

# CLEARING THE WATERS

NEWSLETTER

VOL. 12 ~ NO. 1

SPRING, 2007

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Sunny Hill & Tony Benson on a Dry Cimarron meander, June 2004

## Using the New Ranch: Riparian Education & Restoration

by Courtney White, Quivira Coalition Executive Director

*"The Difficulty lies not in new ideas, but in escaping the old ones." - John Maynard Keynes*

More often than not, implementation is the easy part of a project. More difficult is the decision to try something new in the first place – and even more difficult, sometimes, is getting the family to agree.

In the summer of 2001, we were visited by Sunny Hill, who had recently returned to her family's farm, the Rainbow Ranch, located on the Dry Cimarron River, thirty miles east of Raton, New Mexico. She

had heard about The Quivira Coalition, and the ideas of progressive grazing management that we advocated, and wanted to know if we could help her 'upright' the farm, which was struggling ecologically and economically. *Continued on page 2*



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NMED SURFACE WATER QUALITY BUREAU'S  
WATERSHED PROTECTION SECTION

[www.nmenv.state.nm.us/swqb/wps](http://www.nmenv.state.nm.us/swqb/wps)

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**VOL. 12 NO. 1**  
**SPRING 2007**

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This newsletter is published quarterly by the Watershed Protection Section of the New Mexico Environment Department's Surface Water Quality Bureau.

Funding provided by CWA §319(h) grant from EPA.



## *NEW RANCH continued from page 1...*

Specifically, she faced a serious dilemma: the US Army Corps of Engineers had decided that an earthen dam that her father, Jack Williams, had recently built across the river, without permits or permission, would have to be removed. This decision had upset her father, who saw it as an affront. Sunny saw it an opportunity to begin restoring approximately 7,477 feet of the Dry Cimarron that flowed through their property (approximately 21,070 feet or 4 miles of the Dry Cimarron is contained within the Rainbow Ranch boundary).

Sunny understood, as did her father, that the river was in trouble. Through a variety of historical factors, including some out of their control, the river had become entrenched along almost its entire length, up to 25 feet in places, and was threatening to go deeper. Its unstable condition was threatening their farmland, through widening meanders and erosion, as well as the bridge that the family had built across the river in order to reach their homes. In fact, it was the concern for the bridge that had caused Jack Williams to build the dam in the first place.

Mr. Williams had tried other mitigation strategies over the years, including 'straightening' the river (by cutting off meanders with a backhoe), installing tire dumps at key erosion sites, and unintentionally overgrazing the riparian zone with year-round domestic livestock.

Sunny didn't blame her father for what he did, though his actions had the result of exacerbating the river's ills. Straightening the river, for example, caused it to become more deeply entrenched with each flood. "He did his best with the knowledge he had at the time," she said. "He meant well, but I suspected there had to be another way." Fortunately, the Surface Water Quality Bureau of the New Mexico Environment Department had recently analyzed the Dry Cimarron and had listed it as impaired for temperature, ph, dissolved solids, stream bottom deposits and ammonium. They put the river on the 2000-2002 State of New Mexico 303(d) List for Assessed Stream and River Reaches.

Working together with Sunny Hill, The Quivira Coalition submitted and received a Clean Water Act Section 319 (h) Water Quality grant to conduct riparian restoration on the Dry Cimarron as well as conduct outreach and educational activities around the state. Entitled "Using the New Ranch: Riparian Education and Restoration" the grant began in the fall of 2002 and ended in June, 2006.

Restoration goals for this section of the Dry Cimarron were to: 1) increase the river's sinuosity and channel length; 2) raise the river's bed level; 3) revegetate eroding banks; 4) decrease sediment inputs; and 5) return the riparian ecosystem to a productive state

The project began with a riparian, rangeland and cultural assessment, followed by the development of prescriptions for restoration. 404/401 permits were obtained from the Corps of Engineers and the New Mexico Environment Department and archeological clearance was approved by the State of New Mexico's Historic Preservation Division. *Continued on page 4*



# Humane Methods to Tackle Beaver Conflicts

by Julie Walker



Animal Protection of New Mexico recently held a workshop to educate concerned citizens on using humane methods to handle beaver conflict issues. The workshop was part of the Rio de Las Vacas Wetlands Restoration Project administered by the Surface Water Quality Bureau (SWQB). Rio de Las Vacas is a tributary of the Rio Guadalupe in the Jemez Mountains. The project will restore beaver habitat along three miles of the middle portion of the river on Forest Service land and participating private inholdings.

