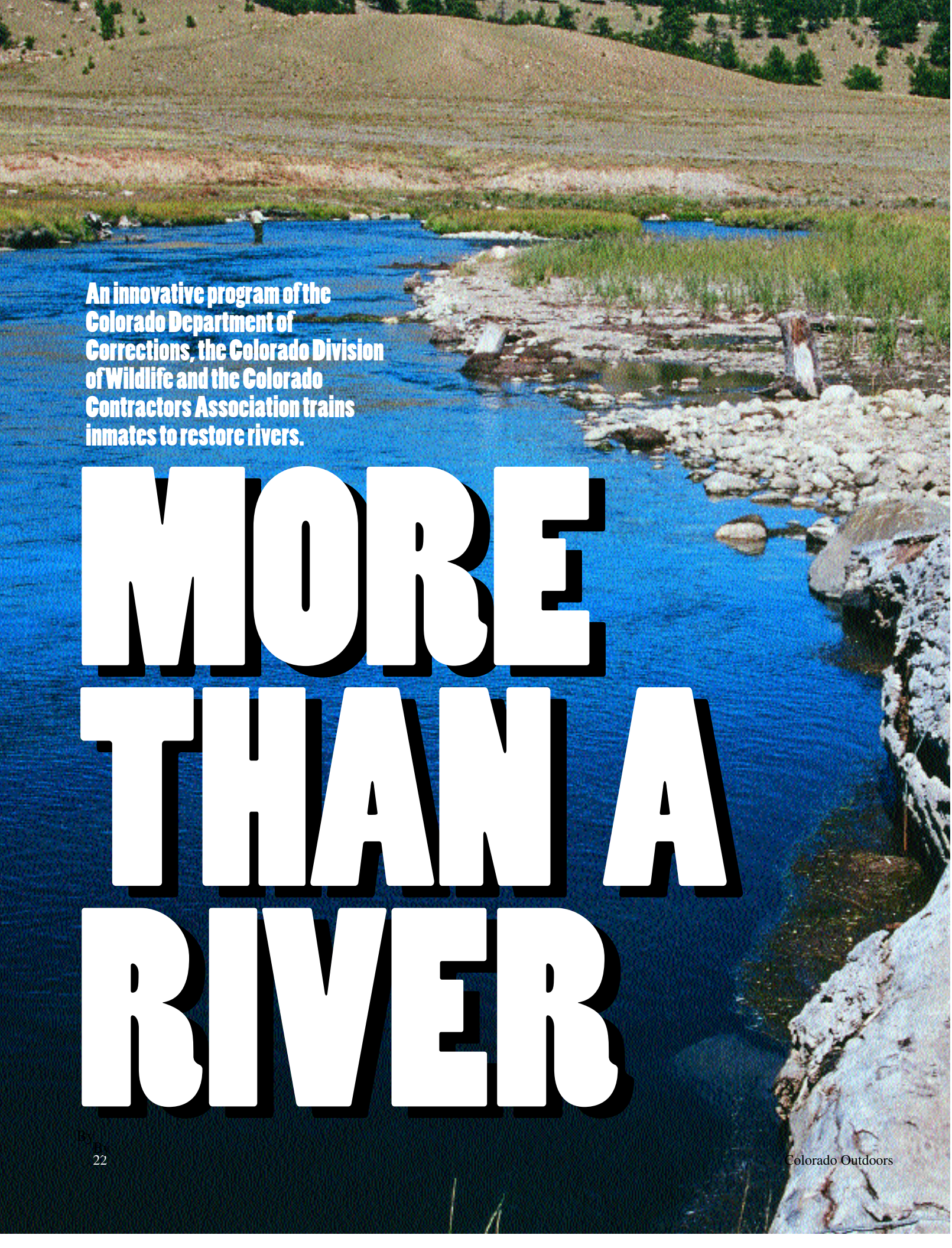


An innovative program of the Colorado Department of Corrections, the Colorado Division of Wildlife and the Colorado Contractors Association trains inmates to restore rivers.

MORE THAN A RIVER

By

At left: The South Platte River, the first cooperative restoration project, is appropriately called the "Dream Stream." Photos at right: Inmates receive heavy equipment training as well as other skills that prepare them to re-enter society. The inmates perform work that improves both aquatic habitat and angler access, such as new river channels, reducing riverbank erosion, reducing silt loads, flood control and constructing parking lots. Center photo: Inmates pose at a groundbreaking ceremony at Antero Reservoir.

