June 2001
Volume XV, Issue 2

Office of the State Engineer

Colorado Stream Lines

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

Black Canyon of the Gunnison Becomes National Park

The Black Canyon of the Gunnison is a 53-mile-long wonder of nature, reaching depths of over 2000 feet while being as narrow as 1500 feet. Originally classified as a monument in 1933, it became the 55th national park in 1999, and was the first to earn that coveted title in five years. The designation was the result of a 15-year effort, guided by Sen. Ben Nighthorse Campbell (R) of Colorado and supported by a broad spectrum of local interest groups, to confer national-park status on Colorado's Black Canyon.

The Black Canyon was created by the combined effects of volcanic activity, steady down-cutting by the Gunnison River, and the geologic activities of the Gunnison Uplift and Sawatch and West Elk Mountain ranges. The river began its carving through softer volcanic rock, then cut through to the harder crystalline rock visible today in the lower reaches of the canyon.

Long deemed inaccessible, the need for water in the Uncompahgre Valley surrounding Montrose prompted exploration of the canyon. In 1901, an engineering expedition by Torrance and Lincoln proved the feasibility of a large-scale diversion project. Nine years later, the six-mile-long Gunnison Diversion Tunnel was finished, resulting in the irrigation of 76,000 acres in the Uncompahgre Valley.

The National Park Service filed for a federal reserved water right on the Gunnison River through the Black Canyon in 1971. The resulting Colorado Supreme Court decision in the United States v. Denver case granted an instream flow right, but did not include any amounts. The Park Service filed an application to quantify their claim in January, 2001, which is so large as to significantly impact the ability of the Aspinall Unit to store water for its decreed uses. The quantification filing resulted in the submittal of 383 Statements of Opposition. A lengthy negotiation process is anticipated before this complex issue is resolved or it will be litigated in a contentious trial if negotiations fail.

Inside this issue:

Lower South Platte River Water User Activities

There has been an extensive effort to increase the supply of water on the lower end of the South Platte River in response to the very dry conditions that were experienced during the summer of 2000. These efforts are also associated with the continued development of the Tamarack Plan for the 3 States Endangered Species efforts to protect three federally protected birds (the whooping crane, the least tern, and piping plover) and an endangered fish (the pallid sturgeon). The number of wells now pumping water to two sets of recharge ponds at Tamarack Ranch Wildlife area have been increased to 10 with a total production of approximately 37 cfs. Last summer, there were only three wells pumping into one set of recharge ponds. In addition to recharge, the Colorado Division of Wildlife (CDOW) has also developed and is operating a live stream at Tamarack Ranch to study minnows of concern on the South Platte.

Most of the work at Tamarack Ranch to date has been supported through a group of water users called the South Platte Lower River Group. This group of water users is interested in augmentation issues on the lower South Platte, the Tamarack Plan for the 3 State Endangered Species efforts and in Colorado habitat issues. Most of the funding for Tamarack Ranch Wildlife area development has come from the Colorado Water Conservation Board (CWCB) and CDOW with additional funding from the water user groups themselves. CDOW and the Northern Colorado Water Conservancy District (NCWCD) have completed the physical improvements at Tamarack Ranch.

In addition to the recharge at Tamarack, there have been an additional twenty-one recharge sites developed under the Julesburg Irrigation District system. In addition to the recharge sites there are also six "in ditch" recharge sections being operated under the Julesburg system. Total maximum diversions for recharge in the Julesburg District has been approximately 40 cfs. The recharge sites are at varying distances from the river, and thus the timing of returns from the sites will vary from near term this summer to returns several years from now. Due to better stream flow conditions this spring than last year, users have also been able to divert into these sites most of the spring starting in March.

There are new recharge sites . . . . and all users on the South Platte have been very diligent in diverting water to recharge whenever water is available.

North Sterling also began "in ditch" recharging below the North Sterling Reservoir for the first time this year in addition to the "in ditch" recharge that they have been doing above the reservoir for several years. There are also new recharge sites under the Bravo, Pawnee, and South Platte ditch this year and all users on the South Platte have been very diligent in diverting water to recharge whenever water is available.

In addition to recharge, the Lower South Platte Water Conservancy District (LSPWCD) and Ground Water Appropriators of the South Platte (GASP) have completed agreements and begun necessary work to refurbish one well and drill a second well far from the river that can be used as an augmentation source at the lower end of the river. These wells will produce approximately 14 cfs that can be used for replacement purposes on the lower end of the South Platte if conditions so warrant their use. The depletions from pumping these wells will be felt several years from now and extend over the whole year. Thus, the amount of replacement necessary for these wells will be significantly less than their pumping capacity. Both groups intend to replace the delayed depletions when they occur and augmentation is required.

