division Engineer's 2000 Abandonment List was submitted to the Water Court before December 31, 2001 as required by law.

L.M. PERSONNEL AND BUDGET ISSUES

a. Staffing Changes

By October of 2001 with the permanent appointment of the two District 38 Water Commissioners, Division 5 was fully staffed for the first time in nearly four years. In reaching this accomplishment many personnel changes occurred in calendar year 2001, as outlined below:

- February, 2001, Joe Bergquist (District 38) permanent medical leave
- April, 2001 Larry Gepfert (District 38) transferred to left for Div of Wildlife
- May 9, 2001 John Sikora hired as Assistant Division Engineer
- May 9, 2001 Michael Cone hired as temporary Water Commissioner in District 38
- May 14, 2001 Kae McDonald hired as temporary Water Commissioner in District 38. She vacated the position June 15, 2001.
- July 23, 2001 Bill Blakeslee hired as temporary Water Commissioner in District 38
- August, 2001 Steve Pope was promoted from Physical Science Tech I to Physical Science Tech II.
- November 1, 2001 Michael Cone and Bill Blakeslee hired as permanent full-time Water Commissioners in Water District 38.

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' deficit.

Retirement of Water Commissioner Wayne Wells

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(shown above with wife Michele at 2001 DWR Annual Picnic, Veltus Park, Glenwood Spgs)

Wayne Wells retired this year after over 30 years of excellent service as a Water Commissioner in Division 5. Wayne began his employment with the Division on June 1, 1971 and retired effective February 1, 2002. He started his Water Resources career in Water District 38 administering Thomas Creek, Four Mile Creek, Woody Creek, and Castle Creek. He next moved to Collbran and administered Plateau Creek, Buzzard Creek, and tributaries in Water District 72, and then moved back to Glenwood Springs to lead the well permitting branch through 1974. Wayne then settled into the District 36/37 Water Commissioner position for the next 16 years. In this role, Wayne successfully brought active water administration to the Blue River Basin for the first time and managed a bit of heli-skiing a few winters as part of snow survey work. Finally, Wayne transferred back to Water District 72 as the senior Water Commissioner in Grand Junction for the last 9 years of his career. In this position, he supervised 4 deputy Water Commissioners and managed water administration issues that ranged from contentious ditch disputes on small tributaries to Colorado River mainstem conflicts including the Check Case and endangered fish issues in the 15-Mile-Reach.

During his Water Resources career, Wayne was always a voice of calm and reason during often-turbulent times in water administration. He will be remembered for his excellent dishes at Division 5's monthly potlucks and for his role as Division 5's huckster and horse trader extraordinaire.

~~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.~~

b. Impact of the Budgets on Operations

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• Demands on the Division 5 operating budget come from an increased number of water rights (population increase), a dry year administration, and inspections for the abandonment list. Water Rights in rural areas increase in number and complexity with more rural lands being converted to urban areas. The administration of these transferred water rights becomes more complex and requires additional staff time to administer the additional number of rights plus the complexity. Numerous water users now irrigate on smaller and smaller pastures where a single farmer once irrigated the large field. Since Division 5 has not added water commissioners since 1996, the Counties that make up Division 5 (Summit, Eagle, Grand, Garfield, Pitkin and Mesa) have increased in population approximately 52.9% based on the 2000 Census data. The Colorado average is approximately 30.6% for the same period. Continued growth in the basin continues to reduce the number of large ranches and multiply the number of small tracts. These tracts often are tied to plans of augmentation that place special demands on our Water Commissioners. The irrigation may be through the original ditch where each irrigator demands the time of the Water Commissioner once demanded by the lone farmer. But often the irrigation is accomplished through transfers or alternate points to a pump on the lot owner's property, redoubling the Water Commissioners' workload. Our existing staff is stretched thin and because of their increased duties they rely on overtime to complete their tasks.

• Division 5 exceeded its overtime budget of \$30,120.00 by \$16,676.37. The total over-time budget for Division 5 was \$46,796.37. Because we are budget constrained we have had to decide which duties we will not be able to properly administer.

c. **Operational Concerns**

• The development of the HydroBase Data Entry Tools is the number one non-financial operational concern. The existing tools of WISP, WISPR and RIGHTS are not compatible with new

We have chosen to reduce our administration of augmentation plans in Division 5. We are concerned about the long-term effects of reducing our administration of augmentation plans because it may lead to structures not being constructed and may be impossible in the future to construct. We have seen this scenario in the Spring Creek Ranch Subdivision near Kremmling.

• Dam safety expenditures continue to grow above the \$2600 amount originally transferred to the Division 5 operating budget when the Dam Safety Section was decentralized. Operating funds from the hydrographic allocations and the Ground Water Management Fund help offset the increases in our budget.

~~Demands on the Division 5 operating budget from another dry year, inspections for the abandonment list, and new projects continue to outpace funding. Operating fund adjustments from the hydrographic allocation, the Ground Water Management Fund, and the operation of gages in Aspen and Summit County continue to provide adequate operating funds for the Division.~~

~~Dam safety expenditures continue to grow above the \$2600 amount originally transferred to the Division 5 operating budget when Dam Safety was decentralized.~~

~~For the fourth consecutive year, the Division 5 Water Commissioner overtime budget was fully spent during FY2001. The use of comp time continues to be the only means to comply with the Fair Labor Standards Act. In most cases the comp time is a deserved reprieve for overworked employees, but often the time and a half off is self-defeating and may create the need for additional overtime in the future.~~

technology, cause many tasks to be done twice, and create a lag in the data available outside the Division offices. New printers purchased in 2001 had to

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be returned to the vendor because they could not print these old DOS programs.

