

# Colorado

# Stream Lines

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

1313 Sherman St. Room 818, Denver, CO 80203 - (303) 866-3581

April 1993, Vol. VI, No. 2

## GROUND WATER COMMISSION HIGHLIGHTS

**T**he Colorado Ground Water Commission held its first 1993 quarterly meeting in Denver on February 12. Dennis Montgomery, a water attorney from Denver, was elected Chairman of the Commission, and Charles Clapper, a farmer from Stratton, was re-elected Vice-Chairman. Jon Brownell of Hooper, Colorado, was introduced as a new member of the Commission to represent the agricultural interests of the San Luis Valley. The Governor's appointment of Mr. Brownell and re-appointments of Charles Clapper of Stratton and Bill Kerksiek of Strasburg have been confirmed by the Colorado Senate.

The Ground Water Commission is responsible for the administration of designated ground water basins, which include the Northern and Southern High Plains, Kiowa-Bijou, Lost Creek, Camp Creek, Upper Black Squirrel, Upper Big Sandy and Upper Crow Creek designated basins. Apart from alluvial aquifers, these basins include about one-half of the Denver Basin bedrock aquifers and the entire Ogallala aquifer in Colorado.

At their February meeting, the Commission considered the recommendation of the commission staff to proceed with the formal process of designating the applicable ground

water sources within the Lower Black Squirrel Creek Basin. This basin is about 500 square miles in area, and is located east of Interstate 25, extending roughly from Colorado Springs to Pueblo within an area described as Township 14 South through 19 South and Range 61 West through 64 West. The Commission authorized the staff to issue a news release in this matter and to hold an informal meeting to seek public input. This meeting was held Wednesday evening, April 28, 1993, at the Hanover School located southeast of Colorado Springs. The Commission may decide at its next regular meeting in May whether or not to formally proceed with the designation.

Persons who have questions on Commission activities, the use of ground water within designated basins, water well permits, or the applicable rules and regulations can call the ground water information desk at the State Engineer's Office in Denver at (303) 866-3587. The next Commission meeting is May 21, 1993 in Room 318 of the Centennial Building, 1313 Sherman Street in Denver.

## Geothermal Wells Rules and Regulations

**T**he draft geothermal well rules have been revised following an informational meeting with interested parties last May. It is hoped that the latest revisions address all of the remaining concerns which had been raised.

*Mission: To serve the needs of the public while conserving, protecting, developing and maximizing the beneficial use of the state's present and future water supplies.*



Version D of the geothermal rules currently is being reviewed by counsel from the Attorney General's Office. Once this review is completed, copies will be provided to all persons on the mailing list. Remaining problems will then be addressed through written comments.

Publication of the draft rules and notice of rulemaking hearings is anticipated in the near future. Copies of the draft and notice will be provided to all interested persons. The rulemaking hearings are tentatively planned for the spring of 1993. For further information, please contact Reiner Haubold at 1313 Sherman Street, Room 818, Denver, CO 80203, or call (303) 866-3581.

*Who was T. C. Henry?*

(See page 7 for the answer).

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### **ARKANSAS RULES AND REGULATIONS FOR GROUND WATER ENFORCED**

The Colorado Division of Water Resources reminds well owners in the Arkansas Valley that rules and regulations limiting ground water pumping to no more than Monday, Tuesday and Wednesday of each week remain in effect. Well owners must immediately renew approvals of any alternate pumping schedules, replacement plans and temporary alternate points of diversion, if they want to rely on those provisions during the current year to pump at other times of the week.

The Rules and Regulations for Ground water in the Arkansas River apply to non-exempt wells which are large capacity wells that are subject to water rights administration within the priority system. These rules do not apply to nontributary and designated basin wells. Additionally, they do not apply to exempt wells which generally are domestic and

livestock wells of less than 15 gallons per minute and which are not subject to water rights administration.

We would like to emphasize that the rules and regulations will be actively enforced. The Division Engineer will issue an order to cease pumping immediately to any well owner found to be pumping in violation of the rules. Failure to comply with such orders could result in the initiation of injunctive proceedings in District Court.

