CLEARING THE WATERS

A quarterly newsletter by the Surface Water Quality Bureau

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Project Spotlight

Riparian Restoration along the Mimbres River in Southwestern, NM

By John Moeny, SWQB Environmental Scientist - NM Field Team, Silver City

In February 2012, the New Mexico Office of Natural Resource Trustee (ONRT) and the US Fish and Wildlife Service (USFWS) signed a consent decree with Freeport McMoran Incorporated (FMI) to "restore, replace, and/or acquire the equivalent of wildlife and wildlife habitat allegedly injured, destroyed, or lost as a result of the release of hazardous substances" from FMI-owned mining properties in Grant County, New Mexico. The consent decree resulted in over five million dollars of money to be used for wildlife habitat restoration on both private and publicly owned land.

The ONRT and USFWS, as co-trustees, solicited a broad range of ideas for potential restoration projects that would provide both general environmental benefit and wildlife specific improvements, be technically feasible, have a low risk of failure and high probability of success, be located in proximity to where the damages occurred and be cost-beneficial. An initial list of 21 candidate projects was screened through the Environmental Assessment process, which provided opportunities for public comment. Of those, seven projects were rated as "Tier 1" and advanced for funding and implementation. These projects included funding conservation easements, purchase of high-value riparian property, and several riparian restoration projects. The Surface Water Quality Bureau (SWQB) has supported several of these projects including a multi-site restoration project on public and private lands on the Mimbres River by Bat Conservation International (BCI).

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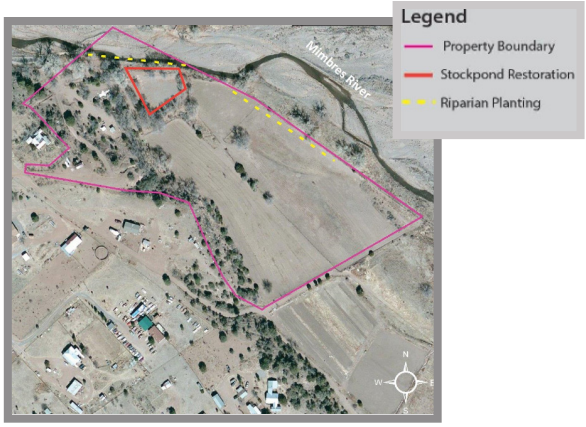
Riparian Restoration *continued from page 1*

Dan Taylor, BCI's Director of Public Lands, worked with the SWQB to identify potential projects and landowners in the Mimbres River valley. Previous watershed based planning efforts had identified several interested landowners willing to restore wetland and riparian habitat on their property. Further upstream, the Gila National Forest was amenable to in-stream restoration for the benefit of several native fish species and amphibians.

The properties and projects came together spanning almost 10 river miles. The projects included improving an off-channel pond to benefit Chiricahua leopard frogs and waterfowl while providing a watering point for several bat species, working with The Nature Conservancy (TNC) on their Mimbres River property to improve streamside wetlands habitat, restoring several spring-fed wetlands along the Mimbres River and building in-stream grade control and habitat restoration structures within the Gila National Forest lands.



Area Map below showing project locations along the Mimbres River north of San Lorenzo, NM.