- 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,

The development of the HydroBase Data Entry Tools is the number one non-financial operational concern. The existing tools, WISP, WISPR and RIGHTS, are not compatible with new technology, cause many tasks to be done twice, and create a lag in the data available outside the Division offices. New printers purchased in 2001 had to be returned to the vendor because they could not print old DOS programs.

Training for technical operations relating to computer hardware and commercial software among Division staff is adequate. The Division has not provided adequate training for agency-specific tasks. The resources have simply not been set aside, from either a shortage of personnel or from the operating budget. Through planning and possibly the cooperation of other Divisions and the Denver office, this training must be provided.

Quality control and data handling capability with systems designed for user-supplied data is becoming increasingly important. As previously noted, obtaining user-supplied data from small water user groups is problematic but is equally difficult to obtain the data timely from the larger and more sophisticated water users. Developing methods and systems to overcome these issues is one of our challenges ahead.

Continued growth in the basin continues to multiply the number of small tracts. These tracts often are tied to plans of augmentation that place special demands on our Water Commissioners. Numerous water users now irrigate on smaller and smaller pastures where a single farmer once irrigated the large field. The irrigation may be through the original ditch where each irrigator demands the time of the Water Commissioner once demanded by the lone farmer. But often the

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.

- Training for technical operations relating to computer hardware and commercial software among Division staff is adequate. The Division has not provided adequate training for agency-specific tasks. The resources have simply not been set aside, from either a shortage of personnel or from the operating budget. Through planning and possibly the cooperation of other Divisions and the Denver office, this training must be provided.

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irrigation is accomplished through transfers or alternate points to a pump on the lot owner's property, redoubling the Water Commissioners' workload.

II. 2002 WATER YEAR

With the 2001 water year the driest year since 1977 on the mainstem of the Colorado River, we are hopeful for improved run-off and storage conditions in 2002. The year has started with a ~~????-68% of average~~ snowpack as of Feb. 1, 2002. With the spring months of March and April our biggest snow producers, any projections as of this writing can be significantly altered, as seen as recently as 1995.

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 the project was put on hold. The repaired ring seal gate is awaiting installation during the summer of 2002. It will replace the second gate, which will be removed and sent out for repair. The project is anticipated for completion in summer 2003 when the second gate is re-installed. The time schedule for each year is dependent on fill conditions for Green Mountain. In 2001 the risk of not having adequate outlet capacity to release the storage demands of a dry year necessitated a decision to put off the project until 2002.

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 2002

- Diversion Records and Spreadsheets

The existing diversion record spreadsheets have been modified to follow a consistent format to allow data transfer from HYDROBASE via the CDSS Division 5 Workbook. Neither HYDROBASE nor the Workbook is functioning. Once completed, the link between them and the spreadsheets will be developed.

Many ~~Four~~ large water users provide diversion and reservoir information in templates that ~~populate the CDSS Division 5 Workbook in formats or based on assumptions that require major adjustments before diversion/reservoir records are finalized. In a continuing effort, water user meetings will be scheduled so that required data attributes and formats can be established with negotiations required in some cases.~~ CDSS

- Large User Accounting

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and HYDROBASE are both somewhat dependent on this happening. The CDSS workbook will require. These users include Denver Water, Colorado Springs, the Colorado River Water Conservation District, and the US Bureau of Reclamation, to enter diversion and storage data into a template which is compatible with our diversion record format. During 2002 we will improve data acquisition and implement a process to develop diversion records on the fly from linkage to the Workbook, an extraction of the Workbook.

The collection of timely and accurate user-supplied data is one of the most difficult and

time-consuming issues involving diversion records. Many of the records are collected from small water user groups such as homeowners' associations or loosely tied neighbors with well-sharing or augmentation-source-sharing agreements. These small groups tend to often change ownership or at least the person-in-charge. Continual introduction and training place heavy demands on our Water Commissioners. During this coming year we will begin a brainstorming/training process to improve our effectiveness in making requests of all water users. We hope to develop some innovative approaches to this problem.

• **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**

The revised 2000 Abandonment List was filed before December 31, 2001 and contained 157 water rights had XXX protests. These protests will be filed with the Court and are to be litigated in the manner of any Water Court case with opposition. With the majority of research and investigation complete, work in 2002 should primarily involve meeting with the Attorney General staff assigned to the cases. From past experience client/attorney meetings, settlement meetings, and the

development of motions and settlement agreements will consume up to 0.25FTE in 2002. In succeeding years the effort will wane until immediately prior to the final dispensation of the case in 5 to 7 years. The final 1984 Abandonment List (84CW218) was signed by Judge Litwiller on April 1, 1988XXXX, and the final 1990 Abandonment List (91CW278) was signed by Judge Ossola on March 30, 1999XXXX.

• **Tabulation**

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Division 5 continues to receive approximately 350-400 water court applications per year. While some of these cases are withdrawn or dismissed, we project receiving approximately 300 new decrees per year that will need to be entered in the water rights tabulation. These new decrees are in addition to the backlog of untabulated decrees that currently exist. Work on the tabulation has been given significantly more attention in the last couple of years and our goal is to eliminate the backlog and tabulate new decrees as they are received in the future. We estimate this will consume up to 0.5FTE permanently.

Our goal for 2002 is to completely eliminate all tabulation backlog in Districts 39, 45, 50, 51, 52, 53, 70, and 72, decrease the backlog in Districts 36, 37, and 38 to under 100 decrees per district, and tabulate all new decrees that are received. The State Engineer provided additional support for this effort by allocating additional funds to provide winter tabulation work for three part time water commissioners. With the dedication and hard work that these water commissioners have displayed and with an overall effort from the office staff, we feel that these goals are attainable.