This portion of the Rio de Las Vacas is shared by cattle, recreational users, private property owners, and in the past, beaver. This reach is currently listed as not supporting high quality coldwater aquatic life, because the water temperature is at times above the 20 degrees Celsius standard required for this use. The high water temperature could be due to a lack of riparian vegetation, which may be linked to the disappearance of beaver in the area. Riparian vegetation armors banks and provides shade. The river is over-wide as well, leading to a shallow stream without many pools to cool the water and provide habitat for fish.



Beaver encourage the production of willow by building dams that raise the water table, and in turn provide better habitat for riparian plant species to grow. Beaver dams also create ponds that provide cool water and habitat for fish. Beaver feed on stands of vegetation in the riparian corridor and floodplain, so riparian vegetation and beaver interdependently thrive.

This reach of the Rio de Las Vacas has a wide valley floor and a slight slope and could be prime beaver habitat. Restoration design of the reach includes using innovative fencing to minimize cattle in the prime beaver area, educating users of the reach, and attempting to narrow the channel using structures pioneered by river restorationist Bill Zeedyk.



For this project, education is probably the most effective best management practice because of the heavy use this area receives by permittees and recreational users. Therefore, Animal Protection of New Mexico and SWQB are holding three workshops on how to co-exist with beaver. The first workshop was held September 30, 2006 in Taos, NM and was geared to the general public in New Mexico interested in protecting and learning about beaver. *Continued on page 5*

*NEW RANCH continued from page 2...*

Baseline monitoring was conducted in 2003 and 2004 with a Rangeland Health Assessment, a Rosgen Level II Geomorphology Survey, a Riparian Vegetation Survey and fall and spring Bird Surveys. The geomorphology survey was repeated in 2005 and the vegetation survey in 2006. Bird surveys were repeated twice annually.

A new grazing plan was developed and electric fencing installed that allowed for dormant season grazing (only) riparian pastures along the river.

Over the course of the project's duration, three original meanders were reinstated, one concrete irrigation plug and one low-water crossing were decommissioned, and the east end tire dump removed. Volunteers implemented smaller treatments during public workshops. Eroding stream banks were re-vegetated with willow cuttings from a healthy stock of willows located on the far eastern end of the ranch. Vane structures were installed in strategic locations to move the river's thalweg towards the opposite bank, away from eroding stream banks. The channel bed was stabilized using one rock dams and wicker weirs. Sediment sources from upland sites and eroding side gullies were controlled using one rock dams, straw bale falls and rock bowls, and disturbed areas were reseeded. These treatments were implemented during five hands-on volunteer workshops (~100 volunteers totaling ~1,379 hours man hours) and by five sub-contractors (~308 hours). *Continued on page 5*



October 2002



April 2003



August 2005



March 2006

## *NEW RANCH continued from page 4...*

By the end of the project these treatments had: 1) reduced the river's sediment load caused by erosion; 2) increased stream bank vegetation, which has stabilized eroding banks; 3) narrowed the channel width and raised bed elevation in some locations; 4) increased aquatic vegetation; and 5) increased the length of the river by 1,285 feet.

But this had been the easy part.

During the course of the project, Sunny Hill struggled to get her father to understand that these ideas, and all this work, was not meant as a criticism of his management of the farm for so many years. However, despite his tacit approval of the project, Jack Williams never embraced the goals or methods. As a result, emotional tensions in the family remained taut.

In this way, the Williams family represents a common dynamic in the West today, as one generation, with new ideas and goals, takes over from their parents. While the methodology of riparian restoration, with all its scientific underpinnings, is often a straightforward proposition of 'getting-it-on-the-ground,' it is the inner working of families, and the tensions that sometimes exist there, that often pose the greatest challenge to the long-term success of a project.

In the end, through our combined efforts a stretch of damaged river has been healed. It is our hope that this healing process has extended to the family that owns the land as well. ~

## *BEAVER continued from page 3...*

Various experts from around the country gave presentations to approximately 25 attendees. Speakers for the morning session included Sherri Tippie of Wildlife 2000; Skip Lisle of Beaver Deceivers International; Dr. Paul Polechla, Jr., research associate professor at the Museum of Southwestern Biology of the University of New Mexico; Josh Rector of NM Department of Game and Fish; and Sid Goodloe, rancher and conservationist. Bill Zeedyk of Zeedyk Ecological Consulting was scheduled to speak, but could not attend.