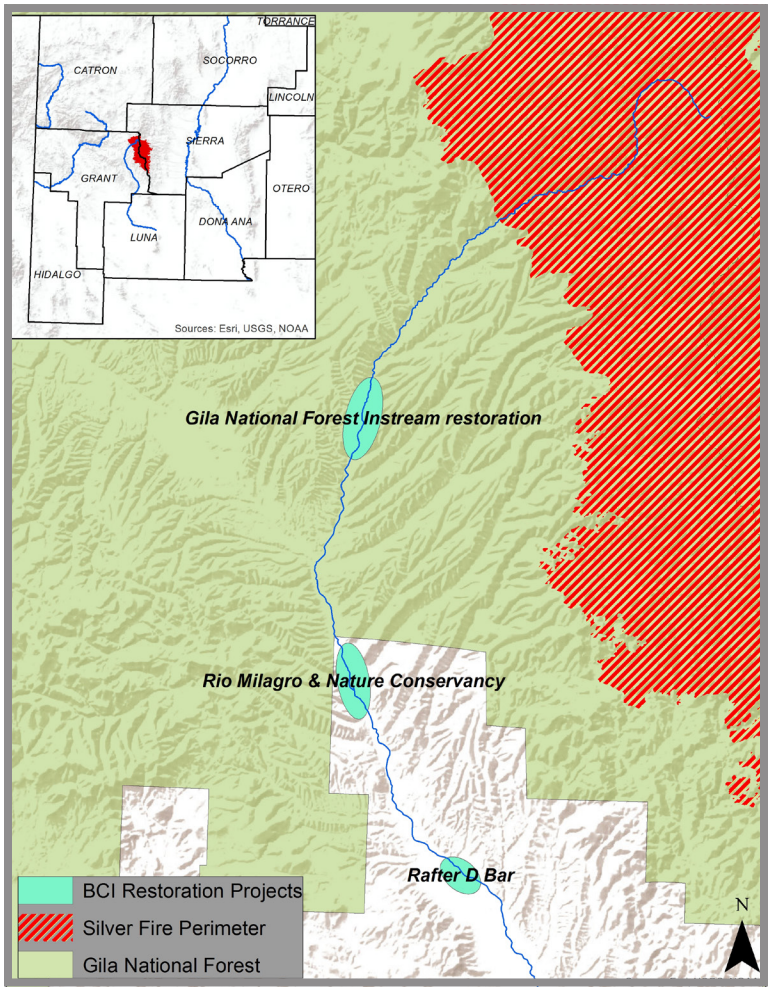


Photo © 2005 John White

Chihuahua chub and Chiricahua leopard frog -both federally listed as threatened species

Habitat restoration projects for Chihuahua chub and Chiricahua leopard frog along the Mimbres River in Grant County. Top left map - Rafter D Bar project area. Bottom left photo - wetland pool conversion approximately 60' diameter by 4' deep (at center) created from a historic dry stock tank at the Rafter D Bar property.

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Riparian Restoration *continued from page 2*

The first project completed in May 2015 at the Rafter D Bar property included a wetland pool conversion, removal of a dozen Siberian elm trees, and plantings of approximately 100 willow and cottonwood poles. This project improved an existing, but long defunct, stock tank pond by increasing the capacity and adding a waterproof liner to eliminate water losses by infiltration. The pond is fed by an acequia from the Mimbres River. In one month following completion of the pond, leopard frogs had found their new home.

At the same time, further upstream at "Rio Milagro", spring fed wetlands were being restored. The Rio Milagro property owners, Brian Myers and Jennifer Douglass raise Navajo Churro sheep on their 40 acre property with an eye toward the long term health of the land and their animals. Planned grazing, permaculture and wetland restoration all have a place on their property which includes ¼ mile of river frontage.

The Mimbres River here is atypical compared to nearby reaches. The valley necks down, concentrating both surface and ground water in the narrowed floodplain. The river flows perennially and the riparian vegetation of Arizona alder and walnut trees line the river bottom casting deep shade. At the edges of the floodplain where the river meets the hillslope, ground water discharges into small seeps and springs. In 2013, the 139,000 acre Silver Fire burned through the upper Mimbres Watershed—a watershed that hadn't seen significant wildfire in over 100 years. The immediate results were severe—massive flooding events during multiple monsoon seasons inundated the floodplain at Rio Milagro and buried many of the seeps and springs feet deep in ash and silt. The ONRT habitat restoration grant provided the means to repair the damage and even improve the streamside wetlands by removing the sediment and excavating swales and depressions to link several isolated seeps into a functioning whole, providing travel corridors for amphibians and other water dependent species.

Rio Milagro property
Photo on left during construction removing sediment.
Photo on right of post construction condition.

Photo credits: TNC and BCI.

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Riparian Restoration *continued from page 3*

The final, yet to be completed project, for Taylor and BCI is several in-stream structures on the Mimbres within the Gila National Forest. The upper watershed is still just beginning to stabilize and that poses a greater risk of going in too soon to install structures that may be washed out in the next monsoon. The in-stream structures will include rock cross-vanes, boulder weirs, an excavated floodplain bench and woody riparian plantings. The materials will be locally sourced from nearby the site, and when completed, the structures will be designed to slow and pool water, creating the preferred habitat of the Chihuahua chub, a federal listed threatened species that occurs only in the Mimbres River in the United States and a few isolated basins in Mexico. The structures will also arrest some of the head cutting and erosion that has resulted from extensive flooding following the Silver Fire.