C. PERSONNEL, BUDGET, AND OPERATIONS

- The reliance on technology to keep up with an ever-increasing workload continues to require more in-time desktop support, network administration, hardware and software replacement, training, and specific software skills. Currently the Division has that support through an Engineering Phy/Sci Tech II position. With more in-house computer expertise, there has been less reliance on Denver computer support staff. The concern is retention or future recruitment of similar high quality expertise. The Division devotes a fair amount of resources training all new employees and, therefore, is very interested in retaining them. The reliance on technology to keep up with an ever-increasing workload continues to require more in-time desktop support, network administration, hardware and software replacement, training, and specific software skills. The demands make it imperative that Division 5 staff consist of at least a full-time IT professional.

- HYDROBASE awaits the development of the Data Entry Tools. Until they are developed staff time will be consumed QC'ing data to be ported into HYDROBASE. This data is used by the CDSS tools and is incomplete almost before it is available. This discourages the use of the CDSS tools, and will require retraining of these tools when HYDROBASE has real-time 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 inter-related 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 that are likely to stay. Development of higher top end steps in the career path for our top technicians would improve employee job satisfaction. 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.

Information technology has increased the man-hours needed for computer support within the Division office. Currently the Division has that support through an Engineering Phy/Sci Tech II position. With more in-house computer expertise, there has been less reliance on Denver computer support staff. The concern is retention or future recruitment of similar high quality expertise. The Division devotes a fair amount of resources training all new employees and, therefore, is very interested in retaining them.

D. DAM SAFETY ISSUES FOR THE FUTURE

- 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. In this Division a risk assessment approach is viewed as a needed method to determine the inspection frequency in the future because of the ever-increasing workload problems.

- Another dam safety issue that will have an effect of 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 incidences that will occur as the population grows and we have little quality control over the construction of these ponds. In 2001 over a dozen non-jurisdictional dams were discovered on one creek in District 72 all in line with each other and many did not have

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

spillways. As development occurs on this creek, a public safety concern will become a reality.

- 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. As a result, about 35 dams identified over the last several years as needing their hazard ratings checked have not been done. 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 about 25 to 30 man-weeks to accomplish this. This does not include training time if other personnel are to be used. This last year, four hazard evaluations were accomplished and one was in conjunction with the Lake Christine incident that occurred and was not even on the aforementioned list.

- Another item of concern is the health and recovery of our Dam Safety Engineer John Blair after his vehicular accident. It is still 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.

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.

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APPENDIX A: WATER COURT ACTIVITIES

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CALENDAR YEAR 2001

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Applications Made to Water Court...(01CW...)	379
Div 5 DWR – Colorado River.....	356
Div 6 DWR – White River.....	23
No. of Consultations With Referee.....	408
No. of Complaints.....	0
No. of Withdrawn Cases.....	7
No. of Dismissals.....	15
No. of Denials.....	1

NO. OF CASES DECREED BY WATER COURT 255 (see breakdown below)

<u>TYPE OF DECREE</u>	<u># Cases (in addition to combination cases)</u>	<u># Structures</u>
Findings of Diligence on Conditional Rights	89	258
Cancellations of Conditional Rights	35	86
Conditional Rights Made Absolute	9	36
Surface Water Rights Adjudicated	28	143
Underground Water Rights Adjudicated	5	66
Water Storage Rights Adjudicated	4	52
Plans for Augmentation Adjudicated	4	9
Aug Plan Structures in Combination Cases		118
Changes of Water Right Adjudicated (includes location, use, amount, alt pts dvr, chg pts dvr)	16	65
Instream Flow Rights Adjudicated	8	n/a
Amend Augmentation Plans	2	60
Exchanges	1	40
Combination Cases (includes combinations of above not otherwise tallied here, e.g., surface/storage/aug plan OR underground/change pt dvr/aug plan, etc.)	54	<u>itemized above</u>
Total:	255	933

APPENDIX B: RIVER CALLS

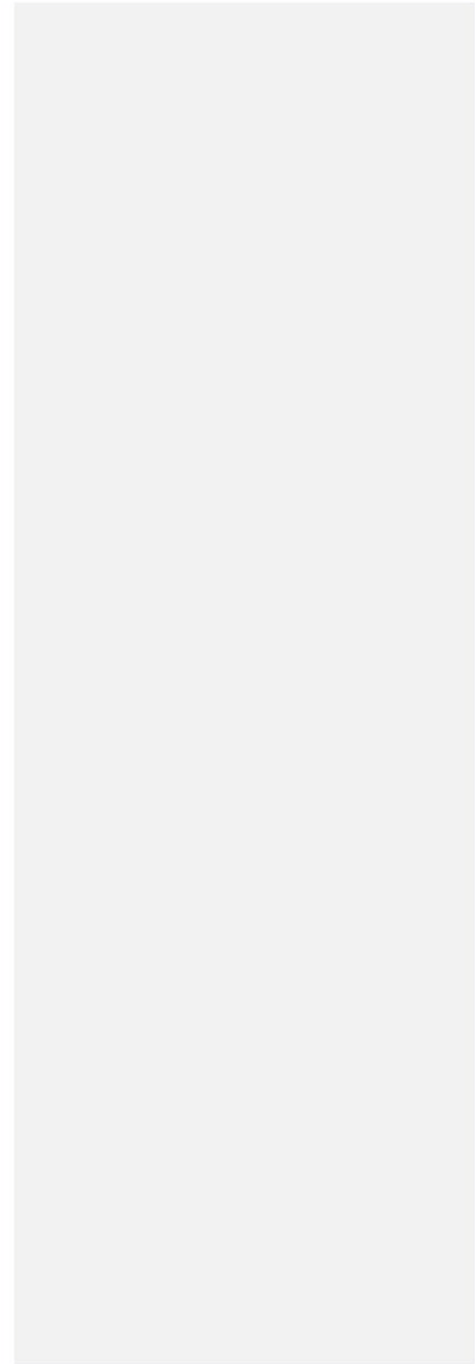
SUMMARY OF COLORADO RIVER CALLS
2001 IRRIGATION YEAR
COLORADO RIVER MAINSTEM
GOVERNING CALL ABOVE
SHOSHONE POWER PLANT
(DISTRICTS 36, 37, 50, 51, 52, 53)

