Colorado Stream Lines

QUARTERLY NEWSLETTER OF THE OFFICE OF THE STATE ENGINEER
COLORADO DIVISION OF WATER RESOURCES

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Arkansas River Compact Administration Celebrates 50th Anniversary

A commemoration of the 50th Anniversary of the Arkansas River Compact Administration was observed as part of the annual meeting of the Administration held in Lamar, Colorado, on December 8, 1998. The occasion was marked by a banquet hosted by the signatory states of Colorado and Kansas and the passage of resolutions honoring past Administration members and "friends" of the Arkansas River including Eugene Overton and Robert Buerkle of Kansas; and Robert Temple (deceased), Daries (Chuck) Lile, Carl Genova, and Frank Milenski (deceased) of Colorado.

The veil of comity was short-lived, however, as the issues of the meeting unfolded. Kansas disputed Colorado's entitlement to store water in post-compact reservoirs under the conditions that existed during the 1997-98 compact year (November 1 to October 31) when John Martin Reservoir was physically spilling and substantial flows of water were passing through Garden City, Kansas, apparently unused.

The states were only able to reach limited agreement concerning amendments to the Operating Principles for Trinidad Reservoir concerning winter bypasses for stock-watering purposes.

Kansas contended that discussion of the possibility of designating a portion of the capacity of John Martin Reservoir to facilitate delivery of water to Kansas as a remedy for previous violations of the Arkansas River Compact was premature.

Larry Trujillo, the Federal representative and chairman of the Administration, urged both states to increase their commitment to making the Administration a more effective forum for the resolution of differences. At the end of the day, it was agreed that the 1999 meeting of the Administration would be held in Garden City, Kansas.

- Steve Witte, Division Engineer -

Visit DWR's Website to View Current Water Administration Policies

Our website can be found at http://water.state.co.us/default.htm and the policies are located in "Organization"

Rio Grande Decision Support System
Work Underway

Last fall, 1998, five contractors were selected to execute the Rio Grande Decision Support System. Since their selection, each contractor has worked diligently to negotiate a contract that includes a scope of work (SOW), budget and schedule. Each contract was submitted to the state's signature process and was executed on January 15, 1999. The following is a brief summary of each SOW.

Ground Water Component (Contractor: HRS Water Consultants, Inc.) - The Ground Water Component is expected to require approximately 3 years and nearly $2,900,000 dollars to complete. Some major objectives include: document and critically review the existing ground water model developed by the state for the San Luis Valley in 1991; develop a data-centered ground water modeling system that interacts with the state's existing database and other RGDSS planning tools; perform additional data collection activities that are required to better understand and manage the ground water resources of the San Luis Valley; calibrate and test an enhanced San Luis Valley Ground Water Model that builds on the existing SLV model.

Surface Water Component (Contractor: Hydrosphere Resource Consultants) - The Surface Water Component is expected to require approximately 3 years and $390,000 dollars to complete. A major objective includes developing data, enhancing and applying an existing surface water model to the San Luis Valley that interacts with the state's central database and other RGDSS planning tools.

Consumptive Use and Water Budget Component (Contractor: Leonard Rice Consulting and Agro Engineering) - The Consumptive Use and Water Budget Component is expected to require approximately 3 years and $380,000 dollars to complete. Some major objectives include: develop data, enhance and apply an existing consumptive use model to the San Luis Valley that interacts with the state's central database and other RGDSS planning tools; develop data, add a water budget component to the existing state model, and apply the water budget model to the San Luis Valley that interacts with the state's central database and other RGDSS planning tools.

Relational System Integration Component (Contractor: Riverside Technology, Inc.) - The Relational System Integration Component is expected to require approximately 3 years and $209,000 dollars to complete. Some major objectives include enhancing the existing Decision Support System to include data and tools required for application to the San Luis Valley; and provide maintenance and support of the System.

Spatial System Integration Component (Contractor: HDR Engineering, Inc.) The Spatial System Integration Component is expected to require approximately 3 years and $206,000 dollars to complete. Some major objectives include: develop GIS coverages for the Rio Grande Basin; evaluate and identify large capacity wells in the Rio Grande Basin by evaluating the well permit and water right data files; and perform ground water modeling system integration activities.