With most of the "Tier 1" projects underway and nearing completion, the US Fish and Wildlife Service recently reopened the call for restoration projects under the FMI consent decree. There may yet be more restoration work coming for the Mimbres River.

Resources for more information:

Office of Natural Resource Trustee: https://onrt.env.nm.gov/assessment-cases-restoration-projects/damage-assessment-cases/chino-cobre-and-tyrone-mines/
US Fish and Wildlife Service: http://www.fws.gov/southwest/
Bat Conservation International: http://www.batcon.org/

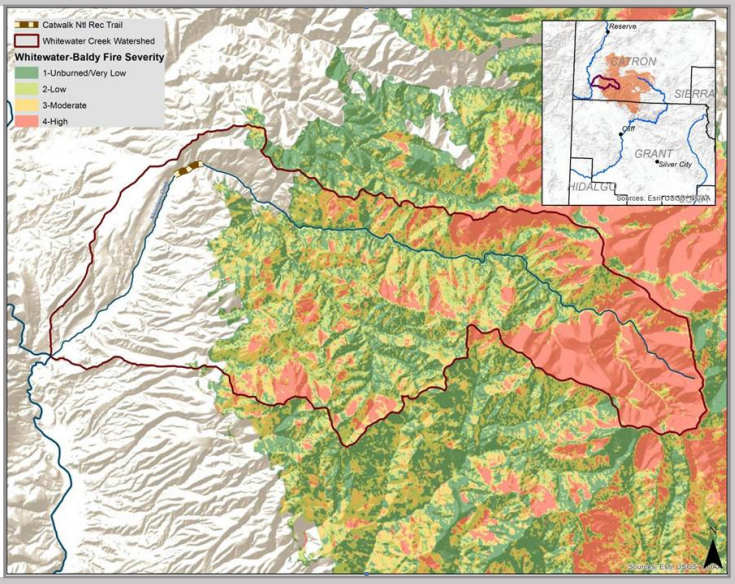
Stream of the Quarter

Editors note: In this issue we introduce a new feature to Clearing the Waters—
Stream of the Quarter

This series will spotlight a New Mexico surface water and highlight various aspects including aquatic life, recreation, history, cultural significance, and water quality. As an arid state, each of our waters has a story to tell, and we begin in the southwest corner near Glenwood and Whitewater Creek.

Whitewater Creek

flows for roughly 20 miles draining the rugged slopes and canyons of Whitewater Baldy, the highest point in southwest New Mexico. It has been designated as a high-quality cold-water stream, currently with no officially recognized water quality impairments. Whitewater Creek has always been a popular stop for visitors and residents alike. The cool, watery canyon is an oasis during a hot June day with Arizona sycamore (*Platanus wrightii*) and New Mexico alder (*Alnus oblongifolia*) crowding the stream's edge. The US Forest Service maintains a streamside recreation area where the creek exits the tight constriction of the mountains and begins a more leisurely course through Glenwood, NM enroute to the San Francisco River.



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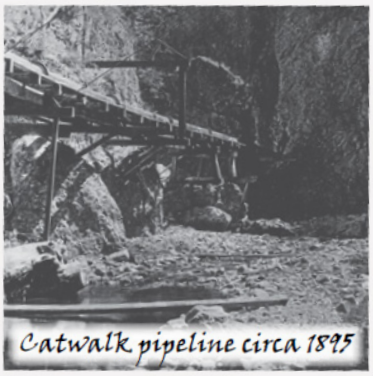
Whitewater Creek has also been one of the most easily accessible trout streams in the Gila region, requiring a short, scenic drive from Glenwood, and a walk up the canyon on the fabled "Catwalk", a national recreation trail (NRT). The Catwalk NRT was originally just wooden planks placed on a water pipeline that had been bolted to the steep canyon walls. The pipeline was constructed in 1893 to supply water to the town of Graham and an ore processing mill at the mouth of the canyon. Little remains of the town, but remnants of the old mill can still be seen near the present-day picnic area. In the 1930s, the Civilian Conservation Corps formalized the Catwalk NRT by hanging decking from the canyon walls along the original pipeline alignment. The suspended trail ran for one mile up the canyon and allowed forest visitors to safely travel up the narrow canyon and access trails deeper in the Gila wilderness. The US Forest Service rebuilt the trail in 1961, 1978 and again in 2003—upgrading the trail to universal accessibility standards. However, visitors have been unable to access Whitewater Creek and the Catwalk trail above the picnic area for the majority of the past 3 years due to damage sustained to the Catwalk following the Whitewater-Baldy Fire in 2012.