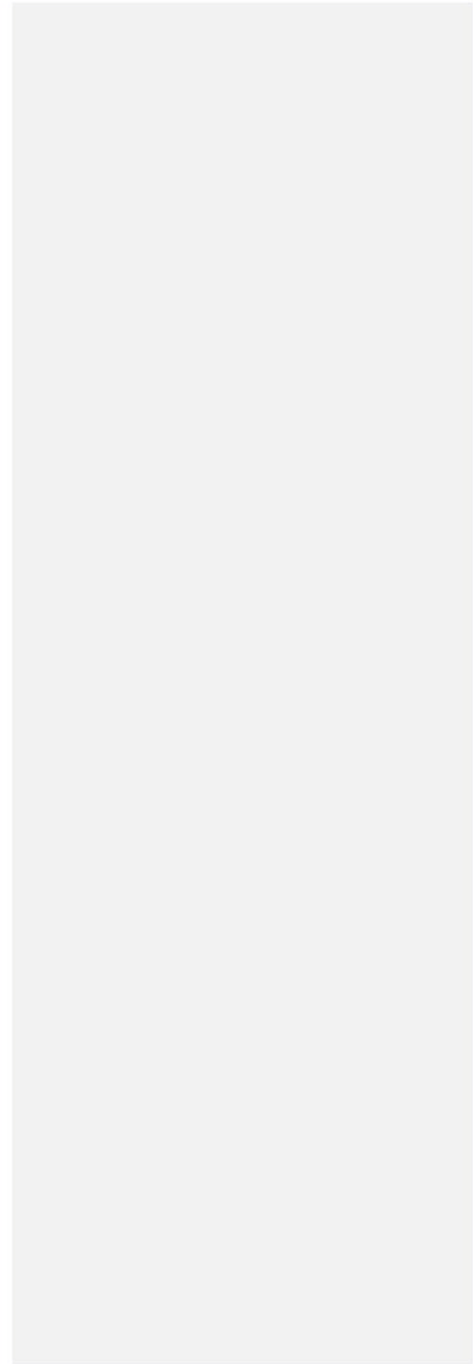
<u>Date On</u>	<u>Date Off</u>	<u>No Days</u>	<u>Calling Water Right</u>	<u>Decreed</u>	<u>Administrative</u>
	<u>Call On</u>			<u>Amount</u>	<u>Number</u>
<u>11.01.00</u>	<u>04.19.01</u>	<u>169</u>	<u>Shoshone Power Plant</u>	<u>1250 cfs</u>	<u>20427.18999</u>
<u>04.20.01</u>	<u>04.24.01</u>	<u>5</u>	<u>Shoshone Power Plant</u>	<u>1250 cfs</u>	<u>20427.18999</u>
<u>04.25.01</u>	<u>04.27.01</u>	<u>2</u>	<u>Shoshone Power Plant</u>	<u>1250 cfs</u>	<u>20427.18999</u>
<u>04.27.01</u>	<u>04.30.01</u>	<u>4</u>	<u>Shoshone Power Plant</u>	<u>1250 cfs</u>	<u>20427.18999</u>
<u>06.24.01</u>	<u>06.25.01</u>	<u>1</u>	<u>Shoshone Power Plant</u>	<u>158 cfs</u>	<u>33023.28989</u>
<u>06.30.01</u>	<u>07.02.01</u>	<u>3</u>	<u>Shoshone Power Plant</u>	<u>158 cfs</u>	<u>33023.28989</u>
<u>07.03.01</u>	<u>07.16.01</u>	<u>14</u>	<u>Shoshone Power Plant</u>	<u>158 cfs</u>	<u>33023.28989</u>
<u>07.17.01</u>	<u>07.25.01</u>	<u>9</u>	<u>Shoshone Power Plant</u>	<u>1250 cfs</u>	<u>20427.18999</u>
<u>07.26.01</u>	<u>07.29.01</u>	<u>4</u>	<u>Shoshone Power Plant</u>	<u>1250 cfs</u>	<u>20427.18999</u>
<u>07.30.01</u>	<u>08.08.01</u>	<u>10</u>	<u>Shoshone Power Plant</u>	<u>1250 cfs</u>	<u>20427.18999</u>
<u>08.09.01</u>	<u>08.10.01</u>	<u>2</u>	<u>Shoshone Power Plant</u>	<u>158 cfs</u>	<u>33023.28989</u>
<u>08.11.01</u>	<u>08.30.01</u>	<u>20</u>	<u>Shoshone Power Plant</u>	<u>1250 cfs</u>	<u>20427.18999</u>
<u>08.31.01</u>	<u>10.31.01</u>	<u>62</u>	<u>Shoshone Power Plant</u>	<u>1250 cfs</u>	<u>20427.18999</u>

COLORADO RIVER MAINSTEM
GOVERNING CALL ABOVE CAMEO DIVERSIONS
(DISTRICTS 38, 39, 45, 70, 72)

