

StreamLines

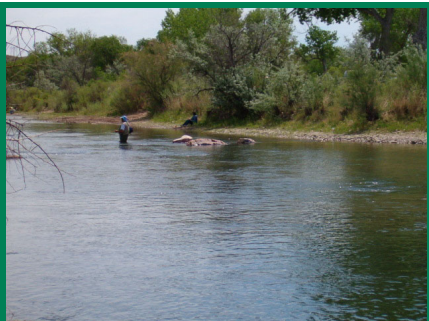
Quarterly Newsletter of the Office of the State Engineer

Impact of Inter-Governmental Agreements in the Arkansas River Basin

William Tyner, Assistant Division Engineer, Division 2

Arkansas River Flow Management Program

In 2004, an Intergovernmental Agreement (IGA) was executed between the cities of Pueblo, Colorado Springs and Aurora, and the Pueblo Board of Water Works, that involved, among other items, a complicated scheme to manage flows on the Arkansas River through the City of Pueblo. This aspect of the agreement was entitled the "Arkansas River Flow Management Program" and sought to regulate exchanges of water into Pueblo Reservoir that would impact river flows to the detriment of the City of Pueblo's Arkansas River Corridor Legacy Project. The City of Pueblo had filed for a Recreational In-Channel Diversion in a 2001 Water Court case in



A fisherman tries his luck below one of the boulder clusters placed as part of the Legacy Project in the Arkansas River just west of Pueblo.

Division 2 Water Court to support the furtherance of the Legacy Project, and the IGA was viewed as a key instrument of cooperation to preserve flows on the Arkansas River through Pueblo.

One principle of the IGA included the support of stream flows in the Arkansas River Basin sufficient to enhance and protect recreation, the environment, agriculture, economic development, and water quality.

Participants in the IGA and the Flow Management Program agreed to voluntarily suspend exchanges of water into Pueblo Reservoir that would otherwise cause reductions of flow below target levels set at key gaging locations below Pueblo Reservoir. These flow targets included a year-round target level at the gage just below Pueblo Reservoir of 100 cubic feet per second (cfs) and recreation flows at varying higher levels per an agreed upon format during the period from mid-March through mid-November.

A Flow Management Committee was established consisting of up to two technical representatives from each party to "regularly confer and coordinate" concerning implementation of the Flow Management Agreement. Key objectives of this

committee were to resolve disputes, evaluate storage restoration operations for recovery years following years of reduced streamflow due to drought and evaluation of the potential for "equitable allocation of operational hours." The concept of equitable allocation of operational hours had the intent of curtailing exchanges during

(Continued on page 2)

Inside this issue:

Canyons of the Ancients	3
North Gunnison Sewer Extension Project	5
Status of Arkansas River Compact Litigation	6
Human Resources	6
Calendar of Events <i>(back cover)</i>	



Impact of Inter-Governmental Agreements in the Arkansas River Basin *(cont.)*

daytime hours, but allowing exchanges at night during times when recreational opportunities were limited. This aspect of the agreement has not been implemented due to the heavy additional administration requirement and the real potential for injury of downstream water rights.

Restoration of Yield (ROY) Program

In 2005, Aurora, Colorado Springs, Fountain, the Pueblo Board of Water Works (PBWW), and the Southeastern Colorado Water Conservancy District (SECWCD) developed a plan entitled Restoration of Yield (ROY) to recover a portion of the un-exchangeable water from operation of the Flow Management Program. Each of these entities would normally store water from either Fountain Creek flows or the City of Pueblo wastewater outflows by exchange into Pueblo Reservoir. Water most normally exchanged for storage is fully consumable transmountain water imported to the Arkansas River Basin from the Colorado River Basin via the Fryingpan-Arkansas Project, Twin Lakes Tunnel, Busk-Ivanhoe Tunnel or Homestake Tunnel as well as through various transmountain ditches. Water rights changed in Water Court to municipal use or allowed to be temporarily used for municipal use (i.e., Rocky Ford Ditch and Rocky Ford Highline Canal) downstream of the confluence of Fountain Creek and the Arkansas River

are also types of water exchanged into Pueblo Reservoir. It is extremely important to each of these municipalities to reuse fully consumable water sources to the greatest extent possible to reduce demands placed on the Colorado River Basin and to limit impacts on agricultural uses of water in the Arkansas River Basin.