Catwalk pipeline circa 1895

The fire burned 70% of the watershed, with 43% the of the high elevations burning at high and moderate burn severity. With little groundcover to capture and slow rainfall, the Whitewater Creek watershed was highly vulnerable to flooding. Post-fire flooding is typical and expected, but the Whitewater Creek watershed experienced an unprecedented amount of rainfall one year after the fire. During a one-week period in September 2013, over 10 inches of rain fell in the watershed, sending an estimated 20 foot wall of water and debris down the canyon *(see photo on left)*. A stream gauge in the canyon recorded a peak discharge of 16,100 cfs on September 14th—5 to 6 times the highest recorded flow for the creek. Given the confined nature of the canyon, it is probable that debris blocked the channel and then flushed out, resulting in the massive, yet short duration, discharge seen at the gauge. Further downstream, the San Francisco River was running at 29,900 cfs with a stage height of 18.7 feet. This was the second highest discharge recorded for that stream. Although the trail decking had been removed prior to the flooding, the other trail infrastructure was destroyed or transported downstream. Reopening the Catwalk NRT into Whitewater Canyon now requires a complete redesign and rebuild of the original trail.

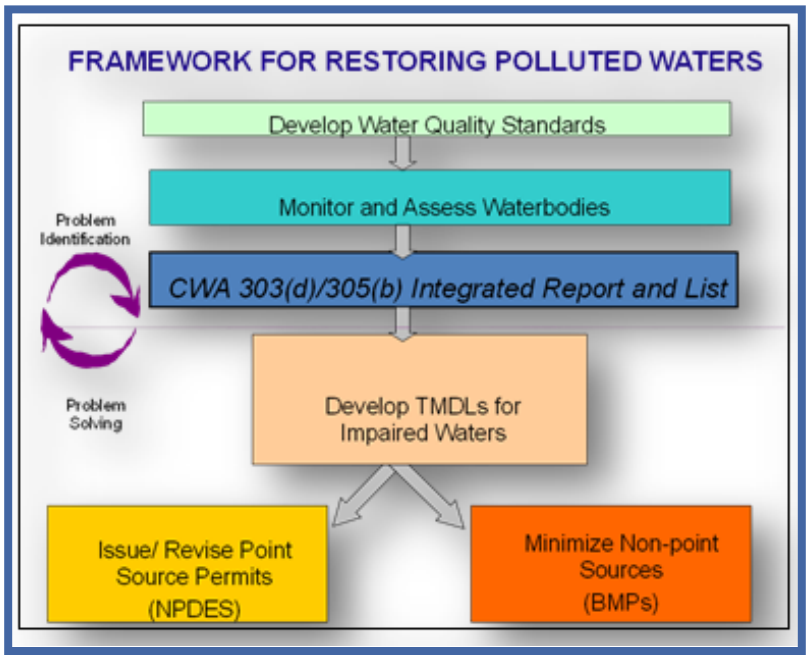
With disaster assistance funds coming from the Federal Highway Administration, the Catwalk NRT has been redesigned and is being elevated 10 additional feet off the canyon floor. Pedestrian bridges are being lengthened to protect abutments from damage and wash-out. The NM Surface Water Quality Bureau has been working closely with the Gila National Forest, the US Army Corps of Engineers, and the contractor to mitigate any potential water quality degradation that may occur during the reconstruction. Water quality monitoring was requested as a special condition to the 404/401 permit, and the Gila National Forest has been measuring turbidity and temperature during the construction at locations above, within, and below construction. To date, there have been short spikes of turbidity as debris is cleared from the canyon, but other parameters have remained stable and within acceptable limits. Construction will be on-going through the late winter and early spring 2016, with the new Catwalk NRT scheduled to reopen by Memorial Day. The trout fishery has yet to recover, but plans are being made to possibly reintroduce Gila trout (*Oncorhynchus gilae*) to Whitewater Creek in the near future. Despite the scuffing and scars, Whitewater Creek and the Catwalk NRT remain diamonds-in-the-rough and tumble of southwestern New Mexico.
(Photos courtesy of the USFS)