The CWCB has also contracted with Brown and Caldwell to complete a reconnaissance study to identify possible reservoir sites on the lower end of the South Platte River. Rick Brown of the CWCB is coordinating the study. They hope to finish the preliminary feasibility study this summer. Based on the results of this study, the Colorado Water Conservation Board will make decisions concerning whether to continue with a more detailed feasibility study of specific sites identified in the preliminary feasibility study.

Arkansas River Water Banking Pilot Project

State Engineer Hal Simpson has until July 1, 2002 to promulgate rules that will define how the concept of water banking will be implemented in Colorado pursuant to legislation signed into law by Governor Owens on June 6, 2001. Under HB-1354, co-sponsored by Representative Dianne Hoppe, R-Sterling, and Senator Lewis Entz, R-Hooper, the Arkansas River basin has been designated to demonstrate the feasibility of water banking through a four-year pilot program utilizing only stored water.

Water banking is a concept whereby water right owners commit to forego use of water to which they are entitled for a period of time, in effect placing it on deposit and potentially available for "loan" to a borrower. For the concept to work, borrowers must be willing to pay enough to make it worthwhile to the depositor and cover expenses of the transaction; and, as is always the case when Colorado water rights are involved, there must not be any injury to the interests of other water right owners. The thing that is revolutionary is that the legislation provides that the temporary water right changes that occur in connection with a water bank transaction do not have to be adjudicated. The rules, which are needed to define how the proposal can operate while protecting the interests of others, must be formulated only after receiving public input. Hal Simpson commented, "I learned from the experience in developing amendments to the Ground Water Rules for the Arkansas Basin that getting the public's input and hopefully their support is an important and indispensable part of the process."

In fact, the existence of effective well regulations is one key reason that the Arkansas Basin was selected for the pilot program. Without such controls, it is likely that water right owners might simply have expanded the use of their ground water rights while leasing their reservoir water to others. Perhaps the chief reason, however, is to explore options to stem the tide of transbasin exports that have resulted in the reduction of irrigated agriculture in the region.

But, there is much work to be done during the coming months; meetings must be conducted, decisions have to be reached concerning whether the State Engineer or some other entity will actually operate the program, and perhaps some attitudes will have to be changed. Several water right owners are concerned that the effect of a water bank will be to reduce the value of their rights to potential buyers.

Near the end of the pilot program (November 2005), the State Engineer is expected to report on the program's successes as well as those factors that served as impediments to successful implementation. Simpson encouraged participation in the upcoming public meetings by stating, "This is an idea that potentially can benefit the entire state, I hope that the people of the Arkansas Valley will join with us to develop a new alternative that will im-

Fish Find a Way – Dolores River

When McPhee Reservoir was constructed in 1980-83, plans were made for the future health of the Dolores River in the design of the project. The Dolores River had been dried up on a yearly basis since before 1900 because of the large Montezuma Valley Irrigation diversion, which brought transbasin water to the fertile land of the Montezuma Valley. The Dolores River canyon below had few senior water rights and the heat of the summer basically prevented water from flowing the next sixty miles. With the storage, however, it became possible to realize that a bypass flow would change that situation. The 20-50-78 cfs formula, keyed off the storage level in the reservoir in March, represented the amount of flow rate to be released in each year based on likely supply. The average amount of 25,400 acre-feet was then dedicated out of the river yield for the trout fishery. However, the drought years of 1989 and 1990 forced reassessment of this scenario. The reservoir captured most of its storage after major losses to what had developed into a "gold medal" fishery.

Continued on page 7 – Fish

Discussion of Aquifer "Types"

The Board of Examiners of Well Construction and Pump Installation Contractors has adopted Rules that identify three general "types" of aquifers into which wells are constructed to withdraw ground water. The minimum construction standards for grouting are different for each type of aquifer. There has been confusion among some drilling contractors regarding which type of aquifer is being utilized in their specific area and what grouting standards are applicable. The following discussion is presented to try to clarify the Board of Examiners' intent when the aquifer types were developed for their Well Construction Rules.

