CLEARING THE WATERS

A quarterly newsletter by the Surface Water Quality Bureau

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ARID-LAND SPRING CIÉNEGAS OF NEW MEXICO – A Plea for Action

By Maryann McGraw,
SWQB Wetlands Program Coordinator

Excerpted from 'Wetlands Action Plan for Arid-Land Spring Ciénegas of New Mexico' by Robert Sivinski, Retired New Mexico State Botanist Energy, Minerals & Natural Resources Department (EMNRD).

In 2018, Bob Sivinski embarked on the development of a Wetlands Action Plan (WAP) for arid-land spring ciénegas. "**What is a ciénega?**" you might ask. A ciénega is a wet meadow or marshy wetland supported by

Above - Bitter Lake National Wildlife Refuge , Chaves Co. NM, ciénega with saltgrass, alkali sacaton and Wright's marsh thistle. (photo R. Sivinski)

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springs and groundwater seeps. Arid-land spring ciénegas are those found in semi-arid regions and generally occur at elevations below 2,000 meters above sea level, like an oasis in the desert. Arid-land spring ciénegas are very rare and some are critical habitats for several species of plants and animals that occur only in arid-land spring waters and ciénegas. They are in fact among the most rare and endangered ecosystems in the American Southwest, and many plant and animal species found there occur only in these habitats and nowhere else.

Arid-land spring ciénega flora are usually dominated by low-statured herbaceous hydrophytes (water-loving plants) and only occasional patches of trees. Evaporation often creates saline conditions especially on the margins as evidenced by salt-tolerant species. Arid-land spring ciénega vegetation is usually highly productive and dense. Ten New Mexico rare and endangered plants are only found in arid-land spring ciénegas.

Blue Hole Ciénega, Guadalupe Co. NM, with Indian grass and tall dropseed. The white flowers are heath aster and the yellow are clasping yellowtop. (photo R. Sivinski)

The hydrology of these wetlands is normally dominated by a permanent groundwater source creating permanently saturated, anaerobic soil conditions. Soil saturation depths will seasonally fluctuate by being wettest in late winter and much drier in the summer when temperatures are higher and vegetation is actively transpiring.

Even very small arid-land spring cienegas can provide habitat for the only populations of rare and endemic animals (mostly invertebrates) or may provide refugia for wetland animals that also use adjacent more unstable wetland habitats that regularly dry or flood. Many common upland and wetland animals use arid-land spring ciénegas, however several aquatic species are very specific to springs that have maintained relatively stable flow for millennia – especially fish, springsnails and crustaceans.

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For example, at least 7 springsnail species (6 federally endangered) have their worldwide range within just one or a few isolated arid-land springs in New Mexico.

Endangered Noel's amphipod and Pecos assiminea from Bitter Lake National Wildlife Refuge. (photo B. Lang)

Arid-land spring ciénegas are rapidly vanishing across the southwestern United States and northern Mexico. Most extant arid-land spring ciénegas are damaged from land and water use and continue to be threatened by impacts from aquifer capture and depletion, gully formation, agricultural use, impoundment excavations and dams, non-native plants and animals, and a warming and drying climate. Others are completely dead in that they no longer have groundwater at or near the ground surface and have water tables so severely depleted that restoration is not feasible. Aquifer depletion is the most damaging impact inflicted upon arid-land springs and is the leading cause of death for ciénegas. Groundwater pollution can also affect arid-land spring ciénega plants and animals.

Only about 20% of known arid-land spring ciénegas are on state or federal lands. The majority of known arid-land spring ciénegas in New Mexico belong to private landowners. There are currently many gaps in our knowledge of arid-land spring ciénegas in New Mexico and in the Southwest – where they are, their landowners, their condition and special conservation values such as rare and endemic species. Access to arid-land spring ciénegas to collect data from these complex wetlands, to monitor, protect and restore these important wetlands and their sources of spring water requires a '***Call to Action!***' and a commitment of arid-land spring ciénega owners, managers and conservation partners.