For more information regarding the current status of the Catwalk National Recreation Trail, contact the Gila National Forest at (575) 388-8201. Project updates are also available online at: http://www.fs.usda.gov/gila/

New Mexico's Clean Water Act 303(d)/305(b) Integrated List

By Lynette Guevara, SWQB Assessment Coordinator

One of the most important functions of the Surface Water Quality Bureau (SWQB) is to prepare the State of New Mexico Clean Water Act (CWA) Sections 303(d)/305(b) Integrated Report (IR), due every even-numbered spring. This essential report provides important information on water quality and water pollution control programs in New Mexico to stakeholders, EPA, Congress, and to the general public. The heart of IR is the Integrated List of Assessed Surface Waters (Appendix A of the IR), which provides detailed surface water quality information for specific waterbodies throughout the entire state. Restoration of polluted waters starts with problem identification. Therefore, development of the Integrated List is a pivotal piece of this process.



Specifically, the Integrated List identifies whether or not a particular surface water body, referred to as an "Assessment Unit," is meeting its designated uses as assigned in New Mexico's current water quality standards (20.6.4 NMAC, https://www.env.nm.gov/swqb/Standards/). SWQB's current Assessment Protocols (https://www.env.nm.gov/swqb/protocols/) are used to interpret water quality standards against available data to make these attainment determinations. SWQB's rotational watershed surveys performed by the Monitoring, Assessment, and Standards Section provide the vast majority of assessed surface water quality data in New Mexico. Development of the Integrated List is always preceded by a concurrent review and improvement of existing Assessment Protocols and call for outside data submissions that occurs in odd-numbered spring months (https://www.env.nm.gov/swqb/DataSubmittals/).

Every designated use for every Assessment Unit is assigned Fully Supporting, Non Supporting, or Not Assessed on the Integrated List, based on assessment of available, QA/QC-reviewed data. Assessment Units that are not supporting one or more of their designated uses are considered "impaired" and identified as Category 5 on the Integrated List. These impaired waterbodies are further categorized to note if changes to the standard may be appropriate (Category 5B), whether more data collection is necessary to confirm the impairment (Category 5C), or whether they are ready for total maximum daily load (TMDL) development (Category 5A). TMDLs are defined as "a written plan and analysis established to ensure that a waterbody

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will attain and maintain water quality standards including consideration of existing pollutant loads and reasonably foreseeable increases in pollutant loads" (USEPA 1999), and are an integral part of New Mexico's Water Quality Management Plan (https://www.env.nm.gov/swqb/TMDL/). Assessment units with approved TMDLs for all impairment parameters are identified as Category 4A waters on the Integrated List.

The Integrated List provides critical information to other SWQB programs that helps fulfill our mission of protecting and improving surface waters in New Mexico. For example, SWQB's Non-Point Source Program focuses first on watershed-based planning for waterbodies with TMDLs describing water quality impairments, as well as on a smaller category of streams with recognized water quality problems but for which a TMDL is not required because the impairment is thought to be due to reduced flow (Category 4C streams). Subsequent water quality improvement efforts funded with CWA Section 319 funds (i.e., restoration projects) focus on watersheds with completed watershed-based plans. TMDLs for impaired waters also include allowable pollutant loads for permitted discharges (point sources) that inform EPA Region 6 when developing NPDES permits that SWQB's Point Source Regulation Program then certifies.

The draft 2016-2018 Integrated Report, including the Integrated List, is currently available for public comment. The Integrated List and associated Record of Decision (ROD) are organized by watershed (8-digit HUC code). The following watersheds were studied by SWQB, and are the focus of this biennial listing cycle:

- Lower Pecos River (2013),
- Jemez River (2013 – 2014),
- Middle Rio Grande including tributaries (2014), and
- Various data gaps (2014) from previous surveys.

