New Mexico
Environment Department

CLEARING THE WATERS

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The Surface Water Quality Bureau Protects Wetlands by Starting a New Wetlands Program and Project

By Julie Arvidson

Wetlands are an integral part in protecting watersheds by acting as a natural filtration system and reducing erosive potential. For this reason, the Surface Water Quality Bureau (SWQB) Watershed Protection Section is implementing a new wetlands program and partnering with the Carson National Forest on a wetland project, both supporting wetland protection and restoration in New Mexico. Two assistance grants through the FY03 Environmental Protection Agency Wetlands Protection Development Grant Program, authorized by CWA Section 104(b)(3), are funding both the program and project.

Wetlands are areas where water covers the soil year round or at differing times during the growing season of the year. They hold diverse species of water-loving plants, bugs and fish and also support terrestrial species. Wetlands in New Mexico are inland and can include locations near streams, springs, lakes and ponds, and can be surrounded by dry land. Wetlands can also be created in areas where the soil is saturated by shallow groundwater.

Besides aesthetics and habitat for diverse species, wetlands have natural functions that keep the environment clean and actually protect humans. Streamside or floodplain situated wetlands act as a natural sponge slowing the velocity of water down to decrease erosion and reduce flood damage. Many wetland plants are extremely good at stabilizing stream banks. The water in wetlands is slowly released on the surface or recharges to the aquifer. Wetlands also act as a filtration system, absorbing nutrients

and other chemicals before releasing the water. Wetlands can be artificially constructed where wastewater and storm water are discharged to filter out pollutants.

The goals of the SWQB Wetlands Program are two-fold. They are to protect and enhance New Mexico's remaining wetlands and riparian areas by increasing self-sustaining and naturally functioning wetlands. This program will integrate wetland development as a water quality preservation measure used by the SWQB, promote wetlands as watershed groups goals through development of wetlands action plans, support efforts to increase wetland acreage, and participate in wetland creation projects and wetland education.

The SWQB is also involved in a wetlands project called the Stewart Meadows Wetland Waterfowl Habitat Partnership Project, and is in cooperation with the Carson National Forest. The primary objective of this project is to create and improve approximately 25-50 acres of wetland habitat for migratory waterfowl in north central New Mexico. The project area is within the historic floodplain of the Rio San Antonio in Northern New Mexico. In the past, the land was drained and leveled to support irrigated agriculture to grow hay. The irrigation canals and level land provides excellent ground to develop a wetland area. The main purpose of the wetland is to provide another location for waterfowl to use, reducing the potential hazards of disease associated with large concentrations of waterfowl in one location.

The Stewart Meadows project will include the following activitiesconstructing dikes for wetland development, creating approximately 25 acres of marsh habitat, constructing nesting island habitat for birds, purchasing and planting native wetland plants, organizing volunteers to participate in wetland restoration activities, and coordinating demonstration days.

The SWQB wetland program and the Stewart Meadows project is expanding the SWQB scope of reducing nonpoint source pollution in watersheds in New Mexico. For more information on these projects, contact Maryann McGraw at (505) 827-0581 or by email at <maryann_mcgraw@nmenv.state.nm.us>.

Demonstration Project Success Depends on BMP Implementation by Landowners

The Forest Guardians, an environmental organization, recently completed the Rio Puerco Restoration project to demonstrate the positive effects riparian vegetation can have on a river. Demonstration projects are to show the postive affects of best management practices and ensure that people are implementing the practices on their own.

Throughout the watershed, the Rio Puerco is impaired due to excess stream bottom deposits. This pollutant is primarily found in waterbodies that have little riparian vegetation along streambanks. The goal of the restoration project was to demonstrate to the public that adding vegetation along streambanks decreases erosion, which leads to less stream bottom deposits in the river.

With the help of hundreds of New Mexico residents, the Forest Guardians planted more than 3,000 cottonwoods and over 10,000 willows on the demonstration plot.