Currently there is an effort to find suitable locations for the reintroduction of the flowering plant *Eryngium sparganophyllum* (Arizona eryngo) in New Mexico. However suitable locations need to be identified and data collected before the species can be reintroduced. **How cool to sponsor and steward a rare species in New Mexico!**

A hearty shout out to Bob for the *Wetlands Action Plan for Arid-Land Spring Ciénegas* and kudos to our excellent Advisory Committee Members for the WAP – including: A.T. Cole (Pitchfork Ranch), Daniela Roth (New Mexico EMNRD-Forestry Division), Malia Volke (formerly New Mexico Department of Game and Fish), Karen Menetrey (NMED SWQB, Wetlands Program), Melanie Gisler (Institute of Applied Ecology), Esteban Muldavin (Natural Heritage New Mexico, Museum of Southwestern Biology, University of New

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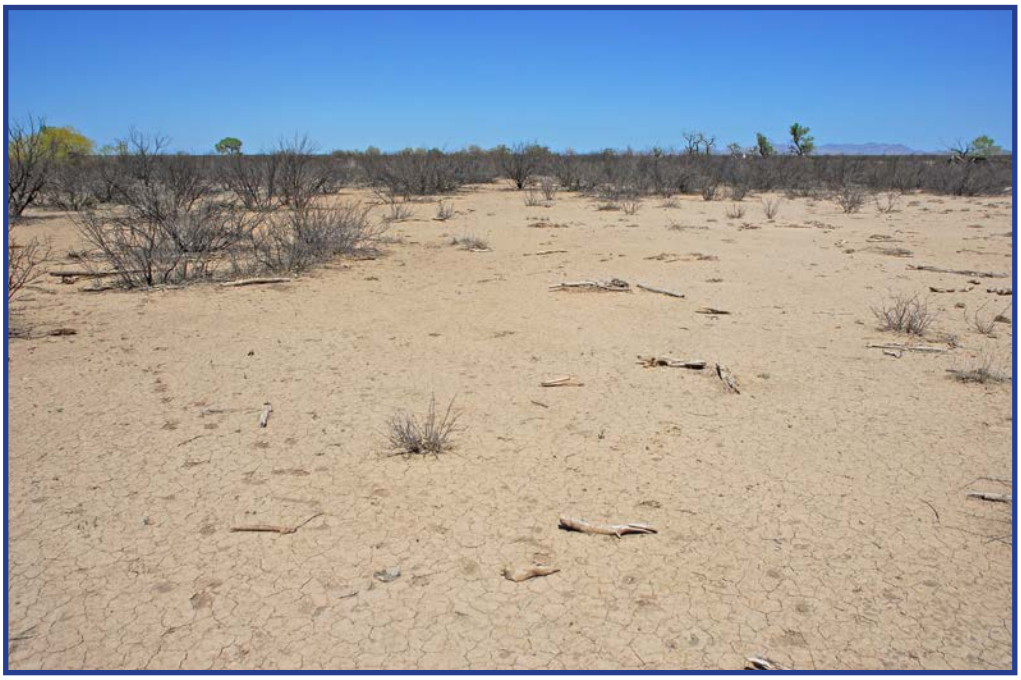
Mexico, Carmen Austin (EMNRD-Forestry Division), Gwen Kolb (US Fish and Wildlife Service, Partners for Wildlife) and Athena Cholas and Santiago Misquez (Natural Resources Conservation Service).



Middle of San Simon Ciénega, Hidalgo County, NM, April 2010. A few old cottonwood trees on the outer margin are still living, but are not reproducing, and this large ciénega is completely dead. (photo R. Sivinski)

For more information and the references used in this article, the *Wetlands Action Plan for Arid-Land Spring Cienegas* can be found at https://www.env.nm.gov/surface-water-quality/wap/, or if you would like your own beautiful hard copy, contact Maryann.McGraw@state.nm.us. Learn how to get involved by reading the WAP.

Watershed Protection Section - Six New 319 Projects Underway!

The Watershed Protection Section and cooperators started six new projects in 2019, to be funded under Section 319 of the Clean Water Act. These projects were identified and developed through a Solicitation for Applications (SFA) released in 2018 for on-the-ground projects that implement watershed-based plans (WBPs). In addition to conventional implementation of management measures identified within WBPs, the projects include outreach, education, and watershed coordination. More information on the SFA and other opportunities for water quality funding is available at: **www.env.nm.gov/surface-water-quality/funding-sources**.