<u>Date On</u>	<u>Date Off</u>	<u>No. Days</u>	<u>Calling Water Right</u>	<u>Decreed</u>	<u>Administrative</u>
	<u>Call On</u>			<u>Amount</u>	<u>Number</u>
<u>04.25.01</u>	<u>04.27.01</u>	<u>2</u>	<u>Grand Valley Water Users</u>	<u>730 cfs</u>	<u>22729.21241</u>
<u>08.28.01</u>	<u>09.18.01</u>	<u>22</u>	<u>Grand Valley Irrigation Company</u>	<u>119 cfs</u>	<u>30895.23491</u>
<u>09.26.01</u>	<u>09.27.01</u>	<u>2</u>	<u>Grand Valley Irrigation Company</u>	<u>119 cfs</u>	<u>30895.23491</u>
<u>09.28.01</u>	<u>10.16.01</u>	<u>19</u>	<u>Grand Valley Water Users</u>	<u>730 cfs</u>	<u>22729.21241</u>

APPENDIX C. **DIVISION 5 ORGANIZATIONAL CHART**





APPENDIX D: OFFICE ADMINISTRATION & WORKLOAD MEASURES

PERSONNEL

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NAME	WORKING TITLE FY 2001	DISTRICT	FY 01 MONTHS 7/1/00 - 6/30/01		FY 01 MILES DRIVEN (REIMBURSABLE)	
			Budgeted	Worked	2 wheel	4 wheel
OFFICE STAFF						
Orlyn Bell	PE IV Division Engineer		12	3	-	-
Alan Martellaro	PE-IV Division Engineer		-	9	1084	-
Alan Martellaro	PE III Assistant Division Engineer		12	5	-	-
John Sikora	PE III Assistant Division Engineer		-	2	280	-
Judy Sappington	PE II River Administrator		12	12	-	-
George Wear	PE I Hydrographer 8/22/01		12	10	640	-
John Blair	PE II Dam Safety Engineer		12	12	237	-
Dwight Whitehead	EPST II Wells Commissioner		12	12	488	-
Steve Pope	EPST I Wells & Wtr Commissioner	Office/45	12	12	4668	1572
Brian Romig	EPST II GIS and IT Support		12	12	728	-
George Wear	EIT-1 Aug Plan Coordinator		12	2	-	-
Kyle Whitaker	EIT-1 Aug Plan Coordinator 9/20/01		-	9	610	440
Nancy Hitchcock	PA I Program Assistant		12	12	-	-
Kasi Rishel	AA I Administrative Assistant		7.2	6.5	-	-
FULL TIME EMPLOYEES IN THE FIELD						
Scott Hummer	EPST II Water Commissioner	36	12	12	-	-
Vacant – see temps	EPST II Water Commissioner	38	12	0	-	-
Larry Gepfert	EPST II Water Commissioner	38	12	10	2351	62
Bob Klenda	EPST II Water Commissioner	45	12	12	-	-
Bill Thompson	EPST II Water Commissioner	50	12	12	4542	2722
Wayne Wells	EPST III Water Commissioner	72	12	12	94	-
PERMANENT PART TIME EMPLOYEES IN THE FIELD						
Bill McEwen	EPST II Water Commissioner	37	11	11	2293	130
Jim Lemon	EPST I Water Commissioner	39	9	9	9427	-
Jim Daxton	EPST I Water Commissioner	51	8	8	10497	1460
Frank Schaffner	EPST I Water Commissioner	52/53	8	8	7402	2199
Don Mackey	EPST I Water Commissioner	70	8	8	9383	1820
Tom Brigham	EPST I Water Commissioner	72	10	10	2357	7773
Alan Comerer	EPSA II Water Commissioner	72	6	6	3688	2120
Tom Cox	EPSA III Water Commissioner	72	9	9	164	6335
Ron Greene	EPSA II Water Commissioner	72	6	6	3933	3642
continued on the next page						

2001 Division 5 Water Resources Annual Report

NAME	WORKING TITLE -- FY2001	DISTRICT	FY 01 MONTHS 7/1/00 - 6/30/01		FY 01 MILES DRIVEN (REIMBURSABLE)	
			Budgeted	Worked	2 wheel	4 wheel
TEMPORARY PART TIME EMPLOYEES IN THE FIELD						
Sam Neth	EPST I Water Commissioner	38	6	6	1534	-
Michael Cone	EPST I Water Commissioner	38	6	1.75	1477	-
Kae McDonald	EPST I Water Commissioner	38	6	1.5	675	262
	Total Worker Months:			260.75		
	Total FTE:			21.73		
	Subtotal Reimbursable Miles Driven:				68,552	30,537

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APPENDIX D: OFFICE ADMINISTRATION AND WORKLOAD MEASURES (continued)

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ACTIVITY SUMMARY

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CALENDAR YEAR 2001

<u>ACTIVITY</u>	<u>TOTALS</u>
Professional and Technical Staff (FTE)	6.0
Clerical Staff (FTE)	1.6
Water Commissioner FTE (Full/Part Time)	6/7.76
Decreed Surface Water Structures (cumulative)	To be determined when tabulation complete
Surface Rights Administered (Site Visits) (from time sheets)	9,656
Number of Decreed Wells (cumulative)	To be determined when tabulation complete
Consultations With Referee	408
Water Court Appearances (from time sheets)	0
Meetings With Water Users (Public Meetings) (from time sheets)	92
Meetings To Resolve Water Related Disputes	Not on time sheets
Contacts to Give Public Assistance on Water Matters ** (from time sheets)	Total Contacts** (5,062 personal contacts) (12,535 phone)
Dams Visited (from time sheets)	236
Wells Visited (from time sheets)	258
Surface Structures Administered by Phone (from time sheets)	438