Other RGDSS Activities In addition to the consultant activities described above, another RGDSS activity includes initiating the installation of 20 new stream gages in the Valley. Under a joint funding agreement with the USGS, the existing confined observation well network is being geophysically logged.

Additional information is available from the RGDSS web site (**http://cdss.state.co.us**). CDSS stands for Colorado's Decision Support System.

South Platte Lower River Group and Tamarack Project Provide Recharge Opportunities

The South Platte Lower River Group, Inc. (SPLRG) is a coalition of water users and the State of Colorado formed to preserve existing water uses while enhancing streamflows and water related wildlife habitat. The area of focus for SPLRG is the lower South Platte River in Colorado from about Brush downstream to Julesburg at the Nebraska-Colorado stateline. The water user organizations are the Lower South Platte Water Conservancy District, Groundwater Appropriators of the South Platte, Northern Colorado Water Conservancy District, and the Platte River Project. The Colorado Division of Wildlife (DOW) and the Colorado Division of Water Resources (DWR) are also active participants in SPLRG along with agricultural and municipal water users in the lower river. SPLRG became a non-profit corporation in the Spring of 1996.

SPLRG has five work tasks; (1) hydrologic analysis and database development, (2) project identification, (3) demonstration project development, (4) project long-term funding, and (5) annual report preparation. The work effort is done by in-kind services of SPLRG's participants. The major focus has been the identification and development of managed groundwater recharge demonstration projects. Such projects involve the diversion of excess river flows to groundwater recharge basins where the seepage from the basin returns through the groundwater aquifer to the river at a later time to augment river flows. These return flows or accretions can be used to maintain the reliability of existing well augmentation plans and also provide credits at the stateline for Colorado in a future Platte Basin Endangered Species Recovery Program.

The Tamarack Demonstration Project started in the Fall of 1996. The water supplies for recharge at Tamarack come from a new well drilled next to the river with buried plastic pipeline going from the well to the recharge basins. The new well has been permitted pursuant to a temporary substitute water supply plan issued by the State Engineer. A water rights application was filed in 1996 with Division 1 Water Court for the new Tamarack well and for the new well completed at Pony Express.

The development of the recharge project continued at Tamarack in the Fall of 1998 with the drilling of two more wells next to the river for supplying recharge basins. This expansion is funded through CWCB and BOR grants. Additional wells, buried pipelines, and recharge basins/ponds will be constructed in 1999 using these grants and in-kind services and funds from Group participants. In addition, a live stream section is being constructed between two of the Tamarack basins for raising and studying native South Platte minnow species of concern. The aquatic division of DOW provided funding in 1998 and 1999 to continue work on the 1/4 mile of minnow stream. It is also anticipated that Ducks Unlimited, Inc. will be contributing funds and expertise to the development of wetland and waterfowl habitat at Tamarack.

Extensive monitoring activities for groundwater levels, water quality, and river accretions are part of the recharge project at Tamarack. This monitoring shows that managed groundwater recharge activities do indeed work to retime flows. The monitoring also shows the potential to enhance warm water sloughs and wetland complexes in the meadows along the river at Tamarack.

In addition to recharge efforts on state lands, initial demonstration projects supported by SPLRG and private ditch companies such as the Julesburg Irrigation District have led to longer-term recharge opportunities on private lands. For example, SPLRG is utilizing a portion their funds to develop a successful demonstration recharge site into a permanent site through a cooperative agreement between SPLRG, the Julesburg Irrigation District, and the Town of Julesburg. This project will pump water from the Peterson Ditch into natural depressions that exist at the Town's old well field.

U.S. Park Service Proposal for Quantification of Federal Reserved Water Rights in Black Canyon National Monument

After years of studies, meetings, and strategy sessions, the United States Park Service has released information that attempts to quantify their federal reserved water rights for flow in the Gunnison River through the Black Canyon of the Gunnison. These water rights were filed with the Water Court in 1971, but the case was not settled until 1978. The subsequent Colorado Supreme Court case, U.S. v. Denver, was finally determined in 1983. These rights were decreed as a minimum stream flow for the protection and preservation of the National Monument, and the amounts have remained undefined since then.

