CLEARING THE WATERS

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Community Monitoring of the Induced Meandering Method Demonstrated on Galisteo Creek

By Mariana Padilla

On June 11th and 12th, the Earth Works Institute (EWI) held a riparian vegetation-monitoring workshop in Cañoncito at the privately owned Brown-Bodei demonstration site along Galisteo Creek. The monitoring project is sponsored by the New Mexico Environment Department, EWI and by the US Environmental Protection Agency's National Monitoring Program, which supports watershed projects that tackle water quality issues on a local level.

The Earth Works Institute is a non-profit organization located in Santa Fe, New Mexico that assists local communities to better understand natural systems and provides training and management models to facilitate collaborative watershed planning and management. EWI is dedicated to the protection of the natural environment through community education and outreach programs.

EWI's Richard Schrader explains the induced meandering project to workshop participants.

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The workshop brought together local botanists, community members, EWI monitoring staff, and environmental professionals for a two-day workshop offering hands-on instruction in collecting vegetation transect data. The data collected is used to inform Earth Works Institute staff of plant species diversity, community composition and abundance as well as canopy gaps, which indicate the site's vulnerability to erosion. This data is then used to measure the success of the induced meandering restoration efforts on Galisteo Creek.

Several monitoring hubs were established along the creek, just behind the restorative baffle structures. Each hub is the beginning point for four separate transects that fan out across the creek in different directions. Two data sets were collected using the La Jornada Line Point Methodology developed by Will Barnes (Grass Works), Bill Zeedyk, Denise Smith (US Fish and Wildlife), Richard Schrader (River Source), Mark Kaltenbach, and Steve Vrooman. Canopy gap measurements and species composition data are components of La Jornada protocol. This workshop allows EWI to gather necessary data while involving community members. The Earth Works Institute has collected extensive data on this site while also offering the public tools for assessing and restoring riparian health.

Collecting transect data.

The Earth Works Institute's commitment to community-based management has provided New Mexicans with opportunities to get involved, become better informed and to have a voice in watershed projects within their community. For further information regarding the Earth Works Institute and future public events go to <http://www.earthworksinstitute.org/>.

Watershed Protection Section Profile: Chris Cudia

The Watershed Protection Section is expanding its home base to include Las Vegas as a field office. This means that a Project Officer, currently Chris Cudia, will be based in Las Vegas permanently and will primarily deal with watershed restoration projects and dredge and fill activities in the northeastern part of the state. Clearing the Waters interviewed Cudia about his background and interest in watershed protection.

CTW: What sparked your interest in watershed protection?

Cudia: My first introduction to resource management/protection came in 1978 during a summer job with the Plumas National Forest in Quincy, CA. This was at a time when the battle between the Endangered Species Act (Spotted Owl) and the local timber industry was beginning to heat up. I suppose my interest in environmental issues began then. During that summer I also had the opportunity to go out with the fisheries biologist a couple of times and remember being amazed he was actually getting paid to do what I considered to be fun. I was pretty much sold on the idea of working with water resources at that point.

CTW: What is your academic and professional background?

Cudia: I graduated from New Mexico Highlands with a major in Environmental Science and a minor in Biology. My advisor, Dr. Jerald Jacobi, offered his students an emphasis in water quality/aquatic ecology and lots of field opportunities. In the summer of 1988 and 1989, he subcontracted me (along with other Highlands students whom are now Surface Water Quality Bureau staff) to conduct riparian habitat surveys on the Santa Fe National Forest (SNF). In 1990 I graduated and over the next four years ran a crew of Biological Technicians on the Santa Fe and Carson National Forests conducting riparian habitat surveys and fish inventories. Typically

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we would collect data all summer and then when the crew went back to school in the fall, I would use the winter months to work up the data and prepare for the next field season. This job provided me with the opportunity to wet my waders in most perennial waters on the SNF and to inventory literally hundreds of miles of stream. This, and the data analysis that went along with it, was an invaluable experience.

CTW: How long have you worked for New Mexico Environment Department?

Cudia: In 1994 I was hired as an Environmental Specialist in the SWQB Nonpoint Source Section (now known as the Watershed Protection Section). My primary duty was the project officer for the Federal Consistency Review Program. This position was tasked with reviewing all Federal National Environmental Policy Act documents for consistency with state and federal water quality goals and standards. After three years of this, I indicated to the Bureau Chief that I was up to the challenge of establishing and managing a new office in Silver City. I was promoted to the position of Program Manager in the fall of 1997 and soon after packed up and moved south. After working out of my home for three weeks, I secured office space (if you can call it that) and conducted my first staff interview with two chairs borrowed from my dining room table. We started with nothing and it was rough in the beginning but in time established strong relationships and credibility. I remained in Silver City as the Program Manager (for all 319(h) activities south of Socorro) for the next 5 years. For the past three years I have been a Program Manager for the Las Vegas and Raton Offices in the Field Operations Division. I took this job primarily to get back home. After three years in field operations, I have come full circle, once again doing that which I know (kinda) and love. In fact, this job is precisely what I want to do and where I want to do it.

CTW: What does your new job entail?