The projects listed below implement portions of watershed-based plans. To review these plans, or learn more about watershed-based planning, visit: **www.env.nm.gov/surface-water-quality/wbp**.

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New 319 Projects in 2019 *continued from page 4*

On-The-Ground Improvement Projects for the Upper Gallinas River and Porvenir Creek Phase III

The purpose of this project is to reduce temperature in the Gallinas River and Porvenir Creek. The project implements portions of the Watershed-Based Plan for the Upper Gallinas River. The Hermit's Peak Watershed Alliance will re-route and improve drainage on key sections of Forest Trail #247, plant native woody riparian vegetation, construct a series of eighteen boulder and log step pools, repair or remove eleven obsolete fish habitat structures, design and implement a stream channel restoration project in a location to be determined, develop plans for future stream restoration, and pursue beaver reintroduction on Beaver Creek within the Pecos Wilderness.

Lower Animas Watershed Based Plan Implementation Projects Phase 2

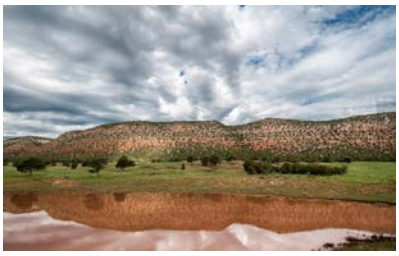
The San Juan Watershed Group (SJWG) is a group of citizens and local agencies working to improve water quality in the San Juan River and its tributaries with the goal of meeting water quality standards. The SJWG coordinator is a San Juan Soil and Water Conservation District (San Juan SWCD) employee. In this project, San Juan SWCD, on behalf of SJWG, will conduct outreach including technical assessments for agricultural producers, implement agricultural best management practices to reduce nutrient and bacteria loading to the Animas River, implement a septic system care and management outreach campaign, and provide project coordination.

Dalton Canyon Creek Water Quality Improvement Project

Dalton Canyon Creek is a tributary to the Pecos River between Pecos and Terrero. It is listed as impaired by specific conductance (aka conductivity). Along the road up Dalton Canyon, and near the creek, are several dispersed camping areas on the Santa Fe National Forest. The purpose of this project is to reduce conductivity and sedimentation in Dalton Canyon Creek. It will also reduce sedimentation and turbidity in the Pecos River, which in this area has a past impairment listing for turbidity. The Upper Pecos Watershed Association (UPWA) will stabilize sections of Dalton Canyon Creek through realignment of the creek into former meanders, construct bankfull benches, and plant riparian vegetation. UPWA will also reduce motor vehicle access within the near-stream environment and improve dispersed recreation sites to reduce the impacts of camping.

Reynold Draw-Bluewater Creek Riparian Conservation Project

This project is located on the Bluewater Heritage Ranch, near Bluewater Village (i.e., downstream of Bluewater Reservoir, in Cibola County). The purpose of the project is to reduce temperature and nutrient loading in Bluewater Creek. The Nielson Family Limited Partnership will implement riparian fencing and planting, construct rolling water bars on ranch roads, and host an educational field day to highlight completed work for the public. Separately, Bluewater Heritage Ranch may also host one of the two road maintenance workshops to be held under the project listed next.



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New 319 Projects in 2019 *continued from page 5*

Upper Rio Puerco Sediment and Turbidity Reduction Road Maintenance Workshops

This project will promote rural road construction and maintenance practices that reduce erosion and protect water quality in the Rio Puerco watershed, in furtherance of the Rio Puerco Watershed-Based Plan. The Rio Puerco Management Committee (with fiscal sponsorship from the Cuba SWCD) will conduct two road construction and maintenance education workshops in cooperation with county roads departments and local ranchers. Follow-up surveys will be used to see what effect the workshops have had, one year later.

North Ponil Restoration Project

The Cimarron Watershed Alliance will implement this project on Philmont Scout Ranch to reduce pollutant loading (of temperature, nutrients, *E. coli*, and turbidity) in North Ponil Creek. The Alliance will implement low-water crossing improvements and streambank stabilization, and will carry out planning activities in the Moreno Valley to support NMED in updating the Cimarron Watershed-Based Plan.