The U.S. Park Service seeks to restore somewhat of a natural hydrograph and has summarized their flow needs in the Black Canyon National Monument as follows:

- Variability, based on the availability of water in the given year
- Minimum base flow of 300 cfs on more - this ensures survival of aquatic life in the canyon
- Annual peak between May 1-June 30, 3-14 days in duration, 3500-12,000 + cfs flow and ramping rates of 250-500 cfs per day or 10% per day.
- Shoulder flows on each side of peak.

Given these flow needs, the U.S. Park Service has formalized their proposal as follows:

1. All flow unappropriated as of March 2, 1933
2. Subordinated to water rights prior to 11/13/1957 (co-equal with the Aspinall water rights).
3. Adopt the same subordination to future depletions in-basin, upstream from Crystal Dam as the Aspinall water right (i.e., 60,000 AF/year).

When their water right was decreed in U.S. v. Denver, it was decreed as a "reserve" right which retains original status with an appropriation date of March 2, 1933, when the Black Canyon National Monument was formed. The request for a quantification amount of "all flow unappropriated as of 3/2/1933" has troubled many agencies including the Colorado Water Conservation Board and the Colorado Division of Water Resources. Representatives from each agency will be meeting to formulate a response and establish a legal position.

The U. S. Park Service has studied the effects of the quantification to other water rights, especially to other federal agencies. They recognize the historical fact that Congress approved the Aspinall Project storage and power rights while being fully aware of the adjacent National Park. Exercising the 1933 Park Service water rights with the 1957 United States Bureau of Reclamation Aspinall Unit water rights would be a tremendous point of conflict, thus they have proposed to make them co-equal to the Aspinall water rights.

In addition, the U. S. Park Service has recognized the USBR's contractual position in subordinating their water rights to allow 60,000 AF/year of additional in-basin consumptive use in the Gunnison River Basin. The contract was formulated in the 1960's, but is now being finalized. This contract protects water users in the Gunnison River Basin above Crystal Dam from being curtailed by the USBR power or storage call. The Division Engineer's office in Division IV strongly supports part 2 and 3 of the proposal.

Undoubtedly, it is no easy task trying to balance the varied water rights and needs on the Gunnison River. The quantification process could take years to complete, but the United States Park Service has taken a positive first step in the process.

- Wayne Schieldt, Division Engineer -

"Well Blast Week"

Innovative Approach Resolved Well Permitting Backlog

During early December, 1998, the State Engineer's Office implemented an innovative teamwork concept referred to as *"Well Blast Week"*. The intent of the project was to capture the knowledge and dedication of our fellow DWR employees in a collective effort to eliminate a daunting backlog of pending groundwater well permit applications. As of the end of November, 1998 there were 1262 pending well permit applications awaiting evaluation, approval, or other agency action. The cumulative backlog of well permit applications paralleled Colorado's explosive growth. The accrual of permits reflected a combination of increasing use of groundwater through wells for domestic supplies and the justifiable mandate by Colorado citizens that seeks better and more diverse public service from state employees.

To meet the challenge, the Division initiated a strategic plan that focused upon dedicating one week of time in a two-pronged effort. The first objective was to eliminate the pending well permit application backlog. The second target was to use the project as a means to build interdisciplinary teamwork among all DWR employees and elevate the overall technical expertise of our staff. To accomplish the two goals, thirteen field employees that work throughout the seven water divisions were brought into our central downtown office to work side-by-side with our Denver well permit evaluation staff. To further complement the comprehensive permit evaluation effort, other staff members from various branches of the Denver office also volunteered their efforts to form an exciting and synergistic DWR team pursuit.