During 1996, in a conference room behind the walls of the Buena Vista Correctional Facility, staff from the Department of Corrections (DOC) and the Division of Wildlife (DOW) planned a bold new concept that would provide training opportunities for inmates and improve river channel and trout habitats in South Park streams.

The focus of the plan was a Vocational Heavy Construction Technology Program developed by Tom Bowen, a former prison guard and now a DOC vocational education instructor who was long disappointed with the recidivism rate of inmates released from prison. The program provides an opportunity for inmates to receive heavy equipment experience then employment in the construction industry.

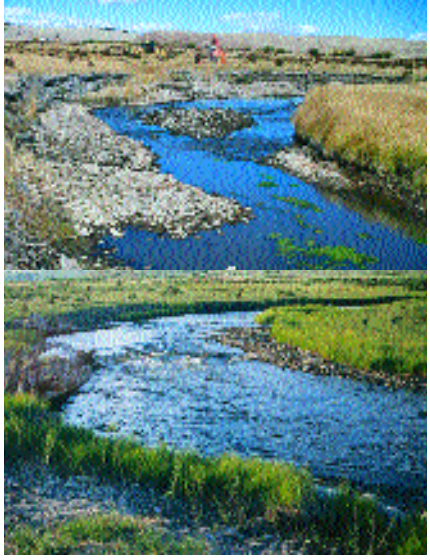
The Colorado Contractors Association and the Operators Engineers Union sponsor the program and provide an advisory board from their membership. Inmates are required to discuss their criminal records and describe their life goals to the board. The advisory board also approves projects submitted by the DOW and other state, federal, county and city agencies.

Inmates receive at least 18 months of on-the-job training in heavy equipment and maintenance. Upon completion of the program the inmates are presented to the Denver Community Board for approval and placed in the Independence Halfway House. Student inmates, once at the halfway house, interview with Contractors Association member construction companies and choose their own jobs. Their average first-year income ranges between $46,000 - $51,000. They now become taxpayers and are required by law to pay 20 percent of their income for crime restitution. An additional 10 percent is placed in a mandatory savings account to serve as a safety net. They remain in the halfway house until approved by the Community Corrections Division for the Intensive Supervision Program and wear an ankle bracelet.

In 1998, the first cooperative restoration project was completed in a river segment near the upper end of the "Dream Stream," appropriately named by anglers. The Dream Steam is the segment of the South Platte River located between Spinney and Elevenmile reservoirs.

The next construction project reduced Threemile Creek silt loads entering the Dream Stream. Previous flood events

By Rod Van Velson



Sweatwater Creek, which adjoins the Knight-Imler State Wildlife Area, before (top) and after excavated pool improvements.

from the Threemile Creek watershed had deposited huge sediment loads in more than a mile of the Dream Stream. A new high-flow channel was constructed to direct Threemile Creek floodwaters into an abandoned borrow pit created during the construction of Spinney Dam. A 500-foot low-level dam constructed on the Lower Spinney State Wildlife Area and located between two low ridges increased the capacity of the borrow area. A pipe gate slowly releases impounded floodwaters, after losing its silt load in the borrow area, onto a riparian vegetation buffer strip ensuring waters entering the Dream Stream contain little if any silt.

Another project was the construction of a new channel for the South Fork of the South Platte River immediately downstream from Antero Reservoir. Inmates excavated a new meandering stream channel and then installed more than 180 pieces of woody materials and about 370 boulders in 41 pools and 41 riffles created in the new stream. Excavated materials were hauled off site and re-vegetated. The new stream channel was lined with nearly 1,000 yards of .5-2.5 inch gravel to create trout spawning habitat. This entire project was accomplished with minimal damage to the existing riparian vegetation and new riverbanks. The Denver Water Department, a third partner in this project, designed and funded the headgate and diversion structure needed to redirect water into the new stream channel.

Last year's drought provided another river restoration opportunity. When the stream flow in the South Fork of the South Platte dried up during the late summer of 2002, it created a unique opportunity to install river channel and trout habitat treatments that would speed up the recovery process. The most successful river restoration projects occur where land management and riparian vegetation are improved prior to habitat restoration.

River channel and trout habitat treatments were installed in the dry riverbed. Consequently damage to the riverbank vegetation by heavy equipment was almost non-existent. This is an important issue because riparian vegetation is the "glue" that holds riverbanks together and reduces riverbank erosion.