The aquifer types adopted by the Board are Type I, II, and III aquifers. The aquifer types can be visualized as an ascending group of aquifers with a Type I aquifer (deepest) underlying a Type II aquifer, which in turn is overlain by a Type III aquifer (shallowest). The aquifer model is best represented in the Denver Basin where all three aquifer types can be found at many locations, but is also adaptable to areas of Colorado where the Dakota, Cheyenne, Manitou Springs, Entrada, or other confined aquifers are utilized as a source of ground water. An example of the Denver Basin situation can be found at any location that the South Platte River has deposited alluvial material at the surface (Type III aquifer – unconfined, unconsolidated aquifer material of recent origin) over the sediments that compose the Arapahoe aquifer (Type II aquifer – unconfined bedrock material) which is underlain at some depth by the Laramie-Fox Hills aquifer (Type I aquifer – confined aquifer). The terms "confined aquifer" and "bedrock" are defined in the Water Well Construction Rules and were developed to distinguish between the two general conditions under which ground water is found (unconfined "water table" conditions and confined "artesian" conditions) and two broad categories of material in which the water is stored and transmitted (unconsolidated "alluvial" sand and gravel material and consolidated "cemented, compacted, or crystalized" bedrock material of ancient age).

The applicable construction standards are dependant on the type of material and/or storage conditions into which the well is constructed to withdraw ground water. Type I aquifers are most easily identified and the contractors that work in an area where confined aquifer conditions are found are generally familiar with the geology and the aquifers available. The State Engineer has identified the confined aquifers that are administered as separate sources of water and the well permit will identify a specific aquifer and the interval in which the well can be completed. Type II and Type III aquifers can be more difficult to distinguish because the difference is determined by the type and age of aquifer material in which the water to be withdrawn is stored.

It is very common to penetrate several feet or, in some instances, tens of feet of unconsolidated material before encountering consolidated bedrock material (i.e. shale, sandstone, conglomerate, limestone or granite). If the well terminates in and is constructed to withdraw any water from a zone in the bedrock aquifer, it is a well constructed into a Type II aquifer and must be constructed and grouted in accordance with the standards for wells in Type II aquifers. If the well terminates in and withdraws water from the unconsolidated alluvial material of recent origin, it is constructed into a Type III aquifer and the standards for construction in Type III aquifers apply. The standards for wells constructed into Type III aquifers were developed to alleviate the necessity for obtaining a construction variance when the top of the saturated zone is encountered very near the surface; as is typical in alluvial aquifers.

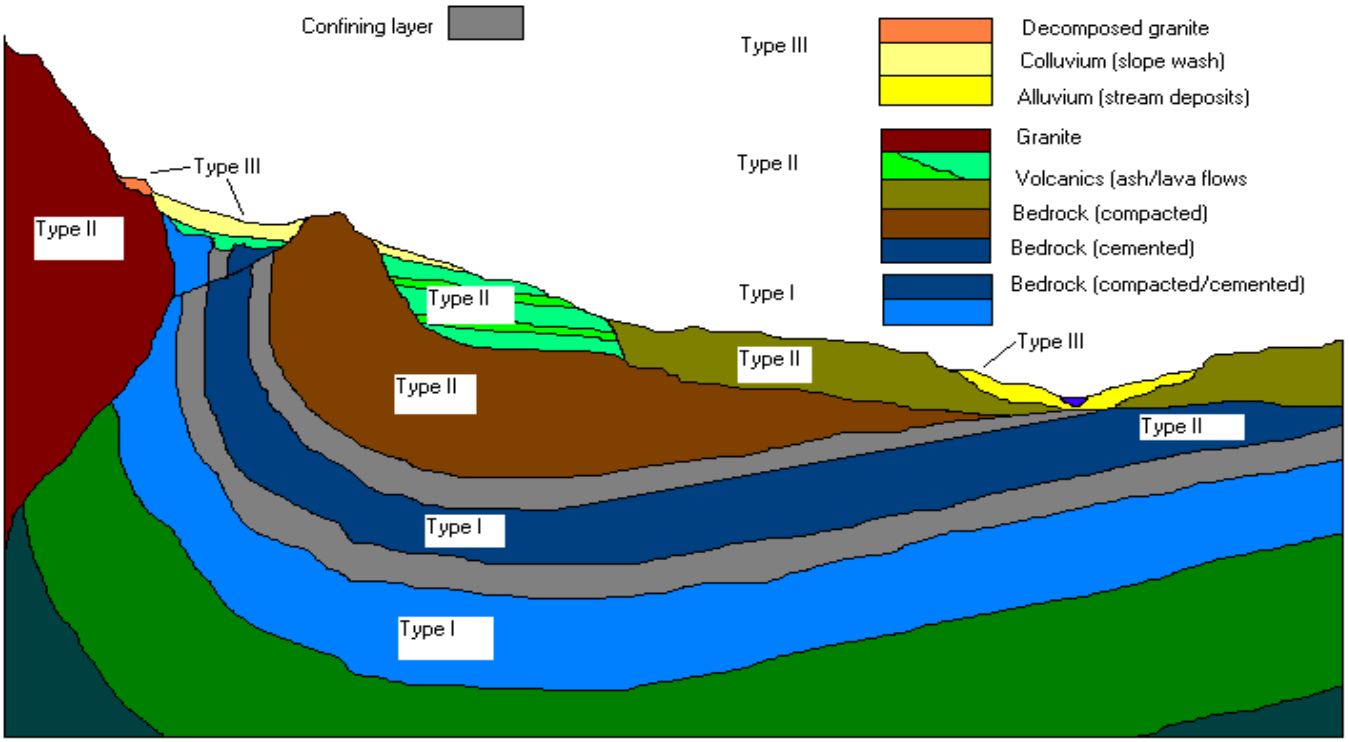
Some unique situations are encountered in areas where a relatively thin layer of unconsolidated material overlies a thick layer of shale or other impermeable bedrock. Wells constructed in these areas are often drilled into the bedrock to provide a volume of casing storage for the well. Although the water produced is from the unconsolidated alluvial material, it may enter the well through perforations located near the bottom of the well in the bedrock interval. Because the ground water is actually produced from the unconsolidated material, it is considered to be constructed into a Type III aquifer. If any measurable portion of the water produced originated from the bedrock (compacted or cemented material of older age), the well would be considered to be constructed into a Type II aquifer.