The plan developed by the above ROY participants was put together with cooperation from the Colorado Canal Company for use of their canal system and storage in Lake Meredith or Lake Henry and from the Holbrook Mutual Irrigation Company for use of their canal system and storage in Holbrook and Dye Reservoirs. Water types from each municipal system had to be carefully tracked using the municipal accounting systems and using transit loss modeling on Fountain Creek and the Arkansas River in order to properly quantify amounts of water that were voluntarily not exchanged from the confluence of Fountain Creek and the Arkansas River into Pueblo Reservoir. Each day, a total of all types of fully consumable water for the participants was computed and a transit loss to either the



Fountain Creek just above the confluence with the Arkansas River in Pueblo. Most of the flow during low flows is transmountain water destined for storage and reuse by municipal entities.

Colorado Canal headgate or Holbrook Canal headgate was determined in order to ensure that the correct amount of water was available at the point of storage without detriment to senior water rights diverting available native supply or reservoir releases.

By delivering fully consumable water to the storage vessels listed above during times when exchanges are voluntarily curtailed or curtailed as a result of operation of the priority system, the municipal entities salvage much of their municipal return flows and can normally wait for times of high river flows to exchange into Pueblo Reservoir or other upstream vessels without impacting the Legacy Project flows through Pueblo. These municipalities were also able to exchange their stored water by trading water types with Holbrook Canal or Colorado Canal. For example, Holbrook and Colorado Canal are participants in the Pueblo Winter Water Storage Program and ended up with some Winter Water stored in Pueblo Reservoir. Water stored by ROY participants in either Colorado Canal's reservoirs or Holbrook Mutual Irrigation Company's reservoirs was "paper" exchanged by swapping water types with Winter Water stored in Pueblo Reservoir. Each canal company benefited by being able to use water directly from their own reservoirs rather than suffering transit losses on deliveries from Pueblo Reservoir.

A secondary benefit, particularly to the Holbrook Mutual Irrigation Company, included improvements made to the Company reservoirs. These improvements included

Impact of Inter-Governmental Agreements in the Arkansas River Basin (cont.)

repairs to gates and measuring devices, installation of additional measuring devices and updating of reservoir surveys used to determine

how much water is being stored in each reservoir based on the reservoir elevation.

already complex and difficult to administer during the summer season when short duration precipitation events can cause swings in the river call regimen.

Summary

As stated above, due to the complexities involved in partial day operation of exchanges, this provision of the Flow Management Program was not implemented and would be very difficult for Division of Water Resources staff and reservoir operations staff to administer with the tools currently available for the Arkansas Basin. The potential for injury would be particularly great with variable flows on a river system that is

Cooperation among agencies was prominent throughout the program and each entity involved is to be commended for their efforts to make these programs work. Participants in the ROY plan were able to recoup approximately 13,000 acre-feet of water through these innovative operations while honoring the provisions of the Flow Management Program to attempt to mitigate flow impacts through Pueblo.



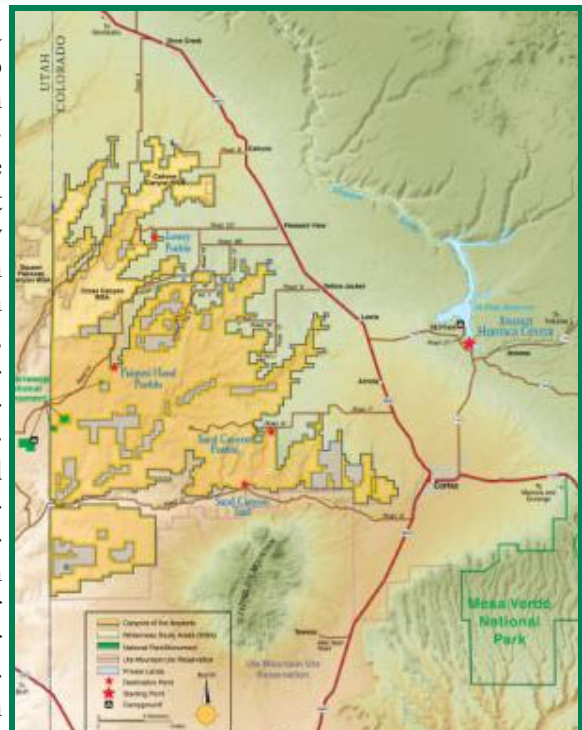
Two-staged weir retrofitted into an existing control on the inlet to Holbrook Reservoir to provide a means of measurement of reservoir deliveries by ROY participants or Holbrook Mutual Irrigation Company.