During its first four years, DOW and DOC cooperative projects restored about 2.7 river miles through two different state wildlife areas and river segments leased for public fishing in South Park. Other projects include construction of the .7 mile flood control channel, the new South Fork channel (.7 mile), construction of angler access roads and parking lots plus spring development on a state wildlife area.

Over the years, erosion resulted in miles of over-width river channels and degraded river habitats across South Park. These degraded river channels contain shallow water during low flows. And because pools have filled with river transported materials, they lack deep-water pool habitats essential for over-winter survival of adult trout populations.

In the South Fork the restoration of an over-width river channel between Highways 9 and 24 near Hartsel was completed during the spring of 2003. Restoring natural river functions in this river segment involved excavation of pool habitats located along outside curves of the river then using the excavated river-bed materials to build point bars. Students also hauled tons of gravel materials and riparian sod blocks to narrow the river channel and installed native materials to reduce riverbank erosion and create additional trout habitats.

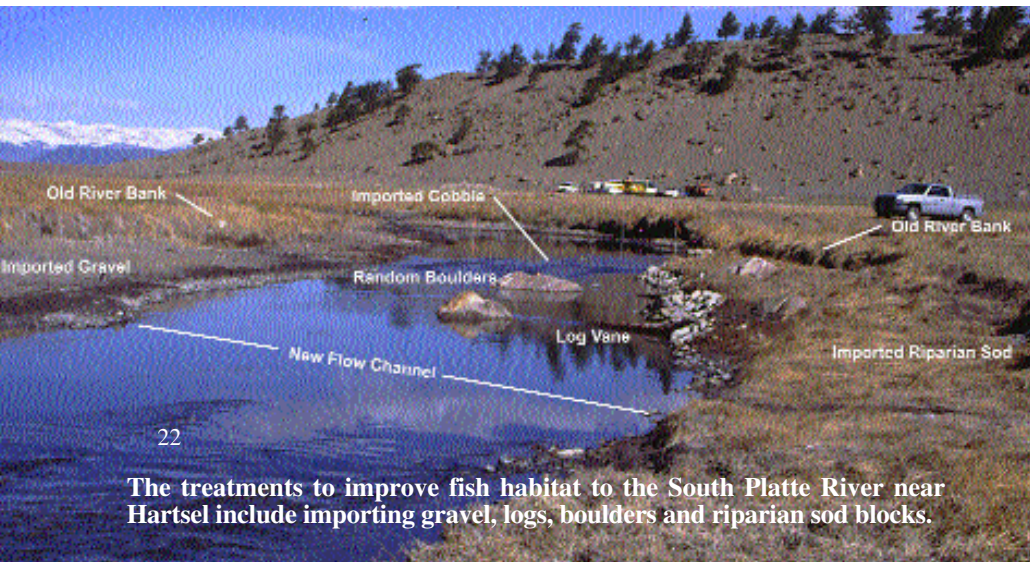
Inmate students are taught surveying skills and also annually plant willows and riparian vegetation for stabilization of riverbanks. Willow planting techniques are modified to increase survival and reduce time required to stabilize riverbank erosion in South Parks' harsh, cold and windy climates. Bare root willow plantings have proven to be very effective along certain river bank sites. Studies to find better willow species for use in river restoration projects continue.

Terry Kish, Director of Human Resources Services for the Colorado Contractors Association, Inc. comments, "The CCA is in the seventh year of partnership with the Department of Corrections in this successful program. It has been a very rewarding and satisfying endeavor. The number one factor in determining if a person will return to prison is their placement in a steady, well-paying job."

DOW Director Russell George attended a Colorado Contractors Association advisory meeting his first week on the job in fall 2000, and saw firsthand one of the completed river restoration projects. He has been a supporter since then and encourages expansion of the program so additional DOW projects can be completed and additional lives can be restored.

Rivers are constantly in a state of change. Incarcerated men re-direct their lives. Recruited inmates go through the program as river restoration techniques evolve. Goals and lifestyle changes take place. And yes, river channel and trout habitats have been restored in South Park. Fishing license fees are used to improve and change trout habitats plus restore hope to men who are sincere about changing their lives. ❑

Rod Van Velson is an aquatic research biologist with the Division of Wildlife. Tom Bowen, a vocational education instructor with the Department of Corrections, contributed to this article.



The treatments to improve fish habitat to the South Platte River near Hartsel include importing gravel, logs, boulders and riparian sod blocks.