Continued on page 5 – Aquifer Types

Aquifer "Types" (cont.)

To utilize waters from both the bedrock and unconsolidated material, (if the unconsolidated material does not extend to a depth greater than 39 feet - the required depth for grout in a Type II aquifer) a variance would be needed to construct the well to produce water from both sources. Similarly, to construct a well to withdraw water from a thin, unconsolidated material in conjunction with water from a saturated sandstone or other unconfined bedrock source near the surface requires obtaining a variance from the Board (if the well will not be grouted to at least 39 feet); even if the two types of aquifer materials are so interconnected that they have a common water level. An example of the described situation would be where the Ogallala aquifer of the eastern plains (a Type II aquifer consisting of compacted sand and gravel of older age) is overlain with recent stream deposits (alluvial sand and gravel of recent age deposited in a stream valley or flood plain). A similar example is where recent stream deposits overlie the unconfined aquifer of the San Luis Valley.

The following is an illustration of various aquifer types. It is important to note that Type III aquifer deposits are not laterally extensive as compared to Type I and II aquifers and are confined to active stream/river valleys and flood plains. Thus, Type III aquifer materials are limited to areas of decomposition and deposition by weathering, slope wash and stream deposition of recent age (generally considered to be from the present to about 10,000 years in age). Glacial deposits and aquifers associated with a named formation or identified as a member of a named formation (i.e. Ogallala Formation, Arapahoe Formation, Dakota Sandstone, etc.) all exceed the "recent" age.



Schematic cross-section of various types of aquifers

These simple descriptions are not intended to cover all possible scenarios. Contractors who encounter unique situations and/or conditions are encouraged to contact Dave McElhaney or Jack Byers at the Division of Water Resources if they have any question as to the type of aquifer in which a well is to be completed.

2000 Annual Report

MEMORANDUM OF UNDERSTANDING BETWEEN THE COLORADO DIVISION OF WATER RESOURCES, COLORADO DIVISION OF WILDLIFE, AND THE COLORADO WATER QUALITY CONTROL DIVISION

Introduction

The Division of Water Resources entered into a Memorandum of Understanding (MOU) with the Division of Wildlife and Water Quality Control Division in June 1998. The purpose of the MOU is to improve the communication and coordination between the three State agencies, water users and other interested parties. The prior MOU's has been a very valuable tool in improving our communication and coordination as well as avoiding unnecessary adverse impacts to the Aquatic ecosystem.