The rules allow adjudicated non-exempt wells filed in Water Court prior to July 1, 1972, to pump only on Mondays, Tuesdays and Wednesdays. In some circumstances an exception to the schedule may be allowed if the Division Engineer approves an alternate pumping schedule. Proposals for alternate pumping schedules must: (1) show that other appropriators will not be adversely affected; and (2) include an engineering analysis demonstrating that the stream depletions will not exceed those caused by Monday through Wednesday pumping. The rules also allow these well owners to pump up to full production capacity subject to an approved replacement plan or if a well is designated as an alternate point of diversion for a decreed surface right.

For non-exempt wells filed with the Water Court after July 1, 1972, the rules require an approved replacement plan or designation as an alternate point of diversion to a surface right in order to pump at any time. A replacement plan is a written plan detailing how water depleted from the stream by well pumping will be replaced to the stream, so that prior vested water rights are not materially injured. Replacement plans must be approved by the Division Engineer annually. Designation of a well as a temporary alternate point of diversion for decreed surface rights also requires that a similar written plan be submitted to and approved by the Division Engineer.

The Rules and Regulations for Groundwater in the Arkansas River were implemented in February 1973. Groundwater well pumping can cause a drawdown of the water table and, subsequently, depletions on the river resulting from a reduction in the flow or a reverse flow from the river into the adjacent aquifer. Because groundwater well rights are generally junior to surface water rights, the rules seek to lessen to a reasonable degree material injury to senior appropriators.

Proposals for alternate pumping schedules, replacement plans or temporary alternate point of diversion designations should be addressed to the Division Engineer, Colorado Division of Water Resources, P.O. Box 5728, Pueblo, CO 81002. Anyone who needs more information or a copy of the rules should write to this address or call (719) 542-3368 or contact a local Water Commissioner.

Well owners who wish to join an organization that will have a replacement plan that allows pumping on any day of the week should contact one of the following associations:

For wells below John Martin Reservoir, call the Lower Arkansas Water Management Association at (719) 336-9696.

For wells above the reservoir but below Pueblo, call the Colorado Water Protective and Development Association at (719) 462-5204.

**SOOOO, YOU WANT TO BUILD A FISH POND**  
By Michael L. Graber  
Division 2 Dam Safety Engineer

The typical scenario involves someone buying a parcel of property with a small stream flowing through it and thinking how

nice it would be if they had a pond on the creek with a few fish in it. How hard could it be? One little pond could not be much of a problem! Two separate and distinct issues are involved in constructing a dam and impounding water behind it to form a reservoir (pond).

First, approval must be obtained from the Office of the State Engineer to construct a dam. The State Engineer has statutory authority for approving construction of new dams, and establishing the safe storage level of existing dams and their repair and alteration. Most of the dams that are envisioned for fishing purposes are of a non-jurisdictional size. A jurisdictional dam is one that is greater than 10 feet in height to the spillway, or impounds more than 100 acre-feet of water at the high water line, or impounds a reservoir with a surface area more than 20 acres at the high water line. A non-jurisdictional dam is one that is smaller in size than a jurisdictional dam. Formal plans and specifications prepared by a Colorado Registered Professional Engineer and approved by the State Engineer are required for jurisdictional size dams. Non-jurisdictional dams require the owner to submit a Notice of Intent to Construct a Non-jurisdictional Water Impoundment Structure form to the Division Engineer in the water division in which the dam is to be located for approval. Typical requirements for approval include that the dam be built to the minimum specifications for an erosion control dam, which are small check dams built on normally dry water courses used to control soil erosion, and that the dam have a gated outlet capable of draining the reservoir and passing normal tributary inflow from the stream.

Second, a right to store and impound water behind the dam is required before water can be stored. This could take the form of a court decreed storage right, plan for augmentation, or substitute water supply plan issued by the Division of Water Resources.