For a complete list of current and recent Section 319 and River Stewardship projects, with links to detailed information for each, please visit: **www.env.nm.gov/nmed_319_and_rsp_project_list**.

The next round of on-the-ground 319 projects will be selected through a Solicitation for Applications to be released in **December 2019**. The new SFA will be available at: **www.env.nm.gov/surface-water-quality/funding-sources**.

NMED to Seek Applications for On-the-Ground Water Quality Improvement Projects

By Abe Franklin, WPS Program Manager

The Watershed Protection Section plans to release a Solicitation for Applications (SFA) in December for on-the-ground surface water quality improvement projects. The SFA will be similar to the application process from FY 2019. Potential applicants can review the FY 2019 application form and related documents at https://www.env.nm.gov/surface-water-quality/funding-sources (look under "*FY 2019 Solicitation for Applications (SFA) for Watershed Project Implementation*").

Consistent with the recent revision of the State's Nonpoint Source Management Plan (https://www.env.nm.gov/surface-water-quality/nps-plan), this SFA will include some new elements. As before, we are looking for projects that implement Watershed-Based Plans (WBPs) and contribute to meeting water quality goals developed in Total Maximum Daily Loads. Starting with this SFA, we will also seek applications for projects that implement Wetlands Action Plans (WAPs). WAPs are plans that outline strategies to protect and improve wetlands within a watershed or other geographic area. The SFA will be used to select projects that improve water quality to meet water quality standards, or make measurable progress toward that goal, or improve or protect wetlands in a measurable way.

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WPS upcoming SFA release *continued from page 6*

The second new element for the upcoming SFA is that we will award priority points for projects within Conservation Opportunity Areas (COAs) identified by the New Mexico Department of Game and Fish in the State Wildlife Action Plan. COAs are geographic areas considered to have the most potential for conserving Species of Greatest Conservation Need (SGCNs). Many SGCNs are aquatic or riparian obligate species, and most water quality problems identified in New Mexico effect aquatic life designated uses. Water quality improvement projects within COAs will therefore tend to have more benefit than projects not in COAs. More information on COAs, including a mapping tool, is available at https://www.nmert.org. Application of the priority points will be described in the final SFA documents when they are released.

The third new element is that we are considering awarding priority points for projects based on the Recovery Potential Screening (RSP) scores of their 12-digit watersheds. RPS is a systematic, comparative method for identifying differences among watersheds that may influence their recovery potential. Recovery potential is the likelihood of an impaired water to re-attain water quality standards or other valued attributes, given its ecological capacity to regain lost functionality, its exposure to stressors, and the social context affecting efforts to improve its condition. More information on RPS is available at https://www.epa.gov/rps. Priority points for RPS, if applied in this SFA, will be described in the final SFA documents when they are released.

Eligibility

As noted above, projects that implement WBPs or WAPs will be eligible. WBPs are a specific type of planning document, described further at https://www.env.nm.gov/surface-water-quality/wbp. Completed WBPs are available at https://www.env.nm.gov/surface-water-quality/accepted-wbp. WAPs are available at https://www.env.nm.gov/surface-water-quality/wap.

All types of organizations will be eligible to implement these projects, regardless of which organization developed the WBP or WAP. We might receive eligible applications from federal agencies, state agencies, soil and water conservation districts, Indian Nations, Pueblos, Tribes, nonprofits, or for-profit firms.

Funding

Projects developed through the SFA will be funded through a Clean Water Act Section 319 grant to NMED awarded by the U.S. Environmental Protection Agency. Approximately, $900,000 in federal funds will be available for these projects. Each funded project will also require non federal match of at least 40% of the total project budget.

Project Terms

The schedule in the SFA will indicate a target date for subgrant agreement approval (i.e., when the projects can start) in July 2020. The SFA will state a preference for project terms of three years or less, with a four-year maximum.