The agencies reviewed the effectiveness of the MOU on February 20, 2001. All three agencies reported that communication continues to improve. The MOU provides a framework to improve the communication, coordination and cooperation between the participating agencies regarding unusual, irregular or extraordinary water management activities. The sharing of water management information is to provide opportunities for the development of mutually beneficial, voluntary water management options to avoid or minimize, if possible, the negative impacts to fisheries and aquatic ecosystems or to protect the health and welfare of the public. The agencies agree to identify concerns and impacts associated with water management activities within the State of Colorado.

Through the identification of potential problems and timely sharing of water management information, the DWR, DOW, and WQCD agree to take reasonable action to identify options and opportunities to avoid or minimize, if possible, unnecessary impacts to fisheries and aquatic ecosystems due to water management practices. The agencies agree to be proactive in the education of dam owners, water right holders, and the general public regarding water management and possible concerns regarding negative impacts that may result and the possible actions that may be undertaken to avoid or minimize them.

The MOU does not, nor is it intended to, restrict or expand agency authorities, supersede, abrogate or impair lawful storage and legal uses of water rights in accordance with water court decrees and administrative rules and regulations. The agencies recognize the owners of water rights are entitled to certain lawful water management practices, the MOU is not intended, nor does it impose, any restrictions, perceived or actual on the lawful use of water rights.

The agency Division Director and/or their representatives meet annually, by March 1 of each year, to review the effectiveness and progress of activities identified in the MOU. Several successful coordination events occurred during 2000 and are summarized herein.

General and Administrative Activities

The agency contact lists were revised to reflect personnel changes and office relocation. The DWR and WQCD met later in October 2000 to discuss discharge permit conditions and associated issues.

WQCD has been involved with the Ouray hydropower facility located in Box Canyon above the Town of Ouray. This facility has periodic releases of sediment, which are of concern to the Town of Ouray. Ouray has recently completed work on habitat improvements to the Uncompahgre River, and hopes that such im-

provements combined with mine remediation projects will lead to the establishment of a fishery. The WQCD will continue to work with the owners of the hydropower facility to minimize the impacts of these releases.

Several specific events were coordinated between DWR, DOW and WQCD on unusual, irregular or extraordinary water management activities through the procedures prescribed by the MOU. The summary and brief description of each event is provided below.

Facility	Month
Lake Meredith	February
AF Academy (Kettle and Sapphire Dam)	March
DeWeese Reservoir	March
La Jara Reservoir	May
Idaho Springs Reservoir	July
Smith Reservoir	August
Fuchs and Wee Ruby Reservoirs	August
East Lake Dam	August
Strontia Springs Reservoir	August
Gross Reservoir	September
Lake Isabel	September
Lower Spring Creek	October

Lake Meredith- Outlet Construction, slope stabilization

Construction was from February 14 to March 15, 2000. The contractor attempted to salvage fish in the basin and place them back in Lake Meredith during the draining of the stilling basin. The draining is required to place riprap in the outlet channel. Some muddy water was likely to be discharged down the channel during construction but all sediment should settle out prior to reaching the Arkansas River. Negative impacts were avoided.

AF Academy (Kettle and Sapphire Dam)

Sapphire Lake dam at the AFA Farish recreational facility on Pike's Peak was reported to have about 100 gpm of murky water flowing under the spillway slab. The unreinforced concrete slab was constructed on the embankment fill, and has broken and settled about 2" in the past few years. The caretaker opened the outlet and lowered the reservoir about 2 feet until the spillway underflow stopped. A similar problem was also reported at Kettle Lake #1 on the AFA. The AFA is working to repair the dams and no additional problems with sediment release are anticipated.

Lake DeWeese -Murky Release

An operational release began on March 23, 2000 from outlet on Lake DeWeese with one 16" valve fully open and the other partially open. The water from the reservoir outlet was very murky. The reservoir was spilling at the time of the release, which diluted the concentration of sediment from the outlet discharge. Negative impacts were avoided.

City of Idaho Springs – Reservoir drained

The City of Idaho Springs drained their reservoir in July to allow investigations for repairs to the dam. The reservoir was drained over a period of 9-10 days. The coordination resulted in mitigation action to avoid negative impacts.

Smith Reservoir - Repair upstream outlet gate

The Trinchera Irrigation District drained Smith Reservoir in the fall of 2000 to replace the upstream outlet gate. The local DOW personnel coordinated activities to managed fish population within the reservoir and the stream above. The action could have released some sediment into Trinchera Creek below the dam but because of the beaver activity and diversion structures below the dam the sediment did not have negative impact.

