

CLEARING THE WATERS

A QUARTERLY NEWSLETTER OF THE WATERSHED PROTECTION SECTION

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New Mexico
Environment Department



Surface Water
Quality Bureau

A WATERSHED APPROACH TO RESTORING WETLANDS

by Julie Arvidson, SWQB Santa Fe

Projects to restore New Mexico's wetlands have involved various programs and objectives. Programs have included US Fish and Wildlife Service's Partners for Fish and Wildlife Program; the Wetlands Reserve Program of the US Natural Resource and Conservation Service (NRCS); other programs under the 2002 Farm Bill; programs administered by the US Army Corps of Engineers to mitigate wetland impacts caused by dredge or fill activities; and management of wetland resources (i.e. wildlife refuges, state parks) by land management agencies.



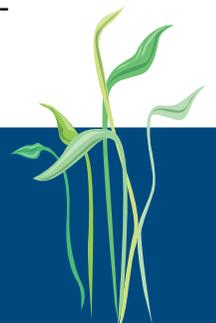
These efforts, however, have not been consistently coordinated among agencies and projects were not necessarily designed to replace wetland processes, function, and ecological integrity appropriate to the watershed in which they were located. In 2000 the Surface Water Quality Bureau (SWQB) of the New Mexico Environment Department developed the New Mexico Wetlands Conservation Plan. Although the Plan assisted in bringing more wetland information together, it did not develop plans for specific wetland projects or attempt to integrate all wetland resources within a watershed.

SWQB recently developed an approach to encourage wetland protection in New Mexico on a watershed basis. This approach involves creating "Wetland Action Plans" (WAP) within watershed implementation plans or Watershed Restoration

Action Strategies (WRAS) in cooperation with watershed groups. WAPs focus primarily on wetlands and riparian resources including riparian area and flood-plain wetlands, cienegas, slope wetlands, bogs, *continued on page 2*



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WETLANDS continued from page 1...

lake fringe wetlands, springs and seeps, wet meadows, and more. Watershed groups can use their WRAS as a way to incorporate wetland restoration into their plan.

Since a large portion of water in NM streams originates from snowmelt runoff and precipitation, floodplain-situated wetlands are integral to the maintenance and health of those waters. Wetlands can act as buffers by capturing and filtering out sediment and absorbing nutrients. They can also slow down the hydraulic force of floodwaters, preventing excessive erosion during periods of high runoff and encouraging infiltration and groundwater recharge. Wetlands also store water and provide habitat; they are particularly important during drought periods and in degraded stream systems, providing much needed habitat for macroinvertebrates, birds, animals, and reptiles that otherwise rely on healthy streams. Thus, wetlands play a very important role in the overall health of the watershed.

San Francisco River west of Luna



WAPs generally have three components: resource inventory, resource management, and local involvement strategy. Developing a resource inventory involves integrating any relevant wetland data for a watershed as is currently available including the identification of the physical and biological characteristics of the watershed's wetlands. The following are sources of data and other types of information that can be useful to watershed groups compiling information on wetlands within a particular watershed:

- National Wetlands Inventory prepared by the US Fish and Wildlife Service
- NM Wetlands Conservation Plan (available at the SWQB or on our website)
- NRCS soil surveys
- US Geological Survey hydrology information
- Geographic information system layers typically investigated during the formation of a WRAS including: vegetation, land status, geology, and other layers
- Aerial photographs
- Historical documentation
- Anecdotal information
- Endangered, threatened, and sensitive species information

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La Plata Middle School Students on the Gila River

by David Menzie, SWQB Silver City

Approximately 75 students from La Plata Middle School took part in water quality monitoring demonstrations at the Gila River on April 4th and 11th, 2006. The field trips were part of a collaborative effort between the New Mexico Environment Department's Surface Water Quality Bureau (SWQB), the La Plata Middle School, the Gila National Forest, and the Gila Conservation Education Center. This on-going effort began about eight years ago when La Plata Middle School science teacher, Priscilla Mathena, asked the SWQB Silver City Office to assist with teaching her students about surface water quality, its association with the condition of the watershed, and how to measure water quality attributes.

Students collected data on water chemistry, channel cross-section, water velocity, and channel bed material. Students also collected and identified aquatic insects and other benthic macroinvertebrates. In addition to studying the river, students were given a "Leave No Trace" camping and hiking techniques demonstration by the The Gila National Forest and took a short hike to learn about riparian plants and wildlife.

