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CLEARING THE WATERS

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SWQB Participates in the 2004 WERC Summer Environmental Academy

*by Mike Matush, Dan Claypool, and David
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The Surface Water Quality Bureau's Silver City Field Office participated in a Summer Environmental Academy (SEA) hosted by Western New Mexico University and WERC: a consortium for environmental education and technology development. The SEA was held in the Gila area in July 2004. WERC is based out of New Mexico State University. Environmental professionals from Surface Water Quality Bureau, the New Mexico State Land Office (SLO), the Gila National Forest, Grant Soil and Water Conservation District (SWCD), The Nature Conservancy (TNC) and other professionals working on watershed health, mentored students and teachers using technical presentations and field trips. The TNC also provided meeting space for Academy presentations at the Lichy Center. The theme of this year's SEA was "Sustainable Use of Natural Resources" focusing on local and statewide watershed issues.

Approximately 50 teachers and high school students participated in the SEA. They toured three projects funded by the Surface Water Quality Bureau's Clean Water Act §319(h) Grant Program; the Maudes Canyon Project, Mangas Water Quality Improvement Project, and Gila Riparian Best Management Practices Project.

The SLO is implementing the urban interface project in Maudes Canyon, located east of Silver City. The project includes work in a small riparian zone with associated wetland and upland best management practices (BMP). Outreach and education were promoted by this *continued on page 2*

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project to the SEA. Participation in the SEA enhances the Maudes Canyon Project by emphasizing the importance of water quality and watershed health while increasing knowledge about watersheds among educators in the Silver City area and other local New Mexico communities. The Maudes Canyon



David Menzie, Surface Water Quality Bureau staff, presenting water quality monitoring techniques to 2004 WERC Summer Environmental Academy students and teachers on the Gila River. Photo Courtesy of Glenn Griffin.

Project displays some of the strategies being taken to restore and enhance watersheds and promote healthy watershed management practices near a city.

Presentations and field trips related to prescribed burns and forest ecology were held in the Burro Mountains, the project area for the Mangas Water Quality Improvement Project. The Grant Soil & Water Conservation District is implementing this project.

TNC is executing the Gila River Riparian BMP project, located in the Gila National Forest. The Gila is considered one of the more remote and least developed forests in the southwest and covers approximately 3.3 million acres of publicly owned lands. It is the sixth largest forest in the continental US. It contains more publicly owned land than any other forest outside of Alaska with a rich diversity of life. There

are more than 1500 miles of trails that provide access and many established campgrounds that can be reached by road.

Components of the TNC project include riparian restoration through implementation of best management practices, creation of permanent and seasonal wetlands, streambank stabilization, modification of agricultural practices, and replacement of non-native and noxious weeds with an ecologically diverse native plant community.

Participants in the 2004 SEA learned hands-on how important water quality issues are and what agencies and local persons are doing to improve it in southwest New Mexico.

Surface Water Quality Integrated List Can Assist in Development of Watershed Restoration Action Strategies

by Julie Arvidson

One of the goals for the New Mexico Nonpoint Source Management Program is to reduce the number of impaired surface waters in the state. In order to accomplish this goal, the Surface Water Quality Bureau (SWQB) of the New Mexico Environment Department has developed a list of the status of surface water quality based on the *State of New Mexico Standards for Interstate and Intrastate Surface Waters (WQS)*. The heart of the WQS is designated uses of the water body. From there the levels of water quality per pollution parameter for each stream reach are determined. If a water body is impaired, SWQB develops a total maximum daily load (TMDL) that determines reduction of pollutant load in order to meet WQS and suggests best management practices that can reduce load. A TMDL is developed for each pollution parameter that is impairing a stream reach. Therefore, one stream reach may have more than one TMDL.

The federal Clean Water Act (CWA) section 319(h) grant currently focuses on waters that have a developed TMDL or will have completed one within a year. Watershed restoration action

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strategies (WRAS) must be developed to receive CWA section 319(h) funding for on-the-ground watershed restoration work. Following the US Environmental Protection Agency (EPA) guidance of a watershed-based plan identifying pollutant load reduction in the stream is crucial to a watershed plan. TMDLs indicate this information for each pollution parameter for the impaired stream. WRASs also require a monitoring component and nonpoint source best management practices. The annual CWA section 319(h) request for proposals includes a list of impaired waters eligible for funding. However, this list is reflective of only current data and assessment, and does not address all waterbodies in a watershed. Knowing the water quality status of all stream reaches in a watershed can assist a watershed group with the formation of a WRAS.