Fuchs and Wee Ruby Reservoirs

Fuchs and Wee Ruby Reservoirs were drained as part of the normal operation for irrigation purposes. The notification was provided top DOW and WQCD.

La Jara Reservoir

La Jara Reservoir was drained as a routine operation. The notice of draining was provided to DOW and WQCD May 17, 2000 and just prior to the draining on July 13, 2000.

East Dam/Lake

East Dam water level was lowered beginning on August 10, 2000 and eventually drained for construction. Adverse impacts were avoided or mitigated.

Halligan Reservoir

August 14, 2000, the manager with North Poudre Irrigation Company, notified DWR that the company would be drawing down Halligan Reservoir from current level, gage height 44.8' to about gage height 27'. The company increased the monitoring of the outflow to twice per day to observe water quality to avoid excessive sediment discharge.

Lake Isabel

A call by a senior water right resulted in the Division Engineer issuing an order to the United States Forest Service, San Isabel National Forest to release water from Lake Isabel, which is situated on the St. Charles River near Rye, Colorado. The planned release included inflow (est. 4-5 cfs) plus an additional 1 cfs from storage for a period of approximately 15 days beginning September 11,2000. The reason for providing notice of this action was that the discharge may carry a significant sediment load. The division engineer contacted the local DOW and the WQCC contact September 8, 2000.

Gross Reservoir

The Denver Water Board notified DWR that Denver would release 100 cfs from Gross Reservoir September 18, 2000 down S. Boulder Creek from 11pm to 5 am. The purpose of the release was to assist flushing some of the fire retardant slurry. There were no negative impacts due to the water release.

Lower Spring Creek Reservoir

The City of Steamboat Springs planned to breach the dam at Lower Spring Creek Reservoir rather then make the necessary repairs. There are no diversions from the creek between the dam and the confluence with the Yampa River. No problems with sediment entering the creek below the dam are anticipated, however DOW and WQCD were notified on October 24, 2000.

Strontia Springs Reservoir

Strontia Springs Reservoir located in Douglas and Jefferson Counties released sediment several times over the last few years. The Buffalo Creek fire has caused a high level of sediment to move to the reservoir in the past two years. The Denver Water Board continues to implement the flushing program. The releases are needed to flush sediment accumulated behind reservoir due to Buffalo Creek fire and Denver gives notice prior to release to DOW and WQCD. Denver has a standard protocol for notification and it is working well.

Overall, the MOU process is working well and is helping to find solutions to releases from dams and water management activities that may adversely impact water quality and wildlife.

Agency Contact: Jack G. Byers, Assistant State Engineer

Human Resources

New Employees

Misca Dorohoff started her duties as receptionist in the Denver office on February 26, 2001. Prior to her full-time position, Misca was hired on September 4, 2000 as a temporary employee for the Records Section. Originally from Newark, Ohio, she graduated in 1998 with a B.S. in Wildlife Biology from the Ohio University.

David Hutchens started on April 2, 2001 as a Telecommunications/Electronics Specialist 2. His duties include repairing, installing, and maintaining the satellite monitoring equipment. David graduated from Denver Technical College with a Associate degree in Electronics. Prior experience includes the City of Aurora as an electronics technician, and Wanco, Inc. as a Senior Electronics Technician.

Brian Boughton joined the Pueblo office staff on April 5, 2001. Brian filled the Engineering Tech 1 position in the Groundwater Information Team. In this position, Brian will process monthly pumping data and enforce the Measurement and Use Rules for wells in the Arkansas Basin by preparing enforcement orders and coordinating with the Attorney General's staff. Brian has a B.S. in Civil Engineering from CSU and is an Engineer in Training. He was formerly with a local consulting firm.

Heidi Peterson, Water Commissioner for Water Districts 48 (Laramie River) and 76 (Sand Creek), began her duties on May 1, 2001. Heidi has a variety of water related experience having irrigated in the Laramie River valley for the past 8 years, performed snow surveys for the NRCS for the past 3 years, and worked as a Deputy Water Commissioner there last summer. Heidi's main challenge will be to maximize beneficial use within Colorado while maintaining compliance with the U.S. Supreme Court decision in Wyoming v. Colorado.

Christine Lytle was appointed to lead the Groundwater Information Team in Pueblo on May 7, 2001. She will supervise operations to determine monthly pumping under the Use and Measurement Rules for wells in the Arkansas River Basin, review replacement plans, and conduct studies to demonstrate Colorado's compliance with the Arkansas River Compact. Chris was previously manager of the Stormwater Discharge Permit Program for the City of Colorado Springs.