The results of Well Blast Week speak for themselves. During a single week of dedicated effort, 905 applications were evaluated and acted upon, 230 changes in well ownership were processed, and 2174 computer updates were made to either insert missing data or make corrections to the statewide groundwater well database. All of these achievements occurred in a dynamic and enthusiastic work atmosphere with no reductions in service to our other responsibilities. During the week-long event, we also became aware of new and better methods in the evaluation process that will help serve us in the future to keep our long-term goal of maintaining currency with the incoming permit load so another backlog is not created. These procedural enhancements have been implemented and are currently proving their effectiveness.

We are proud of accomplishing both of our goals – eliminating the well permit application backlog and increasing our technical expertise. Due to its resounding success, the Division of Water Resources anticipates continuing our practice of using new and innovative ideas to accomplish our primary objectives of effective service to the citizens of Colorado.

- Ken Knox, Assistant State Engineer -

New Policy Regarding Emergency Replacement Procedures

Effective January 1, 1999, the Colorado Division of Water Resources implemented a new policy regarding emergency verbal replacement well approvals. Requests for replacement wells must be made in conjunction with a completed well permit application and the requisite filing fee. Well drillers or groundwater well owners may submit these applications by express mail, overnight courier services, or personal delivery to any one of the seven division offices or the central office in Denver. They may also fax (with original to follow) the applications to Denver with a credit card number for the filing fee. This change in policy reflects Division of Water Resources' response to address the concerns of well drillers about well permitting delays. It continues our commitment to provide more efficient customer service by: (1) streamlining the well permitting process, and (2) eliminating redundancy of reviewing information both at the initial request and upon receipt of the well permit application. Emergency well replacements will be assigned the highest priority, which means they will be reviewed and acted upon within 24 hours of receipt.

State Water Officials Protect Instream Flow Water Rights

During the months of November and early December 1998, little natural snowfall occurred in Summit County. However, low overnight and early morning temperatures made for favorable artificial snowmaking conditions. The combination of these conditions caused streamflows to drop near or below the CWCB's minimum flow water right on the Snake River.

As early as November 4, 1998, representatives of the CWCB, DWR/Division 5, Keystone and their consulting engineer met to discuss streamflow monitoring efforts and compliance with the DNR/Keystone Agreement regarding minimum flows. As a result of that meeting, CWCB staff and the District 36 Water Commissioner began to closely monitor flows in the Snake River.

On December 14, 1998, CWCB staff notified Keystone Resort of possible violations of the agreement and injury to instream flows. A meeting of all parties involved as well as the USFS was set up to verify if the stream flow data collected by the SEO was actually correct. If it was determined those violations had occurred, then the CWCB would place an "administrative call" on the Snake River.

Per the meeting held December 16, 1998 involving CWCB staff, DWR/Division 5 staff, Keystone's chief operating officer as well as Keystone snowmaking staff and their consulting engineer, and the local USFS district ranger, it was determined that there was a discrepancy between gage height information put out by Keystone's data-logger and the State's DCP equipment, and also that an incorrect data curve was being used by the State. A determination was made to have DWR/Division 5 staff work with Keystone's consulting engineer to pinpoint the equipment differential. To date, this effort is continuing and another meeting between the parties is scheduled for late January 1999. It turns out that the intrusion was not as deep into the use as was first thought and occurred for just a few hours. Since the time of the initial incident, corrective action has been taken to insure that the CWCB's instream flow rights will be adhered to now and in the future.

Of course, this matter garnered a lot of press coverage and it should be noted that Trout Unlimited in a press release dated December 16, 1998, praised the CWCB and State Engineer's Office for upholding the water rights dedicated to the citizens of the State of Colorado. Other press coverage was critical of Keystone while Keystone (and correctly to some extent) was critical of the errors in data recording that occurred by the State. The bottom line is that a number of agencies and their clients are working in good faith to resolve tough issues.

- Scott Hummer, Water Commissioner -

New Division Engineer Appointed to Gunnison River Basin

Wayne I. Schieldt, former Assistant Division Engineer, has been appointed as the new Division Engineer for the Gunnison River Basin in Water Division 4. The Division Engineer's Office, located in Montrose, is responsible for managing water rights, ground water well permitting, hydrography, and dam safety in the Gunnison, Uncompahgre, San Miguel, and Little Dolores River drainage basins.