In over-appropriated river basins, these rights can be difficult and expensive to obtain and will normally involve the services of a water engineer and a water attorney. Oftentimes, prospective dam owners lament that this seems like a lot of trouble for a little pond, and how could building just one little dam hurt anyone. A five surface acre pond could impound 20 acre-feet in the reservoir pool and have an annual evaporative loss of 10 acre-feet. This would short a senior water right owner of 30 acre-feet of water per year that he or she would have been entitled to receive. Also, if these fish ponds were built without regulation all along the stream, the stream itself would soon dry up.

While building a pond on a stream may seem like a simple and innocent aspiration, it can cause significant injury to senior water rights and has the potential, in the event the dam fails, to cause property damage to those downstream for which the dam owner is legally liable.

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### ***QINFO - EASY ACCESS TO WATER DATABASE INFORMATION***

If you have ever been frustrated while trying to read the water rights tabulation to locate information about water rights or digging through records to accumulate water right data, you will appreciate QINFO. QINFO is a computer program that is currently being developed by Kent Holt in the Water Division 6 office (Steamboat Springs). Although the program is still in the developmental stages, it is hoped that:

- ◆ Dam inspectors will be able to quickly generate printouts of a dam that includes water right information, ownership information, dam information, and filing map information;
- ◆ Water users will be able to obtain printouts on their water rights that relays all available information on those rights within minutes; and
- ◆ Water administrators, consultants, realtors and attorneys will be able to search through a variety of information and print out that data quickly.

So, what is QINFO? QINFO is a program that utilizes linkage of databases in such a way that water rights data may be accessed quickly and efficiently to produce a meaningful list or useful information to the end user.

It is envisioned that the most inexperienced computer user will eventually be able to operate QINFO with ease. The program will be menu driven with a help screen that tells how to search for a water right. A water district number, and any one of the following will allow access to data; structure name, location information - township, range and section, owner name, structure ID number, or stream number/name.

QINFO will be capable of generating a variety of printouts. A priority list by stream, a list of water rights on any stream (with or without the tributaries), a specific water right, or a complete list of an owner's water rights are only a partial list of what QINFO will do.

The program is currently being tested in Water Division 6. It is hoped that the program will be available for public use in the near future.

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**A SHORT  
HISTORY OF  
BROWN'S PARK  
AND THE GREEN  
RIVER VALLEY**

By Ed Blank,  
Division Engineer,  
Water Division 6

**T**he Green River flows from Utah into a fertile valley in Northwest Colorado known as Brown's Park, then into Lodore Canyon where it intercepts the Yampa River and flows back into Utah on its way to the Colorado River

and Lake Powell. Elevations in the river valley range from 5,400 feet in the Brown's Park area, to 5,100 feet as it leaves Colorado. Nearby mountains to the west and south reach elevations of approximately 7,400 feet. Lodore Canyon, near the confluence with the Yampa River, cuts through rugged mountains to form a narrow canyon that is approximately 2,200 feet deep. The rapids found in this canyon can be wild enough at times to rival those found in the Grand Canyon.

The Indians found the mild winter climate in the Green River Valley to be a favorable contrast to the harsh weather encountered in the nearby mountain areas. Water and wild game in sufficient quantities to supply their basic needs were an added attraction for spending the winters in this area.

Brown's Park valley is approximately six miles wide, thirty five miles long, and surrounded on all sides by mountains. The origin of the valley's name is unknown, but could possibly be attributed to any of several early visitors named Brown. To early 1800s travelers, the valley appeared to be a "hole" compared with the surrounding high mountain terrain, thus the area became known as Brown's Hole. Upon arriving at Brown's Hole, Elizabeth Bassett, an early settler, smelled the fragrant blend of sage, greasewood, river moisture, cedar, wild flowers, and cottonwood leaves, felt the valley's warm welcoming and declared that it

should never be called a "hole," preferring to call it Brown's Park, the name it now bears.

During the early 1800s, Brown's Hole became a rendezvous for trappers and fur traders. The demand for fur pelts soon dwindled and most trappers looked for other ways to survive in the valley they loved so well.