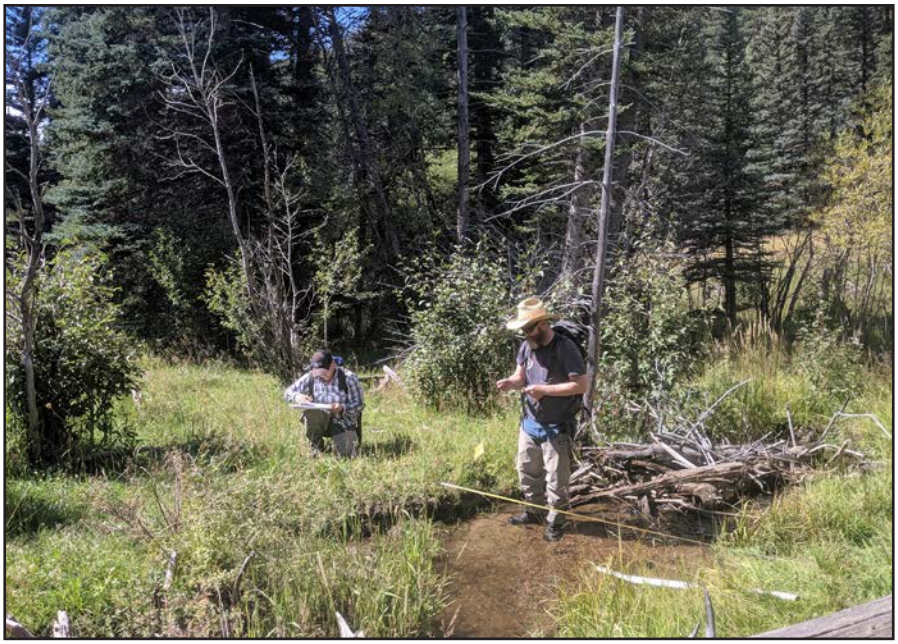
Evaluation Criteria

The SFA will contain evaluation criteria used to select the most effective (and cost-effective) projects. Interested people should read that section of the SFA carefully and ensure that each evaluation criterion can be scored based on information provided in the application.

Updates from The SWQB Monitoring, Assessment and Standards Section

Monitoring Team News

On August 13-15, SWQB hosted a Biologic Condition Gradient (BCG) Workshop that included regional and national macroinvertebrate and fish biology experts to develop rules for ecosystem function in the Middle Rio Grande. The expert panels reviewed published taxa sensitivity and historic biological community data to assign ecological function scores to benthic macroinvertebrate and fish community samples from western large rivers. The BCG is a useful tool in establishing restoration goals and assessment thresholds in the absence of reference conditions. This project is the first BCG project for a large river system in the US and the first for any waterbody in the southwest.



Chuck Dentino, Miguel Montoya, and Kris Barrios, SWQB MASS, probabilistic monitoring on Bull Creek, tributary to Cow Creek in the Pecos Watershed in September.

Water Quality Standards Team News

A 30-day public comment period opened October 1, to accept input on the Raton Waste Water Treatment Plant request for a temporary standard for plant nutrients (total phosphorus and total nitrogen). In 2017, the New Mexico Water Quality Control Commission (WQCC) approved a regulation creating a framework for adopting temporary standards. A Temporary Standard is a time-limited Water Quality Standard that reflects the highest attainable condition during a defined term. Once a temporary standard has been adopted by the WQCC and approved by EPA under Clean Water Act (CWA) section 303(c), it is effective for CWA purposes and serves as the applicable water quality standard which federal National Pollutant Discharge Elimination System permits must derive from and comply with as enforceable limits and conditions. Details of the Raton petition and how to provide comment can be found on the Bureau's website at https://www.env.nm.gov/surface-water-quality/ts-raton/.

A hearing was held before the WQCC on October 8, in the matter of proposed amendments to surface water quality standards for San Ysidro Arroyo and tributaries in McKinley County. Pea-

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body Natural Resource Company (PNRC) petitioned to change the designated use for streams in the vicinity of the Lee Ranch coal mine. Based on the results of Level 1 Hydrology Protocol evaluations and supporting hydrologic information, PNRC demonstrated that it is not feasible for the drainages in question to attain the designated uses of marginal warm water aquatic life and primary contact because natural ephemeral, intermittent or low flow conditions or water levels prevent the attainment of those uses. Therefore, they recommended classifying the drainages as ephemeral waters with limited aquatic life use and secondary contact designations. Following the PNRC petition, the WQCC deliberated and approved the amendments to 20.6.4.NMAC. Details of the proposed amendments can be found on the WQCC webpage at https://www.env.nm.gov/water-quality-control-commission/wqcc-19-03-a/.