Kathy Bower started as Water Commissioner for the Little Snake River drainage on May 7 and is undergoing training from the retiring commissioner, Jack Leonard. Kathy had previously worked for the Division on a temporary basis as the water commissioner in District 44. Kathy and her husband own a small ranch outside of Craig.

John Sikora began as the Assistant Division Engineer for the Division 5 office in Glenwood Springs on May 9. He was previously the Watershed Planning Group manager for URS Corporation in the Denver. His experience includes hydrology, hydraulics and sediment transport modeling, dam design and rehabilitation, and diversion dam design.

Erin Light began work on May 14 as an engineer in the Steamboat Springs office. Erin is responsible for the hydrographic program in the Division. Before joining our staff, she worked for the U.S. Bureau of Reclamation in Denver. Erin has a BS and MS in Civil Engineering from Colorado State University.

Retirements

Jack Leonard will be retiring from the staff of Division 6 in Steamboat Springs on June 29. Jack has been with the Division for 31 years, serving as the water commissioner on the Little Snake River (Districts 54, 55 and 56). Over the years, Jack has become the in-house expert on the irrigated lands within the Little Snake basin, both in Colorado and Wyoming. He has been a tremendous asset to the Division and will be sorely missed. Our best wishes for a long and healthy retirement go to Jack and his wife.

Steve Lautenschlager will retire on July 1, 2001. Steve, a 1975 graduate of Colorado State University, came to work for the State Engineer in 1976 in the Ground Water Section. He left state employment from 1978 to 1981 to be a design and project engineer for a local city, but returned to the Ground Water Section in March of 1981. He was an Assistant State Engineer from 1991 until 1998 when he became Hearing Officer for the State Engineer and Colorado Ground Water Commission. Steve now plans to devote his time to travel around the world and scuba diving instruction. Steve's expertise in water well permitting law and ground water administration will be missed.

Substitute Water Supply Plans

Colorado State Engineer Hal Simpson signed Policy 2001-3, which documents the position of the Colorado Division of Water Resources in approving Substitute Water Supply Plans. The policy became effective on April 17, 2001 and was written in response to the repeated requests by water users, consulting engineers, and water attorneys for a formal written policy.

Statutory authority to grant substitute water supply plans (SWSP's) is granted exclusively to the State Engineer pursuant to Colorado Revised Statute 37-80-120. The intent of this statutory authority is to provide water administration officials with a flexible and timely mechanism to approve SWSP's that provide necessary water supplies to an existing water user in a water-short situation without injury to existing water rights; or to provide an interim water supply for situations in which a permanent change of use is not appropriate. The State Engineer's Office considers requests for SWSP's and their subsequent operations to be temporary in tenure. Approval of SWSP's is contingent upon maximizing available water resources and is in no manner intended to substitute or conflict with the judicial process in the Water Court system. Approval of SWSP's is at the sole discretion of the State Engineer.

The State Engineer's Office considers requests for substitute water supply plans and their subsequent operations to be temporary in tenure.

The policy is essentially segmented into two principle components – Existing Plans and New Plans with appropriate discussion, decisions, and examples.

Existing Plans

Substitute water supply plans approved prior to the date of signature of this policy by the Colorado State Engineer will be held to the standards, terms, and conditions specified at the time of their approval. Renewal of existing SWSP's will be limited to the water use(s) detailed in the previously approved plan. Any expansion in terms of amount, use, or location may subject the development to the analytical criteria for new SWSP's. Renewal requests for existing plans that are considered to be long-term may be required to file a water court application to adjudicate the water supply within a specified time. Failure to file the requisite water court application will result in denial of a renewal request.

New Plans

Approval of new SWSP's will be limited to those that provide replacement water to existing (on or before the date of this policy) out-of-compliance water depletions; projects that anticipate a limited time for water demand (typically less than 10 years); plans used to mitigate drought conditions, adverse public health concerns and/or to provide safe drinking water; and to accommodate damages to water diversion/conveyance structures due to natural disasters. Examples of new substitute water supply plans that *may* be approved:

- Water for seasonal road construction.
- Gravel pit mining.
- Hazardous waste remediation.
- Reconstruction of headgates washed out in floods.
- Alternate source of municipal water supply from wells in an emergency situation.
- Water for re-vegetation of formerly irrigated farmland.
- Water for drought impacted water users.