By the early 1850s the ever-increasing population surrounding the California gold fields depleted the food supply and the Spanish cattle herds of California became insufficient. The search for food brought orders for the delivery of cattle from Texas. Some of the first cattlemen to make the grueling trip were W. H. Snyder and men hired as "drovers" to help with the cattle drive. They prodded and pushed a herd of cattle up the Rio Grande, over the Continental Divide into southern Colorado, across the White and Yampa rivers and finally into Brown's Hole. In the spring, after a mild winter with plenty of feed, the drive continued to Fort Bridger, then on to California. The resulting 300% profits from the sale of these cattle was not uncommon.

Since Brown's Hole was so close to the Utah and Wyoming statelines, as well as the Oregon and Overland trails, it was a haven for outlaws on the run, including Butch Cassidy and "The Wild Bunch." Even after homesteaders settled in the valley, outlaws continued to use the area as a refuge.

Jim Bridger was one individual who found a way to build an empire. Travelers who had come a long way had usually worked their horses to the point that they needed rest and good feed. Jim had several horses that he used in his ranching operation that were normally in good shape. He would trade horses with the travelers at the rate of one good horse for two or three worn out ones. The weary horses were put out to pasture for three or four weeks, or until they were healthy enough to trade to the next travelers

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into the valley. Jim soon accumulated a sizeable herd of horses with a minimum of expense.

On May 24, 1869, John Wesley Powell, with nine men and four wooden boats, set out from Green River, Wyoming to explore the Green and Colorado rivers. One week into the journey the group entered Brown's Hole and was impressed with the beauty of the valley and the birds they found there. Two days later they stood at the mouth of a rock canyon that was swallowing up the river. One of the boaters, Andrew Hall, remembered the last line of a poem by Robert Southey, "... and this way the water comes down a Lodore." They named the canyon Lodore. The party soon learned that Lodore Canyon was a threatening place with many hidden secrets. Disaster Falls, named by Powell, proved to be a match for the party and most felt very lucky to survive its threat. One man left the party at the falls and was thankful to make his way back to the peaceful security of Brown's Park, where he settled down. Three more men deserted at the head of a massive stretch of rapids in the canyon only to perish in the wilderness. Three months later Powell and the five remaining men emerged from the Colorado River Canyon into instant fame!

An especially harsh winter during 1871-1872 caused many of the livestock in the surrounding area to perish. However, most of the livestock in the valley did survive, and Brown's Hole became a permanent winter range. Many small reservoirs were built in the early 1900s in an attempt to improve the pastures in the arid climate during the summer, and this further improved the area as a winter range for the cattle ranchers.

Most of the Brown's Park area was obtained by the U.S. Fish and Wildlife Service in the 1950s to create the Brown's Park National Wildlife Refuge in an effort to preserve the areas's wildlife.

Construction of Flaming Gorge Reservoir Dam in Utah during the early 1960s has had an effect on river flows in the area. The Fish and Wildlife Service is now asking the U.S. Bureau of Reclamation to modify the Operations Plan for Flaming Gorge to reduce the impacts on the river downstream. The Fish and Wildlife Service has also designated the Lower Yampa River, and the Lodore Canyon area of the Green River, as an Endangered Fish Recovery Area. The endangered species include the Colorado Squawfish, the Humpback Chub, the Boneytail Chub, and the Razorback Sucker. Protective measures have been imposed by the Fish and Wildlife Service in an effort to keep these fish species from extinction.

Remains of prehistoric animals have been found in the lower end of Lodore Canyon. This canyon, and an area upstream on the Yampa River, was preserved as the Dinosaur National Monument in the 1920s. The area has been researched by archaeologists, and information concerning its history, and some of its remains, are on display in the Museum at the Monument headquarters near Dinosaur, Colorado.

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***EXEMPT WELLS THAT INCLUDE WATERING OF THE USER'S DOMESTIC ANIMALS FAILS RENEWAL***

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The Colorado Legislature failed to pass a bill that would have made House Bill 1111, enacted in 1988, permanent. House Bill 1111 allowed for the inclusion of non-commercial domestic animals for household-use-only well owners. Consequently, as of July 1, 1993, household-use-only well permits issued under Section 37-92-602 will no longer allow for such use. Should a person who has an existing

household-use-only well permit that does not allow for such use desire to amend their permit to include the watering of domestic animals, he/she must apply for such an amendment **prior to June 30, 1993**. The fee to amend the permit is \$25 and an application can be obtained from your local division office or at the Denver Office, 1313 Sherman Street, Room 818, Denver, CO 80203.

household use only well usage always accommodated the watering of indoor "household" pets. House Bill 1111 (1988) allowed for the watering of outdoor non-commercial domestic animals, i.e., a few horses, a goat, etc., as long as they are owned by the well owner/occupant.