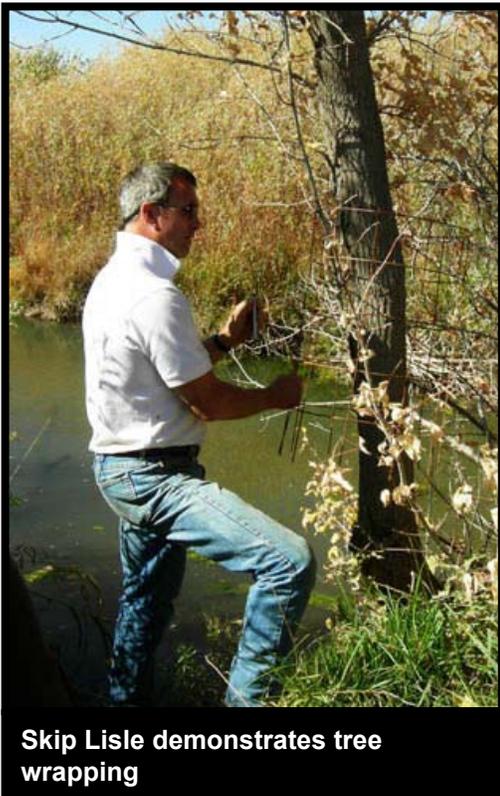
Sherri Tippie discussed her experience in live trapping beaver. She emphasized the importance of knowing the habits of beaver when trapping them. Skip Lisle spoke of his interest and involvement with the habitat that beaver create for other species, such as fish, birds, and wildlife. He also discussed methods and structures that protect infrastructure threatened by beaver dams, but allow the dams to remain. Dr. Paul Polechla, Jr. discussed the biology and dietary habits of beaver, and how they have evolved. Josh Rector informed the audience of the laws and statutes associated with beaver trapping. Finally, Sid Goodloe made the connection between beaver and river conservation. He spoke of watershed deterioration and how rehabilitation is necessary to improve beaver habitat.

The afternoon was spent in the field with the use of live beaver traps, a tree wrapping demonstration, and learning hands-on how to construct a "beaver deceiver."

Live traps are used to relocate beaver without killing them. Sherri Tippie demonstrated how to safely use a Hancock live trap. She wraps the traps with willow branches and places bait in the trap to encourage the beaver to approach it. *Continued on page 6*



**Sherri Tippie demonstrates live trap**



Skip Lisle instructed the audience on the importance of tree wrappings. These are used to encourage beaver not to chew on trees that provide crucial habitat where few trees exist. By wrapping trees with wire gage, areas that have degraded vegetation can have a chance of survival.

Beaver deceivers are devices that control beaver activity without moving them from the area. The deceiver created for this workshop was used to encourage less damming by beaver on an access bridge to a cattle ranch. The beaver used this bridge to dam up the river and water impounded by the dam was beginning to threaten the bridge. Instead of removing the beaver from the area, Skip Lisle installed a beaver deceiver using rebar and a flexible pipe. The beaver deceiver was cross-rebar made into a large round cage with flexible piping entering and leaving the cage. The cage was lowered with the pipe into the pond. The flexible piping then extended through a hole in the dam under the bridge to the downstream end of the bridge. This allowed draining of the ponded water to downstream via the flexible pipe. To the beaver, it appears that the dam they built is working sufficiently to hold the water, thus discouraging them from creating an even larger dam. The reduced height of the ponded water lessens the threat to the bridge, but does not require removing the beaver from the area. Before the afternoon session was completed, the pond had already drained by a couple of feet and the water level would eventually settle at the elevation of the up-

stream pipe. This treatment promotes a win-win-win situation where the beaver remain, the bridge is not threatened, and habitat for fish, birds, and wildlife improves because the pond, although lower, still exists.

At the workshop, the SWQB Wetlands Program had a booth. Animal Protection of New Mexico advertised their newly created “Beaver Brigade.” This volunteer effort will resolve beaver conflicts humanely and educate the public to appreciate and tolerate beaver.