The majority of impairment determinations outside of these watershed studies, with few individual exceptions, remain unchanged from the final 2014-2016 Integrated List. Outside data submitted by the US Corp of Engineers in collaboration with the University of New Mexico, the US Forest Service in collaboration with New Mexico State University, Los Alamos National Laboratory, San Juan Soil and Water Conservation District, Valles Caldera National Preserve, and the Village of Ruidoso were reviewed for QA/QC purposes and utilized accordingly for assessment. Available outside USGS and Water Quality Exchange/STORET data for the above noted watersheds of interest were also downloaded via the National Water Quality Monitoring Council Water Quality Portal (http://www.waterqualitydata.us/), as well as Middle Rio Grande DOE Oversite Bureau and LANL data available in Intellus (http://www.intellusnmdata.com/). These data were utilized for assessment.

The 45-day public comment period on the draft Integrated List ends March 18, 2016, at 5:00 p.m. Copies of the draft IR and supporting documents can be downloaded at https://www.env.nm.gov/swqb/303d-305b/2016-2018/index.html; or by contacting Cassie Salazar at (505) 827-0187, cassie.salazar@state.nm.us, or NMED SWQB, P.O. Box 5469, Santa Fe, New Mexico, 87502. Public comments must be submitted in writing to Lynette Guevara, preferably emailed electronically in plain text to: lynette.guevara@state.nm.us.

After the comment period closes, the final draft IR and Integrated List as amended will be prepared based on the Response to Comments (which becomes Appendix C of the IR). This will then be presented to the New Mexico Water Quality Control Commission (WQCC) for review and approval, tentatively on May 10, 2016. The IR will be available to the public via download from the SWQB website, or upon request, 10 days prior to the WQCC meeting where SWQB will present the final draft. The IR, as approved by the WQCC, will then be submitted to the EPA Region 6 for their approval.

EVENTS & ANNOUNCEMENTS

March

NOW - June 19th - The New Mexico History Museum - *Along the Pecos: A photographic and sound collage*. Developed by photographer Jennifer Schlesinger and the late composer Steven M. Miller - One of the staples of desert life is the presence—or scarcity—of water. Its importance can be seen across eastern New Mexico, where the Pecos River strives to quench a fragile, 926-mile riparian environment. Second floor of the NM History Museum, Santa Fe, NM. Visit http://www.nmhistorymuseum.org/calendar.php?&id=2568

March (ongoing) - Mesilla, NM. Southwest Environmental Center. Volunteer to work at the La Mancha Wetland project site - ongoing. Volunteers are needed for planting native plants, removing invasive salt cedar, burning tumbleweeds, installing bat houses, etc. Email kali@wildmesquite.org for more details.

March 12th - South Valley of Albuquerque - A day restoration project with the Albuquerque Wildlife Federation at the Valle de Oro Wildlife Refuge. See http://abq.nmwildlife.org/ for specific details.

March 18th - The 45-day public comment period for the Draft 2016-2018 CWA 303(d)/305(b) Integrated Report and List closes. See https://www.env.nm.gov/swqb/303d-305b/2016-2018/index.html and the article (page 6) in this newsletter for details.

March 22nd - Questa, NM - New Mexico Department of Game and Fish. Volunteer to pack and stock fingerling Rio Grande Cutthroat Trout into the Rio Grande Gorge. For more information contact Laurence.Dalessandro@state.nm.us with NMG&F.

April

April 15th - 17th - Cebolla Canyon - Restoration project with the Albuquerque Wildlife Federation at Cebolla Canyon, SE of Grants, NM. See http://abq.nmwildlife.org/ for upcoming information.

May

May 20th - 22nd - Rio Mora National Wildlife Refuge - Restoration project with the Albuquerque Wildlife Federation at Rio Mora National Wildlife Refuge, near Las Vegas, NM. See http://abq.nmwildlife.org/ for upcoming information.

May 17th - 19th - The New Mexico Water Resources Research Institute Conference - *Environmental Conditions of the Animas and San Juan Watersheds with Emphasis on Gold King Mine and other Mine Waste Issues*. San Juan College, Farmington, NM. Visit http://animas.wrri.nmsu.edu/ to register.

If you have a related event that you would like distributed, please send an email to susan.ossim@state.nm.us