Cudia: My current position is Environmental Specialist, in the Watershed Protection Section. The plan is to eventually assume oversight on most 319(h) and 401 activities in the northeast quadrant of the state. My area extends south from the Colorado border down the eastern slopes of the Sangre de Cristo Mountains to I-40 and then east to the Texas boarder. I'm currently the project officer for the Pilot Project in the Cimarron Watershed with the Nature Conservancy and the Ponil Complex Fire Rehabilitation Project, as well as overseeing all 401 activities in northeastern NM.

Controlled Burn to Assist with Rangeland Vegetation Diversity

By Mike Matush

Since 2001, the United States Environmental Protection Agency (EPA), the Gila National Forest, and the Grant Soil and Water Conservation District (SWCD) have worked to improve surface water quality in Mangas Creek using funds from the Clean Water Act Section 319(h) grant. Mangas Creek watershed is located on Gila National Forest land and is used by grazing permitees. Health problems within the watershed started with the advent of woody species out-competing herbaceous (grass and

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forb) species as a result of poor livestock management practices in the past, periodic drought, and cessation of natural fires. Many decades of improper use in the watershed has produced a trend for piñon and juniper species to predominate the landscape. Fuelwood cutting and mechanical thinning can play a small role, but are costly, thus limiting treatments to smaller acreages making this practice inefficient for large treatment areas.

The Grant SWCD approached the Surface Water Quality Bureau to pursue a cost efficient means of reversing the woody trend in the Mangas watershed by using fire. The use of fire has long been understood and studied as a tool that can accomplish the control of woody species and promote herbaceous growth, reversing the current erosion rate, increasing rainfall infiltration, and reducing rainfall runoff rates all of which will influence the health of the watershed.

The Cane Burn in Managas watershed.

The Cane Burn in Managas watershed.

The Surface Water Quality Bureau is working with the Gila National Forest to ensure that these lands are protected during the length of the project with long-term goals that incorporate necessary management to protect the investment of the 319(h) grant. The Grant SWCD in cooperation with the Gila National Forest, will set up soil erosion and vegetative recovery monitoring plots on the Bullard Peak Burn within the watershed that will document the level of rehabilitation following burn treatments. Seeded, unseeded, and untreated (unburned) fenced plots will be built to determine rates of ground cover establishment on the plots. Various soil erosion models will be used to predict the soil movement within the treatment area. Data from the

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plots will be used to verify the results towards increased watershed health. This information will be incorporated into a water quality database and used in the future to enhance watershed improvement design criteria.

Livestock permittees may enjoy a more herbaceous plant community from the project, but it is equally important that the public understands that livestock numbers will not increase due to the influx of new grass seedlings from the brush control practice. In fact, permittees will have more management responsibility to protect the new growth. EPA expects continued management for a minimum of twenty years and results of the practice will be reported for much longer.

Prescribed burning is by far the most inexpensive tool to control woody species on large tracts of land because it requires less labor. However, many other surface management tools, like those mentioned above, can contribute to improved watershed health resulting in cleaner water in Mangas Creek and the Gila River. The ultimate benefits will not only be realized by the Gila National Forest or the Grant SWCD, but also the public who will benefit from an improved condition in the watershed.

CWA Section 319(h) Grant Awards Announced

The Clean Water Act section 319(h) fiscal year 2004 grants process has been completed. We would like to thank all who sent the SWQB/WPS proposals to perform "on-the-ground" projects or form watershed groups. Those proposals that were awarded contracts are listed below.

- Development of a Stormwater Management Plan for Los Alamos County, NM, and Implementation Measures in the Pueblo Watershed

- Developing Collaborative Watershed Groups to Support TMDL Development in the Upper Rio Grande, Conejos, and Mimbres Watershed in New Mexico.

- Taylor Creek, Upper Gila Watershed Restoration Project

- Comanche Creek Watershed Restoration Project—Restoring Habitat for the Rio Grande Cutthroat Trout, Part 2

- Rio Puerco de Chama Watershed Project

- NM 196/Cordova Creek Drainage and Alignment Improvement Project

- Rio Grande—Albuquerque Watershed Group Formation Project

- Collaborative Red River Restoration ORV Impact Remediation

- Rio Pueblo de Taos Watershed Stakeholders Action Initiative

FUTURE EVENTS

July

18-23, The 2004 Summer Environmental Academy: Sustainable Use for Natural Resourses sponsored by WERC A Consortium for Environmental Education and Techonology Development (WERC) will be held in Silver City, NM primarily at the Western New Mexico University. The Academy is geared towards high schoolers and teachers to learn about enviornmental science and technology and how they are related to academics. Teachers attending will recieve resources for teaching environmental education. Log onto <http://www.werc.net/educators/summer_academy.htm> for more information.

21, WERC presents an introduction of the Environmental Protection Agency's Watershed Academy Training. The training will be held in Silver City, NM. Contact Barbara Valdez at 1-800-523-5996 for more information.

August

13, The Quivira Coalition is sponsoring "'Sight-Reading' the Landscape: A Riparian Dialogue with Bill Zeedyk at Mestño Draw Ranch near Mountain Air, NM. For more information, call 505-820-2544 or email projects@quiviracoalition.org.

September

24-25, "Plant ID and Monitoring Techniques with Kirk Gadzia" training will be held at the Sevilleta National Wildlife Refuge, near Socorro, NM and is sponsored by the Quivira Coalition. To register, call 505-820-2544 or email projects@quiviracoalition.org.

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