The next two beaver workshops will be targeted for private landowners, permittees, and recreational users of the Rio de Las Vacas. ~

To learn more about live trapping contact Wildlife 2000 at [w2ktipie@earthlink.net](mailto:w2ktipie@earthlink.net). Contact Skip Lisle at [skip\\_lisle@yahoo.com](mailto:skip_lisle@yahoo.com) for more information on beaver deceivers, other flow devices, and tree wrapping. For more information on the “Beaver Brigade,” contact Barbara Coulter of Animal Protection of New Mexico at [barbara@apnm.org](mailto:barbara@apnm.org).



Photographs in this article are courtesy of Animal Protection of New Mexico (unless otherwise noted).

**The 2006 Nonpoint Source Management Program Annual Report**  
available on the Surface Water Quality Bureau's website: [www.nmenv.state.nm.us/swqb/wps](http://www.nmenv.state.nm.us/swqb/wps)  
or by calling 505-476-1866.

The Report highlights updates and accomplishments from the SWQB's watershed protection, wetlands, monitoring and assessment, TMDL, water quality standards, NM Mining Act, and CWA Section 401 programs. Also featured in the report are summaries of all the CWA section 319(h) grant program projects completed in 2006.



**Clean Water Act Section 104(b)(3) Grant Projects**

*Through section 104(b)(3) of the Clean Water Act, EPA makes grants available to promote the prevention, reduction and elimination of pollution. Funds are to be used to focus on innovative demonstration and special projects specifically in wetland areas.*

**New Mexico Wetlands and Riparian Corridors - From Plan to Action Phase I**

**Project Goals:**

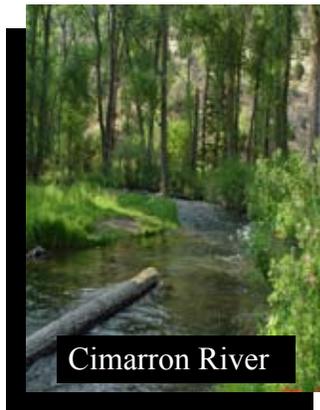
- To establish a state Wetlands Program and incorporate program elements into routine activities of SWQB
- To protect, restore, and enhance wetlands by developing and implementing "Wetlands Action Plans" (WAP) by established watershed groups statewide

**Clean Water Act Section 319(h) Grant Projects**

*The 319 grant program concentrates awards on projects located in watersheds with impaired waters and with completed TMDLs. A WRAS is required to be completed before On-the-Ground projects are initiated.*

In 2006 projects were completed in 12 Northern and 4 Southern New Mexico watersheds:

Northern: Animas, Cimarron, Cimarron Headwaters, Conejos, Jemez, Middle San Juan, Mora, Rio Chama, Rio Grande-Albuquerque, Rio Grande-Santa Fe, Rio Puerco, Upper Rio Grande. Southern: Mimbres, San Francisco, Upper Gila, Upper Gila-Mangas.



# EVENTS CALENDAR

## MAY, 2007

### **5/8 & 5/9 Upper San Juan Water Quality Forum: Fort Lewis College, Durango CO**

The purpose of the forum is to share information and discuss plans for improving basin-wide water quality. For more info & to register visit: [www.sanjuancitizens.org](http://www.sanjuancitizens.org) or contact: Tracy Daniels, San Juan Citizens Alliance at: 970-259-3583 or [tracy@sanjuancitizens.org](mailto:tracy@sanjuancitizens.org)

## JUNE, 2007

### **6/23 Cedro Creek X-Stream Makeover**

Learn from on-site restoration specialists about building One Rock Dams, Baffles, Weirs and Vanes. For more info visit [www.quiviracoalition.org](http://www.quiviracoalition.org) or contact: [education@quiviracoalition.org](mailto:education@quiviracoalition.org), or 505-820-2544

## JULY, 2007

### **7/27-29 Comanche Creek Restoration Weekend**

Learn about & help build restoration structures on the lower and middle reaches of Comanche Creek. Visit Comanche Creek Website for an overview of the project at [www.comanchecreek.org](http://www.comanchecreek.org). This is the only workshop on Comanche Creek this year. For more info visit [www.quiviracoalition.org](http://www.quiviracoalition.org) or contact: [education@quiviracoalition.org](mailto:education@quiviracoalition.org), or 505-820-2544



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