Canyons of the Ancients — Instream Flow or Not?

Bruce T. Whitehead, Assistant Division Engineer, Division 7

For nearly 10,000 years, people have inhabited the Four Corners area. The earliest hunters and gatherers that lived in parts of southwest Colorado are now known as the Anasazi or “ancient ones.” In an effort to protect the estimated 20,000 archeological sites and ruins in an area managed by the Bureau of Land Management (BLM), President Bill Clinton evoked a 1906 federal law allowing designation of specified federal lands as national monuments. Even though there was a lack of local consensus, President Clinton signed a proclamation designating 164,000 acres as the Canyons of the Ancients National Monument in June of 2000.

somewhat remote arid area of southwestern Colorado and extends to the Utah border. The primary hydrologic feature within the monument is Yellowjacket Creek, which is a tributary to McElmo Creek and then the San Juan River in Utah. After designation, the Bureau of Land Management initiated a program of flow data collection, and has expressed interest in working cooperatively with the Colorado Water Conservation Board (CWCB) to file for an instream flow water right through the monument. As was true with the designation of the national monument, the possibility of a filing for



Vicinity Map Canyon of the Ancients National Monument

The Canyon of the Ancients National Monument is in a

Canyons of the Ancients (cont.)

an instream flow has the potential to create a significant controversy since there are a number of private in-holdings within the monument, as well as privately held water rights on Yellowjacket Creek. To further complicate the potential water rights filing by the CWCB for the BLM, the lower terminus of the reach would be very near the Colorado/Utah stateline and could

affect future water development pursuant to the Colorado River Compact. Also, most of the flow of Yellowjacket Creek from the proposed upper end of the reach at the confluence of Dawson Draw to the stateline is generated by trans-basin return flows from diversions out of the Dolores River and McPhee Reservoir by the Montezuma Irrigation Company (MVIC) and the Dolores Water Conservancy District (DWCD) through the Dolores River Project constructed by the Bureau of Reclamation.

In an attempt to address potential conflicts prior to an in-stream flow filing by the CWCB, staff from the Division 7 office of the Colorado Division of Water Resources (DWR) and the Southwestern Water Conservation Board (SWCD) coordinated an on-site meeting and tour of Yellowjacket Creek. The tour took place on April 21, 2005, and included representatives from the BLM, Canyon of the



Lowry Ruins at Canyons of the Ancients National Monument

Ancients, MVIC, DWCD, CWCB, SWCD, and the DWR. Members of the group discussed many possibilities which would allow for an ISF filing while protecting the right of use and re-use of trans-basin water and future changes of water rights (upstream and downstream, not to exceed the historic consumptive use) with minimal opposition by the CWCB and BLM. It has also been proposed to

move the lower terminus of the reach from the stateline to above the lowest decreed diversion, and to set aside a de minimus allowance for future domestic wells. A small number of new water rights filings are also expected to be made by property owners within the reach prior to the proposed filing in 2006 by the CWCB.