**Please note the preceding article in this issue of *Stream Lines* whereby the law allowing for such outdoor non-commercial animals expires on June 30, 1993.**

**Clarification**

A brief clarification to portions of the article by Joseph Grantham entitled, "How to Correctly Fill out a Permit Application" that appeared in the October, 1992 issue of *Stream Lines* follows.

Filing Fees: At the end of the paragraph on fees, a statement was made that "uses other than those permitted or change in aquifer or location of more than 200 feet" may have perpetuated confusion regarding a proposed move of a replacement well to a location greater than 200 feet from the original location of a well. When a condition of approval on the well permit states that a well must be within 200 feet of the permitted location, the condition means just that. Should a well owner wish to relocate (replace) his well to a location greater than 200 feet from the original well site, then the location indicated in the replacement application must reflect a location within 200 feet of the new proposed location. In other words, the 200-foot condition on a well permit is specific to the actual location of the well for which that permit was/is issued. This is with regards to permitted and not decreed locations.

Water Use and Well Data: At the end of the paragraph discussing HOUSEHOLD USE ONLY, the watering of non-commercial domestic animals was inferred to be specific to indoor pets. To clear up any confusion,

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Answer: T. C. Henry was a champion of irrigation ditch construction in Colorado. During the period from 1884 to 1890 he either constructed or began construction of the following ditches:

1. Grand Valley Ditch
2. Fort Morgan Ditch
3. Del Norte or Rio Grande Ditch
4. Citizens or Monte Vista Ditch
5. Empire or Commonwealth Ditch
6. San Luis Ditch
7. North Poudre Ditch
8. Pawnee Ditch
9. Uncompahgre or Montrose Ditch
10. Fort Lyons Ditch
11. Bob Creek or Colorado Ditch
12. Otero Ditch

## CALENDAR OF EVENTS

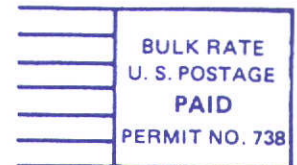
- June 1 Board of Examiners of Water Well Construction and Pump Installation Contractors meeting, 8:30 a.m., Room 719, 1313 Sherman Street, Denver, CO. Contact Paula Lacey, DWR at (303) 866-3581.
- June 10 34th Annual Meeting of the Republican River Compact Administration, Topeka, KS. Contact Marta Ahrens, DWR at (303) 866-3581.
- June 14-16 "Water Organizations in a Changing West," sponsored by the Natural Resources Law Center, University of Colorado School of Law. Contact Katherine Taylor, Conference Coordinator, at Campus Box 401, Boulder, CO 80309 or (303) 492-1288 (FAX 492-1297).
- July 7-8 Colorado Water Congress 1993 Summer Convention, Holiday Inn University Park, Fort Collins, CO. Contact Dick MacRavey, CWC at (303) 837-0812.
- July 17 Colorado Water Well Contractors Association Mid-Year Conference, Beaver Run Resort in Breckenridge, CO. Contact Carol Brooks, CWWCA at (303) 759-1756.
- July 22-23 Colorado Water Conservation Board, meeting to be held in Meeker, CO. Contact Dori Romero, CWCB at (303) 866-3441,
- August 3 Board of Examiners of Water Well Construction and Pump Installation Contractors meeting, 8:30 a.m., Room 719, 1313 Sherman Street, Denver, CO. Contact Paula Lacey, DWR at (303) 866-3581.
- August 20 Colorado Water Ground Water Commission, meeting to be held in Breckenridge, CO. Contact Marta Ahrens, DWR at (303) 866-3581.

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