Mr. Schieldt replaced Mr. Kenneth W. Knox who was appointed as Assistant State Engineer for the Water Supply Section in the Denver office in August, 1998. Mr. Schieldt assumed his new duties on December 22, 1998. Mr. Schieldt brings over 17 years of experience in water administration and hydrography with the Division of Water Resources to the job, which includes 4 years as Assistant Division Engineer in Montrose.

Efforts to fill the vacant Assistant Division Engineer are currently underway.

Human Resources

Retirements....

J. Russell Kennedy retired on January 7, 1999, after 34 years of service as Water Commissioner for the La Plata River Drainage. Mr. Kennedy was chosen as the Division 7 Water Commissioner of the Year in 1987 and again in 1997. He helped design and rebuild gaging stations along the La Plata River and tributaries and contributed to the effort to negotiate the Colorado Indian Water Rights Settlement. Mr. Kennedy plans on enjoying his retirement traveling between his home in Marvel and Mesa, Arizona.

Charles Stein retired on January 15, 1999, after almost 20 years of service as Water Commissioner in the Delta area on Dry Creek and the main stem of the Gunnison River in Water District 40. Resources. Mr. Stein plans to enjoy fishing at Lake Powell and the Blue Mesa in his boat.

Personnel Changes and New Employees...

Bob Cooper was recently appointed to fill the Professional Engineer II position left vacant by the retirement of Jim Clark. Mr. Cooper will be the manager of several hydrographers and the hydrographic program in the Division 1 office located in Greeley. Bob has a vast background of 25 years experience with hydrographic work. Bob's promotion created a vacancy at the Professional Engineer I level. Bob's replacement will be Ted Anderson.

Ted Anderson was appointed to fill the Professional Engineer I position left vacant by Bob Cooper. Mr. Anderson comes to us from Simons Associates consulting firm where he was involved with programming, water measurement, setting up water measurement networks and supervising data collection. Ted has a very varied background including computer expertise.

Matt Schmitt, the current deputy water commissioner in Water District 33 was chosen to fill the full-time Water Commissioner position left vacant by Russell Kennedy. He has worked in the part- time position for over 12 years and has learned much from the experience, and provides much needed construction experience for the Hydrographer in replacing footbridges and shelters.

Denise Miller moved from the District 23 South Park water commissioner position to Greeley as a part of an overall reorganization in response to **Doug Stenzel's** departure to be DWR's Data Base Administrator in Denver. **Mike Eytel** was selected to replace Denise in District 23. Mike has been working for the Division as a Deputy Water Commissioner for several Districts. In the reorganization, **Brent Schantz** also took on new duties in Greeley. We believe Brent, Mike and Denise will continue to be very valuable members of the Division 1 team in their new roles.

Don Wambold and **Brian Romig** were recently hired to fill the vacant positions in the Information Technology Branch. Don was hired on December 28, 1998 to fill the Application Project Manager position. He came to us from Harding Lawson Associates where he was a senior software developer, and has 10 years of experience. Brian was hired on January 11, 1999 as a GIS Analyst. Previously he was a GIS Programmer/Specialist with Tobin International, and he brings with him 8 years of computer experience.

Calendar of Events

February 2	Board of Examiners of Water Well Construction and Pump Installation Contractors Meeting, 1313 Sherman St., Room 615, Denver, CO; for more information, contact Gina Antonio at (303) 866-3581
February 19	1st Quarterly Meeting of the Colorado Ground Water Commission, 1313 Sherman Street, Room 318, Denver, CO; for more information, contact: Marta Ahrens at (303) 866-3581
March 3-5	State Engineer's Annual Meeting, Embassy Suites Denver Southeast, 7525 E. Hampden Avenue, Denver, CO; for more information, contact Marta Ahrens at (303) 866-3581
March 29-30	Colorado Water Conservation Board, Board Meeting, Douglas County; for more information, contact Susan Maul at (303) 866-3441
April 6	Board of Examiners of Water Well Construction and Pump Installation Contractors Meeting, 1313 Sherman St., Room 615, Denver, CO; for more information, contact Gina Antonio at (303) 866-3581

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