Through a cooperative and innovative approach by possible parties to litigation, it is hoped that a number of contentious issues can be resolved prior to the filing of an application for an instream flow water right on Yellowjacket Creek by the Colorado Water Conservation Board based on flow recommendations prepared by the Bureau of Land Management. The ultimate goal will be a decree which provides adequate protection of the natural environment within the newly established

Canyon of the Ancients National Monument, while providing protection for existing water rights and allowing some future development of Colorado's compact entitlements. It will be interesting to see if the relatively new inhabitants of the lands within the Canyon of the Ancients can reach agreement on water issues and uses which may date back over 10,000 years.



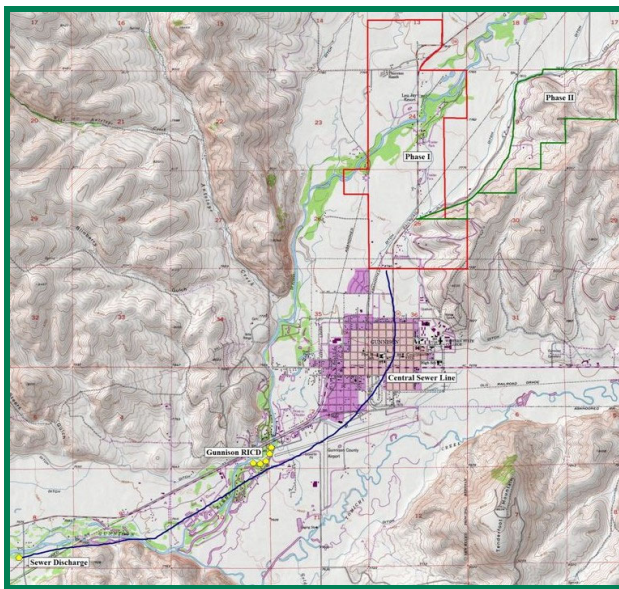
Yellowjacket Creek looking downstream near the proposed upper terminus of the Instream Flow near the confluence of Dawson Draw

North Gunnison Sewer Extension Project

Frank Kugel, Division Engineer, Division 4

The North Gunnison Sewer Extension Project is an extension of the Gunnison-area central sewer system that is mandated by the Colorado Department of Public Health and Environment. This project will connect some 300 existing and 300 future residences north (upstream) of the City of Gunnison to central sewer service. This is expected to significantly improve water quality in this area of the Gunnison River Basin by eliminating the use of septic tanks and leach fields in an area of relatively shallow groundwater. However, these sewer return flows that originally discharged upstream of the Gunnison Recreational In-Channel Diversion (RICD) are now collected into the City of Gunnison's treatment plant and ultimately discharged downstream of the RICD.

Gunnison County approached the Division of Water Resources' (DWR) office earlier this year to determine whether or not augmentation of this project was required. The DWR's response to them at that time was that augmentation was *not* necessary because the return flows were contained within the same stream system and that the well owners were not obligated to maintain a specific point of sewage discharge.



The Upper Gunnison River Water Conservancy District, co-applicants of the RICD filing along with Gunnison County, took issue with DWR's position, claiming that the North Gunnison Sewer



Extension Project would injure their RICD water right (currently remanded by the Supreme Court back to Division 4 Water Court). Their concern was that DWR requires augmentation for new well permit applicants upstream of the RICD, but is not requiring such for wells changing point of discharge.

The DWR revisited the issues and determined that seeking legal counsel would be appropriate to verify its previous position that augmentation was not necessary. This matter was discussed with the Water Unit of the Attorney General's Office and concluded that DWR's legal authority with regard to existing structures is limited to addressing whether they are in compliance with the terms and conditions of their decrees and/or well permits. In the case of the existing wells within the North Gunnison service area, there are no specifically required points of discharge; the only provision listed is to discharge "to the same stream system." The DWR's interpretation is that with the change in point of effluent discharge to a point a few miles downstream, these wells will continue to abide by this provision.

Given this review of pertinent statutes and case law, and examination of the associated decrees and well permits, it was confirmed that augmentation of existing wells in the North Gunnison Sewer Extension Project as a result of their change in point of effluent discharge is unnecessary, unless such augmentation is required by their existing decrees or well permits. The DWR will continue to address impacts to vested water rights for any *new* well permits or water right applications, including the potentially full depletive effect of new wells in the North Gunnison service area.