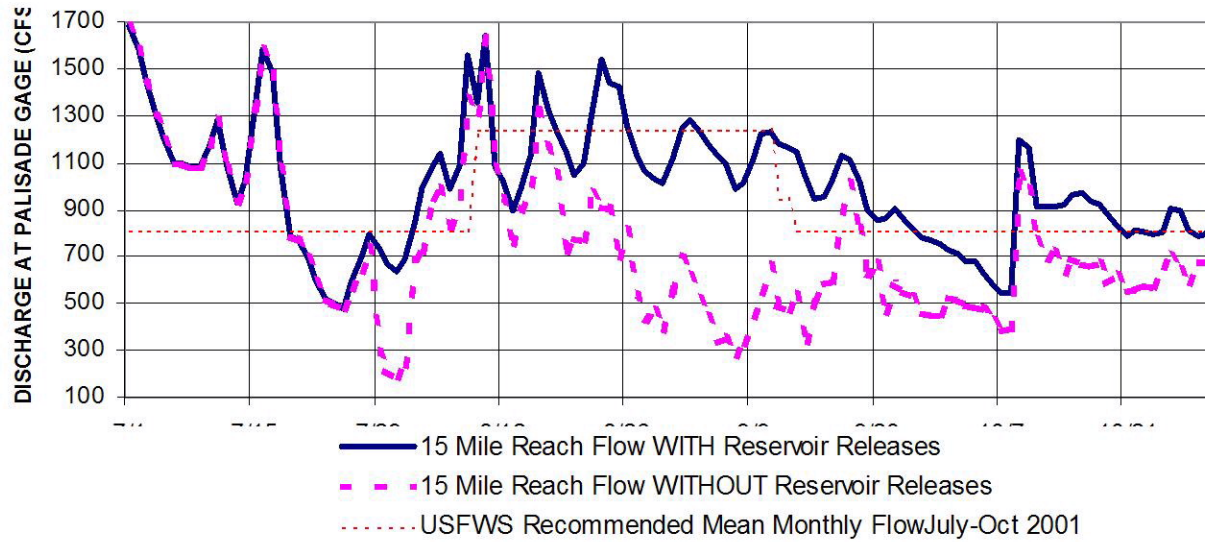
** Contacts - Excludes Office Exempt Staff and 3 Office EPS Tech Positions

-- Due to glitches in new payroll/timekeeping system, not all months included Activity Summary data.

APPENDIX E: GRAPHS & TABLES

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IMPACT OF LATE IRRIGATION SEASON RESERVOIR RELEASES IN THE 15 MILE REACH
(As Measured at the Colorado River at Palisade Gage)
2001 LATE SUMMER/FALL



2001	RELEASES TO 15 MILE REACH (CFS)					DELIVERIES AT 15 MILE REACH AFTER TRANSPORT LAGS AND LOSSES(CFS)						15-Mile Reach Flow (cfs)		
	Green Mtn	Ruedi	Wolford	Dillon	Williams Fk	Green Mtn	Ruedi	Wolford	Dillon	Williams Fk	Palisade By	TOTAL	WITH	WITHOUT
	HUP Surplus 66,000 AF	Contr Fish 20,825 AF	Contr Fish 11,412 AF		Contr Fish 5,412.5 AF	HUP Surplus 3-day, 10%	Contr Fish 2-day, 10%	Contr Fish 3-day, 10%		Contr Fish 3-day, 10%	Pass Pipeline	(CFS)	Deliveries using Admin Flow	Deliveries using Admin Flow
07/01/2001	0	0	0		0						0	0	1680	1680
07/02/2001	0	0	0		0						0	0	1580	1580
07/03/2001	0	0	0	included	0		0	included			0	0	1440	1440
07/04/2001	0	0	0	in release	0	0	0	in releases		0	0	0	1300	1300
07/05/2001	0	0	0	from	0	0	0	from		0	0	0	1200	1200
07/06/2001	0	0	0	Green Mtn	0	0	0	Green Mtn		0	0	0	1100	1100
07/07/2001	0	0	0	Reservoir	0	0	0	Reservoir		0	0	0	1100	1100
07/08/2001	0	0	0		0	0	0			0	0	0	1080	1080
07/09/2001	0	0	0		0	0	0			0	0	0	1080	1080
07/10/2001	0	0	0		0	0	0			0	0	0	1170	1170
07/11/2001	0	0	0		0	0	0			0	0	0	1280	1280
07/12/2001	0	0	0		0	0	0			0	0	0	1080	1080
07/13/2001	0	0	0		0	0	0			0	0	0	928	928
07/14/2001	0	0	0		0	0	0			0	0	0	1020	1020
07/15/2001	0	0	0		0	0	0			0	0	0	1330	1330
07/16/2001	0	0	0		0	0	0			0	0	0	1580	1580
07/17/2001	0	0	0		0	0	0			0	0	0	1480	1480
07/18/2001	0	0	0		0	0	0			0	0	0	1080	1080
07/19/2001	0	0	0		0	0	0			0	0	0	784	784
07/20/2001	0	0	0		0	0	0			0	0	0	767	767
07/21/2001	0	0	0		0	0	0			0	0	0	692	692
07/22/2001	0	0	0		0	0	0			0	0	0	594	594
07/23/2001	0	0	0		0	0	0			0	0	0	518	518
07/24/2001	0	35	0		0	0	0			0	0	0	500	500
07/25/2001	0	67	0		0	0	0			0	0	0	477	477
07/26/2001	427	67	0		0	0	32	0		0	0	32	596	565
07/27/2001	439	67	0		0	0	61	0		0	0	61	697	636