Along with planting riparian vegetation, the Forest Guardians needed to prevent access to the streambanks by cattle and wildlife. A local landowner, whose cattle were trampling previous vegetation and causing erosion, also participated by removing his livestock and agreeing to prevent the cattle from trespassing

onto the streambanks in the future. This ensured successful growth of the planted vegetation

Rio Puerco, August 1998

and protected the existing vegetation.

With the participation by the landowner and help from others, this project seemed ripe for success. However, the native pole plantings had difficulty enduring the drought. Fortunately, in the spring of 2001, the cottonwoods began sprouting at their bases. In addition, subtle indicators of ecological health, namely the establishment of coyote willow, streambank sedges and rushes, have slowly but steadily improved. The planting of so many trees is significant for the Rio Puerco watershed because the wind will carry the seeds from the trees planted, acting as a nursery for other sites on the river.

Although the Forest Guardians did not do any baseline or post-project monitoring for this project, SWQB will be sampling the Rio Puerco watershed this year. A marginal change in stream bottom deposits is what will show if the riparian vegetation project was a success for the Rio Puerco.

The objective of demonstration projects is to teach best management practices so landowners will implement them on their own land. The Forest Guardians did reach the public and landowners. However, a deliverable that the landowners would complete the same on their own property would ensure more success overall.

Rio Puerco, August 2003.

Nonpoint Source Pollution Threat Reduced With Plugging of Idle Wells

Surface and ground water have complicated interactions, where poor quality of one can lead to poor quality of the other. The New Mexico Environment Department (NMED) SWQB recognizes this and recently completed a project with the NMED Ground Water Quality Bureau (GWQB) to eliminate potential pollution from old ground water monitoring wells that were not being used anymore.

These idle monitoring wells were installed in the 1980's in seven dairies, located in the lower Rio Grande Valley south of Las Cruces. The GWQB constructed the monitoring wells to determine if nutrient contaminants from dairies were impacting the aquifer. After completion of the nutrient study, the monitoring wells were never properly plugged.

Unplugged wells may act as a conduit for nonpoint source pollutants that could directly enter the aquifer and eventually discharge into a gaining stream. A Clean Water Act section 319(h) grant was awarded to the GWQB to plug the unused wells that were not needed anymore and to eliminate possible nonpoint source pollution entering the lower Rio Grande via the wells.

Although a total of 39 wells were originally drilled during the nutrient study, most of the wells could not be found because they were either covered by dirt or removed by the owners of the dairies. Daybreak Dairy claimed five wells for their use as monitoring wells. The GWQB found ten idle wells that were unplugged and had no responsible party claiming them. The GWQB worked with a drilling company to properly plug these wells to reduce the threat of pollution.

FUTURE EVENTS

FEBRUARY

19-21, The 14th Interdisciplinary NA Conference on Environment and Community will be held in Saratoga Springs, NY. The conference will gather professsionals and from the fields of biology, education, economics, geology, history, literary studies, philosophy and psychology as well as artists, farmers, rural dwellers and city dwellers, government officials, and recreational wilderness users. Log onto <http://www.esc.edu/EnvironConf> for more information.

MARCH

15-18, The Association of Environmental Health and Sciences is hosting the 14th Annual West Coast Conference on Soils, Sediments and Water in San Diego, CA. The conference will have three sessions entitled, "Chlorinated Compounds," Environmental Forensics/Legal Issues I," and "Phytoremediation." For more information log onto <http://www.aehs.com/conferences/westcoast/program.htm>.

30 March - 3 April, The 2004 US-International Association for Landscape Ecology Symposium: Transdisciplinary Challenges in Landscape Ecology will be held in Las Vegas, Nevada. The theme of this meeting was selected to provide a forum to consider the challenges and potential of applying transdisciplinary approaches to solve current and future environmental issues. Log onto <http://www.usiale.org/lasvegas2004/> for more information.

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