TMDL/Assessment Team News

On September 17, SWQB released the 604(b) Request for Quotes from regional public comprehensive planning organizations to conduct water quality management planning, for a 30-day submission period with project quotes due by October 17. More information is available at: https://www.env.nm.gov/surface-water-quality/request-for-proposals/.

The Canadian River Watershed Total Maximum Daily Load (TMDL) document was approved by the WQCC on August 13 and by EPA Region 6 in Dallas on September 18. As a result of legal action, EPA entered into a Consent Decree and Settlement Agreement in 1996 and 1997, respectively. NMED completed the Consent Decree requirements in 2007 and it was officially dismissed in April 2009. With the recent EPA approval of the 2019 Canadian River Watershed TMDL document, NMED has now also completed the Settlement Agreement requirements. More information is available at: https://www.env.nm.gov/surface-water-quality/tmdl/.

EVENTS & ANNOUNCEMENTS

November

November 6th - 8th - Pueblo of Pojoaque. The New Mexico Water Resources Research Institute and Pueblo of Pojoaque are hosting the 64th annual NM Water Conference: C*ommon Water, Sacred Water: Tribal Perspectives on Water Issues in New Mexico*. Hilton Santa Fe Buffalo Thunder Resort and Casino Pojoaque, NM To register visit: https://nmwaterconference.nmwrri.nmsu.edu/2019/.

November 19th - Las Cruces. NMED /SWQB Wetlands Program - New Mexico Wetlands Roundtable. 9:00 a.m. to 4:30 p.m. at the Las Cruces City Hall, 700 North Main Street, Room 2007-B&C (2nd floor), Las Cruces, NM. For more information please contact: Emile Sawyer (Emile.Sawyer@state.nm.us; 505-827-2827). RSVPs are appreciated but not necessary.

December

December 3rd - 4th - Albuquerque. Join the Middle Rio Grande Endangered Species Collaborative Program for a two-day event to discover more about projects and programs related to species conservation and management in the Middle Rio Grande! Learn about projects related to federally-listed species in the Middle Rio Grande and engage with professionals as they discuss their work in the Middle Rio Grande. Registration is FREE but space is limited! Register early to secure your spot: https://mrgescp-sciencesymposium.wordpress.com/.

December 9th - Santa Fe. NMED /SWQB Wetlands Program - New Mexico Wetlands Roundtable. 9:00 a.m. to 4:30 p.m. at the Toney Anaya Building, 2550 Cerrillos Road, Rio Grande Room (2nd Floor) Santa Fe, NM. For more information please contact: Karen Menetrey (Karen.Menetrey@state.nm.us; 505-827-0194). RSVPs are appreciated but not necessary.

December 20th - Deadline. The Environmental Law Institute (ELI) is accepting nominations for the 31st Annual National Wetlands Awards to honor individuals who have demonstrated extraordinary commitment to the conservation and restoration of our nation's wetlands. Award recipients will be honored in Washington, D.C. during American Wetlands Month in May. For more information visit: http://elinwa.org/.

Save the Date

January 9th, 2020 - Albuquerque. New Mexico Water Dialogue's 26th Annual Meeting - BUILDING WATER RESILIENCE FOR NEW MEXICO COMMUNITIES. The New Mexico Water Dialogue has been holding annual, statewide meetings for 25 years. This year the focus is on building resilience. As our climate changes, temperatures rise with greater extremes between hot and cold, and droughts and floods become more severe. Resilience is the capacity of a system to respond to disturbance by resisting damage and recovering quickly. 8:00 AM to 4:30 PM at the Indian Pueblo Cultural Center - 2401 12th St. NW, Albuquerque, NM 87104. For more information and to register visit: https://allaboutwatersheds.org/new-mexico-water-dialogue/events/new-mexico-water-dialogues-26th-annual-meeting-january-9-2020.

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