2001 Division 5 Water Resources Annual Report

	RELEASES TO 15-MILE-REACH (CFS)				DELIVERIES AT 15-MILE REACH AFTER TRANSPORT LAGS AND LOSSES (CFS)							15-Mile-Reach Flow (cfs)		
	Green Mtn HUP Surplus 66,000 AF	Ruedi Contr Fish 20,825 AF	Wolford Contr Fish 11,412 AF	Dillon	Williams Fk Contr Fish 5,412.5 AF	Green Mtn HUP Surplus 3-day, 10%	Ruedi Contr Fish 2-day, 10%	Wolford Contr Fish 3-day, 10%	Dillon	Williams Fk Contr Fish 3-day, 10%	Palisade By-pass Pipeline	TOTAL (CFS)	WITH Deliveries Using Admin Flow	WITHOUT Deliveries Using Admin Flow
07/28/2001	439	67	0		0	0	60	0		0	0	60	795	735
07/29/2001	443	68	0		0	384	60	0		0	0	445	734	289
07/30/2001	47	67	20		33	395	61	0		0	0	456	669	213
07/31/2001	167	67	40		40	395	61	0		0	0	456	638	182
08/01/2001	0	67	40		40	399	61	0		0	0	459	690	231
08/02/2001	17	67	40		40	42	61	18		30	0	151	837	686
08/03/2001	41	67	40		40	150	61	36		36	0	283	1000	717
08/04/2001	0	68	40		40	0	60	36		36	0	132	1080	948
08/05/2001	57	68	40		40	15	61	36		36	0	148	1140	992
08/06/2001	0	69	40		0	37	61	36		36	0	170	988	818
08/07/2001	0	21	10		0	0	61	36		36	0	133	1090	957
08/08/2001	0	0	0		0	51	62	36		36	0	185	1560	1375
08/09/2001	32	0	0		0	0	19	36		0	0	55	1360	1305
08/10/2001	58	50	0		0	0	0	9		0	0	9	1640	1631
08/11/2001	0	100	0		0	0	0	0		0	0	0	1080	1080
08/12/2001	0	100	35		0	29	45	0		0	0	74	1020	946
08/13/2001	0	100	70		0	52	90	0		0	0	142	896	754
08/14/2001	0	100	70		0	0	90	0		0	0	90	986	896
08/15/2001	0	105	78		0	0	90	32		0	0	122	1130	1009
08/16/2001	179	130	90		80	0	90	63		0	0	153	1480	1327
08/17/2001	0	130	90		80	0	95	63		0	0	158	1320	1163
08/18/2001	64	130	90		80	0	117	70		0	0	187	1240	1053
08/19/2001	64	130	90		80	161	117	81		72	0	431	1150	719
08/20/2001	343	130	90		80	0	117	81		72	0	270	1050	780
08/21/2001	238	130	90		80	58	117	81		72	0	328	1100	772
08/22/2001	447	130	90		80	58	117	81		72	15	343	1310	967
08/23/2001	138	130	90		80	309	117	81		72	45	624	1540	916
08/24/2001	307	130	90		80	214	117	81		72	50	534	1440	906
08/25/2001	352	130	90		80	402	117	81		72	50	722	1420	698

2001 Division 5 Water Resources Annual Report

RELEASES TO 15-MILE-REACH (CFS)													DELIVERIES AT 15-MILE-REACH AFTER TRANSPORT LAGS AND LOSSES (CFS)			15-Mile-Reach Flow (cfs)	
Green Mtn HUP Surplus 66,000 AF	Ruedi Contr Fish 20,825 AF	Wolford Contr Fish 11,412 AF	Dillon	Williams Fk Contr Fish 5,412.5 AF	Green Mtn HUP Surplus 3-day, 10%	Ruedi Contr Fish 2-day, 10%	Wolford Contr Fish 3-day, 10%	Dillon	Williams Fk Contr Fish 3-day, 10%	Palisade By-pass Pipeline	TOTAL (CFS)	WITH Deliveries Using Admin Flow	WITHOUT Deliveries Using Admin Flow				
08/26/2001	292	130	90	80	124	117	81		72	50	444	1260	816				
08/27/2001	397	130	91	80	276	117	81		72	50	596	1130	534				
08/28/2001	323	130	90	80	317	117	81		72	50	637	1060	423				
08/29/2001	275	130	90	122	263	117	81		72	30	563	1030	467				
08/30/2001	382	130	90	130	357	117	82		72	0	628	1010	382				
08/31/2001	442	130	90	130	291	117	81		72	0	561	1110	549				
09/01/2001	465	130	90	130	248	117	81		110	0	555	1250	695				
09/02/2001	533	130	90	130	344	117	81		117	0	659	1280	621				
09/03/2001	479	130	90	130	398	117	81		117	0	713	1230	517				
09/04/2001	433	130	90	130	419	117	81		117	0	734	1180	447				
09/05/2001	331	145	115	130	480	117	81		117	0	795	1130	335				
09/06/2001	245	185	140	130	431	117	81		117	0	746	1100	354				
09/07/2001	200	230	140	130	390	131	81		117	0	718	991	273				
09/08/2001	101	230	140	102	298	167	104		117	0	685	1010	325				
09/09/2001	324	229	140	0	221	207	126		117	0	671	1110	440				
09/10/2001	325	230	140	0	180	207	126		117	50	680	1220	540				
09/11/2001	224	230	140	0	91	206	126		92	50	565	1230	665				
09/12/2001	308	230	140	0	292	207	126		0	60	685	1180	495				
09/13/2001	87	210	125	0	293	207	126		0	70	696	1160	465				
09/14/2001	80	155	90	0	202	207	126		0	80	615	1150	535				
09/15/2001	236	130	0	0	277	189	126		0	100	692	1030	338				
09/16/2001	141	130	0	0	78	140	113		0	100	430	942	512				
09/17/2001	0	130	0	0	72	117	81		0	100	370	957	587				
09/18/2001	84	112	0	0	212	117	0		0	100	429	1020	591				
09/19/2001	160	138	0	0	127	117	0		0	0	244	1130	886				
09/20/2001	66	155	0	0	0	101	0		0	0	101	1110	1009				
09/21/2001	315	135	0	0	76	124	0		0	0	200	1020	820				
09/22/2001	210	135	0	0	144	140	0		0	0	284	900	617				
09/23/2001	192	135	0	0	59	122	0		0	0	181	853	672				