Shortly after the first field trip some of the same La Plata Middle School students participated in the Gila Water Festival on April 5th & 6th for local fourth and fifth grade students. The La Plata students presented environmental information at their own teaching station - "Bosque Bingo". The SWQB has demonstrated water quality monitoring to other local schools such as the Aldo Leopold Charter School. The charter school also presented their own teaching station for the Gila Water Festival - "Aquatic Insects". ~

David Menzie works with the Watershed Protection Section on our Silver City office. He can be reached at 505-388-0599 or david.menzie@state.nm.us.



La Plata Middle School science teacher, Priscilla Mathena, leading her students in a pebble count data collection procedure to characterize stream channel substrate materials. April 4, 2006.

Fish Consumption Advisories Released for Abiquiu, Brantley, Cochiti Reservoirs and Rio Grande

by Gary Schiffmiller, SWQB Santa Fe

In February 2006 the New Mexico Environment Department (NMED), in cooperation with the New Mexico Department of Health, New Mexico Department of Game and Fish, and New Mexico State Parks, released two fish consumption advisories resulting from contamination with organic compounds.

BRANTLEY RESERVOIR

Channel catfish, Large mouth bass (results pending), Walleye

Brantley Reservoir, an impoundment on the Pecos River near Carlsbad, was discovered to have a DDT contamination problem. Data from a recent EPA study indicate that channel catfish and walleye both have elevated levels of total DDT (DDT plus its breakdown products). EPA guidance recommends no consumption of channel catfish and no more than one meal every two months of walleye. Additional testing on white bass and largemouth bass is underway and results are pending. The fish consumption advisory will be updated as necessary.

EPA guidance recommends no consumption of channel catfish and no more than one meal every two months of walleye [from this area]

Because greater than 99% of the total DDT found in fish from Brantley was DDE, a breakdown product of DDT, it is thought that the contamination occurred quite some time ago, when DDT was still being used legally (pre-1972). Severity of the present contamination may be due to breaching of the former McMillan Reservoir after Brantley Reservoir was constructed in 1988. Several decades worth of accumulated, contaminated sediment was mobilized and settled downstream in Brantley when McMillan was breached in 1991.

ABIQUIU & COCHITI RESERVOIRS

Channel catfish, common carp

Data collected by Los Alamos National Laboratory and the NMED, DOE Oversight Bureau indicate (according to EPA guidance) that channel catfish from Abiquiu and Cochiti reservoirs and the Rio Grande between Otowi Bridge and Pojoaque Creek should not be consumed. In addition, common carp from the Rio Grande between Frijoles Canyon and Pojoaque Creek should not be consumed. Both species from these waters exhibit elevated levels of polychlorinated biphenyls (PCBs), a synthetic industrial compound that, like DDT, is no longer in use. Additional testing of these waters is planned for later this year. The fish consumption advisory will be updated as necessary. ~

EPA guidance recommends no consumption of channel catfish and common carp [from these areas]

For more information on these and other fish consumption advisories, contact Gary Schiffmiller of the Surface Water Quality Bureau at (505) 827-2470 or (toll free) (866) 885-2997 or gary.schiffmiller@state.nm.us.





Gila Water Festival Day2. 5th grade students learning about benthic macroinvertebrates from Aldo Leopold Charter High School students.

More than 400 Silver City area students attended the third annual Gila Water Festival. Major sponsors for the event were the New Mexico Environment Department, the Gila Conservation Education Center, the Grant Soil and Water Conservation District, and the Silver Consolidated Schools.

On April 6th at the campus of Western New Mexico University, fourth grade students were treated to hands-on demonstrations and activities related to water quality and watershed health. On April 7th, fifth grade students were bused to the Nature Conservancy's Lichty Center located along the Gila River for a day of demonstrations and activities.

Goals and objectives of the Gila Water Festival are developed at the local level with participating schools, teachers, and the Gila Conservation Education Center.

The annual festival's main goal is enabling students to answer these questions:

- Why is water so important to life?
- How much water do people use and how much is there?
- What is the water cycle and why is it important?
- What is a watershed and how does it function?
- How are trees, plants, animals, people, soils, and water interdependent?
- How do our actions affect water and all nature?

Additional objectives of the Gila Water Festival include:

- Educate students about local water resources and watersheds.
- Demonstrate ways in which all living things are dependent on water.
- Recognize the interdependence of all living things.
- Identify threats to water quality.
- Promote awareness of citizen responsibility to water quality & quantity
- Understand how land use affects water quality.
- Develop career interests in environmental protection.
- Provide student and teacher interaction with community members and water professionals.
- Promote networking among teachers, students and presenters.
- Provide teachers with resource materials on water issues.