Status of Arkansas River Compact Litigation

Hal D. Simpson, State Engineer

Special Master Arthur Littleworth issued his fourth report in August, 2004. It contained a total of thirteen recommendations to the U. S. Supreme Court, many of which Colorado supported in oral arguments before the Court. The Court upheld the Special Master on all his recommendations. However, the Special Master did not decide twenty-two technical issues with the intent that these would be resolved by negotiations between the states. In March 2005, the Special Master established a very tight schedule to resolve these issues by September 30, 2005 or have them resolved by arbitration by

December 15, 2005. After several unsuccessful efforts to resolve these issues with engineers and attorneys from the participating states, it was decided that Hal Simpson, Colorado State Engineer, and David Pope, Chief Engineer for Kansas Division of Water Resources would begin face-to-face meetings without attorneys to attempt to resolve the remaining issues. Meetings began on August 15 and continued through September 23 with eleven days of intense negotiations taking place. The result of these negotiations is that nineteen of the issues were resolved including the accounting of the use of water from the Offset Account in John Martin Reservoir.

Eight separate written arguments were signed on September 30 in the historic Mission Inn in Riverside, California, and given to the Special Master that day at a status conference. Two issues are close to resolution and one will go to arbitration in November. This deals with the yield of the Graham Ditch when operated as a changed point of diversion to a well field after 1977.

Hal Simpson was supported by his highly competent staff of Ken Knox, Steve Witte, Dale Straw, and Bill Tyner. An enormous amount of long days and weekend work was necessary to successfully conclude the negotiations.

Human Resources

New Employees

Shannon Johnson started in the Denver office on May 20, 2005 as the Denver office's main receptionist. Her prior work experience in the private sector includes several years as a Library Assistant with Aurora Public Libraries. Shannon also was a Modern Dancer with the New Dance Theater in Denver and participated in performances and lecture demonstrations in schools throughout Colorado and other U.S. cities.

Elizabeth Pottorf came to the DWR from the Colorado Department of Public Health and Environment where she was a hydrogeologist responsible for review and evaluation of all ground water remediation activities at the Rocky Flats Environmental Technology Site. Elizabeth has a Master of Science degree in geology from Arizona State University, and since July 1, 2005 has been employed in the Geotechnical Services Branch in the Denver office where she applies her knowledge and expertise to the challenges of aquifer evaluation and ground water characterization throughout the state in support of the Division's well permitting and water court application/litigation activities.

Jim Swanson joined the Division 3 staff in Alamosa as a Water Commissioner in July 2005. Jim has over 20 years of experience working as the ditch rider for the lower end of the Rio Grande Canal between La Garita and Saguache Creeks. His experience, delivering water on a fluctuating canal on a daily basis to many headgates, will be helpful in administering water rights. He will be working on the Saguache and San Luis Creek drainages in the northern part of the San Luis Valley.

Mark Ragsdale was hired as a permanent part-time Deputy Water Commissioner by the Division 4 office in Montrose, Water District 60, on July 25, 2005. Mark is a local rancher and irrigator, and is past president of the Farmers Water Development Company, a large ditch and reservoir company in the San Miguel River Basin. Mark is responsible for water administration on the lower end of the basin, including the towns of Redvale, Nucla, Naturita and Uravan.

Human Resources (cont.)

Mike Corrigan started with the Denver office on August 8, 2005 as a Technician I in the Records Section. He has worked with the Records staff for approximately two years as a temporary contract employee, and already has received training in many of the duties he will continue to do as a full-time employee. He has a B.A. degree in hotel restaurant management, and was a general manager of several Westin hotels and resorts properties. Mike has many years of experience in customer service and working with computer databases.

Yolanda Johnson started with the Denver office on August 22, 2005 as a Technician I in the Records Section. She came to the DWR from a temporary position with the Colorado Department of Labor and Employment. She also has several years of experience as a corporate accounts representative with a previous company. She came to the Division highly recommended and is a welcome addition to the Records Section.