Prior to 2004, SWQB developed only an impaired waters list, not listing those waters that were not impaired. Guidance from the EPA recommended the SWQB develop an integrated list that includes all the perennial waters in the state, those impaired and non-impaired.

The Integrated List (officially the *2004 State of New Mexico Integrated List of Assessed Surface Waters*) is Appendix B in the *2004 - 2006 Integrated CWA §303(d)/§305(b) Report*.

The list changed in order to clearly express why priorities are set for the State of New Mexico in protecting water quality. Each assessment unit, or stream reach that is sampled, is placed in one integrated report category describing its status of meeting the State's WQS for that stream reach.

Categories indicating that the stream reach meets WQS or no data available to determine impairment are as follows:

- **Category 1:** Attaining the WQS for all designated uses.
- **Category 2:** Attaining some of the designated uses, and no reliable monitored data is available to determine if the remaining uses are attained.
- **Category 3:** No reliable monitored data and/or information to determine if any designated or existing use is attained.

Categories indicating that the stream reach does not meet WQS but does not require development of a TMDL at the current listing are as follows:

- **Category 4A:** A stream reach is impaired for one or more designated uses, but does not require development of a TMDL because TMDL has been completed.
- **Category 4B:** A stream reach is impaired for one or more designated uses, but does not require TMDL because other pollution

control requirements (i.e. point source permit requirements) are expected to result in attainment of the WQS in the near future.

- **Category 4C:** A stream reach is impaired for one or more designated uses, but does not require development of a TMDL because impairment is not caused by a pollutant. In this case the impairment may be caused by lack of water.

Categories indicating that the stream reach does not meet WQS and a TMDL may be written are as follows:

- **Category 5A:** A stream reach is impaired for one or more designated uses and a TMDL is underway or developed.
- **Category 5B:** A stream reach is impaired for one or more designated uses, but WQS may be incorrect for that reach. Review of the water quality standard will be conducted.
- **Category 5C:** A stream reach is impaired for one or more designated uses, but additional data is necessary and will be collected before a TMDL is developed.

The Integrated List is updated every two years. Although it may show that a specific stream reach has a TMDL schedule, this does not necessarily mean that a TMDL will be written. Because each reach

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has more than one pollutant, the stream reach may fall under more than one category. However, each stream reach can only be placed in one category, according to the EPA. Therefore, if a stream reach already has a TMDL, but other pollutants are needing further review to determine if they require a TMDL, the reach may be classified as a 5B. The *Record of Decision (ROD)* document specifically describes what is the status for all pollution parameters in a stream reach and the reason behind the declaration.

Understanding this process assists watershed groups in preparing their WRAS: informing the group which of their reaches needs monitoring, a change in the WQS, or restoration. Just like the Integrated List, WRAS's are living documents and should reflect change when necessary.

The NMED/SWQB documents mentioned in this article can be found at <http://www.nmenv.state.nm.us/swqb>. EPA guidance documents can be found on the Internet at (watershed-based plan) <http://www.gwpc.org/SW-Web/Non-point-federal-register.pdf> and (integrated list) <http://www.epa.gov/owow/tmdl/2002wqma.html>.

The Caja del Rio Association Takes Initiative on Innovative Grazing Techniques

By Nina Wells

The Caja del Rio is in the Santa Fe National Forest (SFNF) southwest of Santa Fe and east of the Rio Grande River. This parcel of the SFNF is administered through the Espanola Ranger District. This section is predominantly a grassland range and is permitted for animal grazing. The ranchers that have the allotment on the Caja are the Caja del Rio Grazing Association (Association). As users of the land, the ranchers have encountered many problems in the recent years. These issues primarily stem from urbanization and drought in the area, which has led to vandalism, more roads, and a deeper water table. Vandalism, including target shooting, is affecting the wells and pumps that traditionally were used to provide water to cattle. These wells were expensive to repair. Past improper grazing techniques led to negative impacts to the available riparian areas on the Santa Fe River. Lack of fire on the grassland also impacted the range by decreasing vegetative diversity.