2001 Division 5 Water Resources Annual Report

RELEASES TO 15-MILE-REACH (CFS)													DELIVERIES AT 15-MILE-EACH AFTER TRANSPORT LAGS AND LOSSES (CFS)			15-Mile-Reach Flow (cfs)	
	Green Mtn HUP Surplus 66,000 AF	Ruedi Contr Fish 20,825 AF	Wolford Contr Fish 11,412 AF	Dillon	Williams Fk Contr Fish 5,412.5 AF	Green Mtn HUP Surplus 3-day, 10%	Ruedi Contr Fish 2-day, 10%	Wolford Contr Fish 3-day, 10%	Dillon	Williams Fk Contr Fish 3-day, 10%	Palisade By-pass Pipeline	TOTAL (CFS)	WITH Deliveries Using Admin Flow	WITHOUT Deliveries Using Admin Flow			
09/24/2001	179	145	0		0	284	122	0		0	0	405	862	457			
09/25/2001	211	145	0		0	189	122	0		0	0	311	900	590			
09/26/2001	207	145	0		0	173	131	0		0	0	303	855	552			
09/27/2001	188	145	0		0	161	131	0		0	0	292	818	526			
09/28/2001	85	145	0		0	190	131	0		0	0	320	782	462			
09/29/2001	68	145	0		0	186	131	0		0	0	317	770	453			
09/30/2001	64	145	0		0	169	131	0		0	0	300	753	453			
10/01/2001	34	145	0		0	77	131	0		0	0	207	730	523			
10/02/2001	0	181	0		0	61	131	0		0	0	192	713	521			
10/03/2001	1	170	0		0	58	131	0		0	0	188	678	490			
10/04/2001	0	170	0		0	31	163	0		0	0	194	679	486			
10/05/2001	0	170	0		0	0	153	0		0	0	153	629	476			
10/06/2001	0	165	0		0	1	153	0		0	0	154	580	426			
10/07/2001	0	165	0		0	0	153	0		0	0	153	540	387			
10/08/2001	0	165	0		0	0	149	0		0	0	149	543	395			
10/09/2001	182	125	0		0	0	149	0		0	0	149	1200	1052			
10/10/2001	180	40	0		0	0	149	0		0	26	175	1160	986			
10/11/2001	289	0	0		0	0	113	0		0	26	139	909	771			
10/12/2001	225	0	50		0	164	36	0		0	26	226	913	687			
10/13/2001	255	0	50		0	162	0	0		0	26	188	909	721			
10/14/2001	222	0	50		0	260	0	0		0	26	286	918	632			
10/15/2001	193	0	50		0	202	0	45		0	26	273	967	694			
10/16/2001	244	0	50		0	230	0	45		0	26	301	972	672			
10/17/2001	146	0	50		0	200	0	45		0	26	271	934	663			
10/18/2001	179	0	50		0	174	0	45		0	26	245	917	672			
10/19/2001	194	0	50		0	219	0	45		0	26	290	875	585			
10/20/2001	174	0	50		0	131	0	45		0	26	202	825	623			
10/21/2001	170	0	50		0	161	0	45		0	26	232	784	552			
10/22/2001	89	0	50		0	174	0	45		0	26	245	810	565			

2001 Division 5 Water Resources Annual Report

	RELEASES TO 15-MILE REACH (CFS)				DELIVERIES AT 15-MILE REACH AFTER TRANSPORT LAGS AND LOSSES (CFS)								15-Mile-Reach Flow (cfs)		
	Green Mtn HUP Surplus 66,000 AF	Ruedi Contr Fish 20,825 AF	Wolford Contr Fish 20,825 AF	Dillon	Williams Fk Contr Fish 5,412.5 AF	Green Mtn HUP Surplus 3-day, 10%	Ruedi Contr Fish 2-day, 10%	Wolford Contr Fish 3-day, 10%	Dillon	Williams Fk Contr Fish 3-day, 10%	Palisade By-pass Pipeline	TOTAL (CFS)	WITH Deliveries Using Admin Flow	WITHOUT Deliveries Using Admin Flow	
10/23/2001	144	0	50		0	157	0	45		0	26	228	804	576	
10/24/2001	205	0	50		0	153	0	45		0	26	224	795	571	
10/25/2001	228	0	0		0	80	0	45		0	26	151	802	651	
10/26/2001	94	0	0		0	130	0	45		0	26	201	901	700	
10/27/2001	100	0	0		0	185	0	45		0	26	256	900	645	
10/28/2001	118	0	0		0	205	0	0		0	26	231	816	585	
10/29/2001	91	0	0		0	85	0	0		0	26	111	785	674	
10/30/2001	78	0	0		0	90	0	0		0	28	118	797	679	
10/31/2001	45	0	0		0	106	0	0		0	28	134	901	767	
11/01/2001															
TOTAL CFS	16,829	9,873	4,324	0	2,707	14953	8886	3892	0	2436	1626	31793	1,006	747	
TOTAL AF	33,380	19,584	8,577	0	5,369	29653	17621	7717	0	4831	3224	63061			
Remaining:	32,620	12,066	-2,577												

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APPENDIX F: **TRANSMOUNTAIN DIVERSIONS**

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2001 Division 5 Water Resources Annual Report

APPENDIX G: STORAGE WATER

RESERVOIR STORAGE SUMMARIES BY DISTRICT

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APPENDIX H: WATER DIVERSION SUMMARIES

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2001 Division 5 Water Resources Annual Report

APPENDIX H: WATER DIVERSION SUMMARIES

To Other Various Uses (in AF)

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