Kalsoum Abbasi was selected as the Augmentation Coordinator in the Division 2 office in Pueblo on August 25, 2005. This position was formerly held by Brian Boughton, who recently became Lead Hydrographer for Division 2. Kalsoum graduated from Colorado College with a Bachelor of Arts Degree in Geology and received her Masters of Science Degree from Tufts University in Environmental Science and Engineering. Kalsoum joined DWR this summer as a Ground Water Enforcement Tech. Kalsoum will work to make the Augmentation Coordinator position even more effective in helping Division 2 meet their obligations to administer replacement plans and substitute water supply plans and to meet compact obligations.

William "Alfred" Kasinger and **Aaron Wagner** were hired as permanent part-time Deputy Water Commissioners in the Cedaredge office of Water District 40, Water Division 4, on September 1, 2005. Both gentlemen have extensive water-related experience in the area, each having worked for local water user associations prior to joining the DWR. **Alfred Kasinger** is responsible for reservoir administration and works out of the Granby Cabin on Grand Mesa. **Aaron Wager** is responsible for administration on Dirty George and Ward Creek drainages west of Cedaredge.

John Batka started as a Professional Engineer in the Greeley office, Division 1, on September 12, 2005. John's primary initial responsibility is to work on the many large capacity well issues facing Division 1 as a result of the recent drought and statutory changes. John has both a Bachelor's degree and a Master's degree in civil engineering from CSU. He comes to Division 1 after several years working as a water resources engineer for engineering consulting firms. The DWR looks forward to working with John for many years to come. John and his family enjoy the country life outside of Ault, Colorado.

Retired Employees

Kenneth Beegles started his career with the Division of Water Resources in June 1975 as a Hydrographer in the Division 3 office in Alamosa. He is originally from Colorado Springs and attended the University of Colorado, receiving a B.S. degree in Applied Math and a B.A. in Geography. He transferred to the Division 7 office Durango in March 1979, and became the Division Engineer in January 1993. He was introduced to his new position properly with the first year having a record high snows in Durango. Unfortunately for Ken, many years since then have been some of the lowest on record. The La Plata River Compact was a major challenge to operate most years. Irrigation Year 1999 was one of the best years during Ken's tenure, with steady rainstorms taking all rivers off-call most of the summers except the La Plata River. During his time in Durango, Division 7 became one of the first state offices in the nation to apply to practice a tribal negotiated settlement decree for reserved rights in Colorado. As part of the Ute Indian Tribal Settlement, the Animas-La Plata Project construction eventually commenced and should be completed within the next few years. Ken plans on staying involved in water issues in the Durango area in the new office of Headwaters Engineering. He wishes to thank all of the people in the DWR for their help and association during the past 30 years. Ken's retirement date is November 30, 2005.





CALENDAR OF EVENTS

- October 4** Colorado Board of Examiners of Water Well Construction and Pump Installation Contractors Meeting, Denver, Colorado; for more information, contact Gina DeArcos at 303-866-3581
- November 15-16** Colorado Water Conservation Board Meeting, Denver, Colorado; for more information, contact Tina Heltzel at 303-866-3441
- November 18** Colorado Ground Water Commission Meeting, Parker Water & Sanitation District, Parker, Colorado; for more information, contact Marta Ahrens at 303-866-3581
- December 6** Colorado Board of Examiners of Water Well Construction and Pump Installation Contractors Meeting, Denver, Colorado; for more information, contact Gina DeArcos at 303-866-3581

Office of the State Engineer

***Colorado Division of Water Resources
Department of Natural Resources
1313 Sherman Street, Room 818
Denver, CO 80203***

**Bill Owens, Governor
Russell George, Executive Director, DNR
Hal D. Simpson, State Engineer
Marta Ahrens, Editor**

*Phone: 303-866-3581
FAX: 303-866-3589
Records Section: 303-866-3447
Ground Water Information Desk: 303-866-3587*

**We're on the Web:
<http://www.water.state.co.us>**

***STREAMLINES is published by the Colorado
Division of Water Resources on a quarterly
basis. Subscriptions are available for \$10 per
year to cover the cost of printing and mailing.***