The Association together with the United States Forest Service (USFS) came up with some innovative management strategies to improve the watershed conditions. The Association requested funding from the New Mexico State Legislature to construct a pipeline

from the Santa Fe Wastewater Treatment Plant to various locations within the allotment. There were many benefits to this plan. The majority of the wells would be retired, therefore reducing the cost and hours of management needed to keep them operational, the access to the riparian areas would be closed to the cattle, and the water tanks were designed to be accessible to wildlife, including small animals and birds.

To improve the range conditions, broadcast burning was planned. The dominant vegetation was pinon/juniper in the foothills and chamisa and sage were prevalent on the flat areas. A variety of grasses were present but not as dense as was desired.

The SWQB was in the process of identifying the Total Maximum Daily Load for the Santa Fe River. Parameters that were identified as not meeting the New Mexico surface water quality standards included stream bottom deposits, pH and dissolved oxygen. The USFS Espanola Ranger District in partnership with the Association submitted a proposal for funds from the Section 319(h) Clean Water Act program to subsidize in part these watershed improvements. The project partners included the USFS, the Association, NM State Legislature, Santa Fe County, the City of Santa Fe, Bureau of Land Management and the Valle Grande Grass Bank.

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This project started in the spring of 2000. To provide access to water and avoid vandalism, the Natural Resources Conservation Service were asked to help design a pipeline to transport treated wastewater effluent to stock tanks. An agreement for easement was reached with Santa Fe County and a Participating Agreement with the City of Santa Fe for treated effluent was procured. The Association and the USFS Espanola Ranger District provided labor and the final project design.

The ranchers reduced their stock and participated in the Grass Bank Program thereby allowing the resource conditions a rest period. A total of 27 miles of pipeline were installed with tanks strategically placed to enhance pasture rotation management for cattle and to provide water for wildlife. Access to the Santa Fe River was reduced, mostly through the installation of water gap structures and exclosures.

As part of the project outline, fire was to be used as a tool to stimulate grass growth on this rangeland. However, during the spring of 2000 many wildfires occurred in neighboring areas and fire was not a tool that could be used with any predictability or confidence. The USFS in partnership with the Valle Grande Grass Bank implemented a broadcast burn with substantial but spotty success early that year, before the Cerro Grande wildfire occurred. A moratorium had been set for further fires, so during the following three years other means of reducing the large shrubby vegetation was used. Using funds from this grant as well as others, close to 900 acres of pinon/juniper and sagebrush were mechanically treated. This treatment included the removal of woody species in a mosaic prescription and in most areas the vegetation was shredded, used as mulch to provide a cover for the soils and thereby facilitating the germination of grasses and other herbaceous plants. A biologist was contracted during this project to survey and identify changes during the project of the vegetative regime. This monitoring is expected to continue showing long-term trends in vegetative health.



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The Association is committed to providing future maintenance and repair on the pipeline when necessary. Their determination and dedication to improve the conditions on the watershed is a model of stewardship that can be used to help others benefit from their experience. A lot of hard work went into this project throughout its four-year period, which gave the project a real sense of responsibility and ownership for the participants. The dedication of the Association to this project is the real measure of success. Without their continued attentiveness and enthusiasm the accomplishments of this project would not have come about. For further information, contact Nina Wells, Surface Water Quality Bureau, at (505) 827-0572.

UPCOMING EVENTS

October

18th - 20th, The New Mexico Environmental Health Conference will be held at the Sheraton Old Town Hotel in Albuquerque, NM. Topics include environmental health innovations, community health protection, air quality, water resources, food safety, and solid waste and pollution prevention. Log onto <http://www.nmehc.org/> for more information.

16th, Dia del Rio is celebrated throughout the Rio Grande Basin. Dia del Rio works to educate citizens about the Rio Grande, protect the Rio and initiate cooperation within the Rio. For information about activities during this year's celebration, contact Beatriz Vera by phone at (915) 532-0399 and (915) 532-1032 , or by email at coalition@rioweb.org.

November

16th - 19th, The Second International Symposium on Transboundary Waters Management will be held in Tuscon, AZ. The Symposium will discuss water quantity and quality and a broad range of impacts. For more information, log onto <http://www.sahra.arizona.edu/twm/>.

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