Organizations participating and the topics they presented at the 2006 Gila Water Festival :

Grant Soil & Water Cons. District
Rolling Rivers Watershed Trailer

Gila Watershed Partnership
River Ecology

Southwestern NM Audubon Society
Birds & Beaks of the Gila

The Nature Conservancy
Bird Banding

Gila Conservation Coalition
Don't Use it All Up

Gila Conservation Education Center
Food Chain Activity

NMED Surface Water Quality Bureau
Forest Ecology

The Rolling Stones
Panning for Gold

Silver City Water Department
Silver City's Water

La Plata Middle School Wind Riders
Bosque Bingo

Aldo Leopold Charter High School
Benthic Macro-Invertebrates

Silver High School
Aqua Bodies

Silver High School
Web of Life

Gila National Forest
Life Cycle of the Gila Trout

Gila National Forest
Fire Prevention

US Geological Survey
Measuring Stream Flows

Western New Mexico University
Fire Ecology

Western New Mexico University
Water Cycle

Western New Mexico University
Plants Need Water Too

NMED Surface Water Quality Bureau
Chemistry for Kids

NMED Surface Water Quality Bureau
Stream Channel Pebble Count

Water quality threats and impairments are also identified in the resource inventory portion of the WAP because when planning wetlands restoration projects, the condition of wetlands and riparian resources could be affecting water quality. Water quality impairments can be found on the Integrated Clean Water Act Sections 303(d)/305(b) Report produced by SWQB.

The resource management section of the WAP describes how the wetlands should be managed and protected. This section lists wetland restoration projects that have occurred and includes measures developed to protect, restore, and create new wetlands. Also included should be a descriptive list of potential opportunities for wetlands restoration and protection such as private landowner incentive programs, cooperation with entities to locate appropriate mitigation sites, and partnerships with land management agencies that have wetlands resources. Future wetland restoration projects should be listed, coordinated, and prioritized.

The local involvement strategy discusses steps the watershed group plans to take to implement the WAP. This could involve identifying a steering committee and a core of volunteers to assist with restoration, determining grant matching funds, and developing ideas for educating the watershed stakeholders about projects. Educational programs and monitoring activities to determine the success of wetland projects can be included as part of restoration projects. Finally, funding sources should be identified; these may include but are not limited to grants from the Environmental Protection Agency Region 6 under its Marines and Wetlands Program.

The WAP should also identify the geomorphic features and hydrology of the watershed as they may affect wetlands, soils pertaining to wetlands, wetland vegetation, historical hydrology and ecosystem characteristics of wetlands (if available), wetland acres and distribution, current wetland projects (including riparian restoration projects), potential for wetland losses (i.e. over appropriation of water, change in land use, etc.), constraints for wetland restoration in the watershed, potential wetland restoration projects (to natural hydrologic conditions, which can be identified and determined from the resource inventory), and monitoring measures for projects.

Two draft WAPs have been developed and are waiting for comment and incorporation into their associated WRAS. The Valle Grande WAP and the El Paso-Las Cruces Watershed WAP will soon be available on the SWQB website (www.nmenv.state.nm.us/swqb) pending contributions and approval from local stakeholders and watershed groups. Contact the SWQB Wetlands Coordinator, Maryann McGraw, at maryann.mcgraw@state.nm.us for more information regarding wetlands action plans. ~

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\$\$ Grant Funding Available for Watersheds \$\$

The Watershed Protection Section of the NMED Surface Water Quality Bureau will be releasing it's annual Request for Proposals (RFP) for the ***Clean Water Act Section 319(h) grant process***

319(h) grants are designed to provide funding for the formation of watershed groups and on the ground watershed restoration projects. The program encourages local involvement with the restoration and protection of New Mexico's surface water resources. Two types of grants are available: Watershed Group Formation & On-the-Ground Water Quality Improvement Projects

Release Date for RFP: August 1, 2006

Due Date for Proposals: September 15, 2006

Please call the SWQB or check our website on or after August 1st for RFP documents and grant program eligibility. Also see our website for more information about the 319(h) grant program and previously funded projects.

www.nmenv.state.nm.us/swqb/wps

For more information contact Watershed Protection Section Manager, David Hogge: 505-827-2981 -or- david.hogge@state.nm.us

2006 EVENTS CALENDAR

JULY

Valle Vidal Outing - Comanche Creek Restoration Workshop & Work Weekend with Bill Zeedyk (July 7-9 & 15-16). More Info: Quivira Coalition, 820-2544, www.quiviracoalition.org.

Universities Council on Water Resources - Increasing Freshwater Supplies (July 18-20; Santa Fe). More Info: www.ucowr.siu.edu

AUGUST

2006 New Mexico Water Research Symposium (August 15, NMTech, Socorro). More Info: 645-1195 , <http://wrri.nmsu.edu>

OCTOBER

Watershed Institute 2006 (October 23-26; Columbus, OH area). Training for watershed plan development. More Info: Center for Watershed Protection, www.cwp.org



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