Denial of new SWSP's may be based upon statutory prohibitions; when potential for injury to other water rights exists and the notice/injury issue must be resolved in the water court; or when the contemplated use exceeds a seasonal or limited timeframe. Denial of a pending SWSP does not prejudice a water court application, which will be evaluated and adjudicated by the court based upon its own merits.

Petitions for re-evaluation of a denied SWSP that are based exclusively upon a simultaneous filing of a water court application with the SWSP will also be denied. Rather than duplicate efforts, DWR staff will make every attempt to work diligently and expeditiously within the water court process toward adjudication by the court. Examples of petitions for new substitute water supply plans that will be denied include:

- The water that is being appropriated (used) is Not–non tributary (reference C.R.S. 37-90-137 (9)(c)(I)).

SWSP (cont.)

- Salvage credits from the dry-up of phreatophytes is claimed to offset depletions in off-channel areas (reference 37-92-103(9)).
- New residential developments.
- New commercial enterprises (golf course construction or irrigation, bed & breakfasts, water bottling plants, motels, RV parks, convenience stores, potato humidification, etc.).
- Water storage and conveyance facilities for aesthetic, piscatorial, wetlands, or wildlife purposes.

This policy is available for viewing or retrieval from the Division of Water Resources Internet site and questions can be directed to Ken Knox at (303) 866-3581.

Costilla Compact Commission Adopts Watermaster Manual

At the May 2001 Compact meeting, the Costilla Compact Commission adopted a Watermaster Manual for administration of Costilla Creek.

The Costilla Compact is an interstate agreement between Colorado and New Mexico that allocates the water of Costilla Creek between users in the two states. The Watermaster manual has been under development by the Engineer Advisors of the two states for three years. The manual is intended to be used by the Watermaster to help deliver reservoir and direct flow surface water fairly to the water users in the two states in accordance with the Compact and the accounting procedures that have been adopted by the Compact Commission. The Commission directed the Engineer Advisors to review comments from the public on the manual and to have further recommended changes drafted by December 2001.

The manual attempts to clarify the relatively complex allocation procedures as outlined in the Compact. Six USGS gages are used to help determine the rights in priority, along with a host of new flumes and data recorders. Costilla Creek administration includes both upstream and downstream reservoirs as well as direct flow rights in both states. And, of course, the main gage for administration/allocation lies below junior diversions and one of the reservoirs, which complicates the determination of how much water is available for diversion.

Along with the Watermaster manual, an electronic spreadsheet is being developed to help the Watermaster correctly distribute water. In its present form the spreadsheet takes data from the USGS gages and reservoir releases, calculates the available direct flow supply, and lists the diversions to each headgate. The spreadsheet is mailed to the Engineer Advisors on a daily basis. While still evolving the spreadsheet, it allows the Engineer Advisors to keep up with the daily changes in the operation of this Compact.

Fish (cont.)

The early idea of converting the flow patterns into a storage pool was developed and expanded on by a fish committee consisting of representatives from the Dolores Water District, the BLM, USBR, Forest Service, DOW and local fishing and boating groups. The Colorado Water Conservation Board and Division of Water Resources participated in discussions in an advisory role. Through some difficult negotiation and creatively devised cooperative efforts, the pool was increased to 33,200 acre-feet and then temporarily to the initial goal of 36,500 acre-feet after water was leased from the Ute Mountain Ute Indian Tribe. The water committee was able then to manage the pool without a change during spills to release optimal flows to keep the fish population stable. This has enabled a release of as much as 50 cfs during dry years allowing sufficient water to keep the fish alive during the worst drought. Once released, the instream flow water right of 78 cfs protects the stream from new appropriations. Senior diversions have little impact and return flows reach the stream below the diversion.

Although much conflict remains to be resolved, the overall impact of the management of the pool has made a major positive impact on the lower Dolores River and showed how opposing groups could work together toward a mutually agreeable arrangement.

CALENDAR OF EVENTS

July 23-24	Colorado Water Conservation Board Meeting, Montrose, CO; for more information, contact Susan Maul at 303-866-3441
August 7	Colorado Board of Examiners of Water Well Construction and Pump Installation Contractors Meeting, Denver, CO; for more information, contact Gina Antonio at 303-866-3581
August 16-17	Colorado Ground Water Commission Meeting, Durango, CO; for more information, contact Marta Ahrens at 303-866-3581

Office of the State Engineer

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

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://water.state.co.us

STREAM LINES *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.*