

CLEARING THE WATERS

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Clearing The Waters is available on our website at:

<https://www.env.nm.gov/surface-water-quality/newsletters/>

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Section 319 Projects

Two New Planning Projects Underway!

The Watershed Protection Section and cooperators started two new watershed-based planning projects in January, to be funded under Section 319 of the Clean Water Act. These projects were identified through a Solicitation for Applications (SFA) released in 2019. More information on the SFA and other opportunities for water quality funding is available at: www.env.nm.gov/surface-water-quality/funding-sources.

Upper Tijeras Creek Watershed-Based Plan

Tijeras Arroyo, also known as Tijeras Creek, is listed as impaired by excessive plant nutrients from the bridge at Four Hills to its headwaters. The watershed is approximately 84,510 acres in area. About five percent of the watershed, at its lower end, is within the urbanized area of Albuquerque subject to urban stormwater regulation under the National Pollutant Discharge Elimination System. The traditional community of Carnuel and the Tres Pistolas subdivision are within the urbanized area. Above that point, the watershed is characterized primarily by private lands along the creek (including the Village of Tijeras) and Forest Service management of the uplands and of much of the important tributary Cedro Creek. The low-density residential areas around Cedar Crest are here as well. Many Albuquerque residents recreate in the watershed. In 2016 area residents and agencies formed a watershed group called the Tijeras Creek Watershed Collaborative (TCWC), "an interagency initiative focused on preserving and improving the Tijeras Creek Watershed ecological and cultural landscapes through public education and on-the-ground restoration."

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In 2019 the Ciudad Soil and Water Conservation District conducted a Request for Proposals to select a contractor to provide technical services for developing a watershed-based plan (WBP) for Tijeras Creek. The City of Albuquerque and Bernalillo County contributed non-federal funds for this contract, and Ciudad SWCD successfully applied for federal funds through the Section 319 SFA. The resulting project is to create a WBP that identifies sources of nitrogen and phosphorus, analyzes management measures and outreach methods to reduce loading of these nutrients, identifies programs and partners to implement the plan, and provides monitoring and reporting methods to mark progress of plan implementation.



A stormwater retention demonstration project near the A. Montoya-Roosevelt Middle School in Tijeras (Tijeras Creek in background).

Wolf Creek Update to the Watershed-Based Plan for the Mora River – Upper Canadian Plateau

The Hermit's Peak Watershed Alliance (HPWA) completed a WBP to reduce nutrient loading to the Mora River in 2016. That WBP covers the middle portion of the Mora watershed, within the Upper Canadian Plateau ecoregion. Within that area is a tributary called Wolf Creek, that is a potential source of nutrients to the Mora River, and has its own separate impairment listing not addressed by the existing WBP. Wolf Creek is one of New Mexico's sixteen streams listed in the 2018-2020 *Section 303(d)/305(b) Integrated Report* as impaired by "flow regime modification," and in reporting category 4C. This category is used for streams that are impaired, but not impaired by excessive pollutant loading. The Wolf Creek watershed is 77,530 acres in area, and comprised of blue grama-dominated grasslands, piñon and juniper forests, and some ponderosa forest spread across high plains, mesas, and the Turkey Mountains. A few large ranches and the National Park Service are the major landowners.

HPWA successfully applied for funds to create a plan to enhance the hydrology of the uplands and Wolf Creek riparian area. In developing the plan, HPWA and partners including Fort Union Ranch,

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Watrous Valley Ranch, Black Willow Ranch, and the Fort Union National Monument will explore options for reducing peak flows and increasing base flows in Wolf Creek. Management measures to be considered include upland range management to promote infiltration (with special consideration of alluvial fans), additional wetland restoration work such as has been implemented by the Albuquerque Wildlife Federation (AWF), and alternative management of the off-channel reservoir Wheeler Lake. The plan resulting from this project will be considered an “alternative plan” rather than a WBP, per EPA’s *Nonpoint Source Program and Grants Guidelines for States and Territories*.



AWF volunteers and HPWA staff building a one-rock dam to raise the grade of Wolf Creek and enhance the adjacent wetlands.

For a complete list of current and recent Section 319 and River Stewardship projects, with links to detailed information for each, please visit:

https://www.env.nm.gov/surface-water-quality/nmed_319_and_rsp_project_list

Watershed-based planning is the main approach for identifying solutions to nonpoint source pollution problems in New Mexico. To learn more about watershed-based planning, visit <https://www.env.nm.gov/surface-water-quality/wbp>.

Mapping and Classification of Wetlands Completed for the Sacramento Mountains Area

By Maryann McGraw, Wetlands Program Coordinator and
Emile Sawyer, Wetlands Program Project Officer

In June 2019, the SWQB Wetlands Program and our partner Saint Mary’s University of Minnesota, Geospatial Services (GSS) completed mapping wetlands within 135 quadrangles (nearly 5.5 million acres) centered around the Sacramento Mountains, in south central New Mexico. The area is composed of private and public lands where water resources are at risk from ground water extraction, development and a high risk of catastrophic wildfire.

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GSS, our mapping contractor, used geospatial techniques and image interpretation methods to remotely map and classify wetlands, riparian and deepwater habitat throughout the project area.



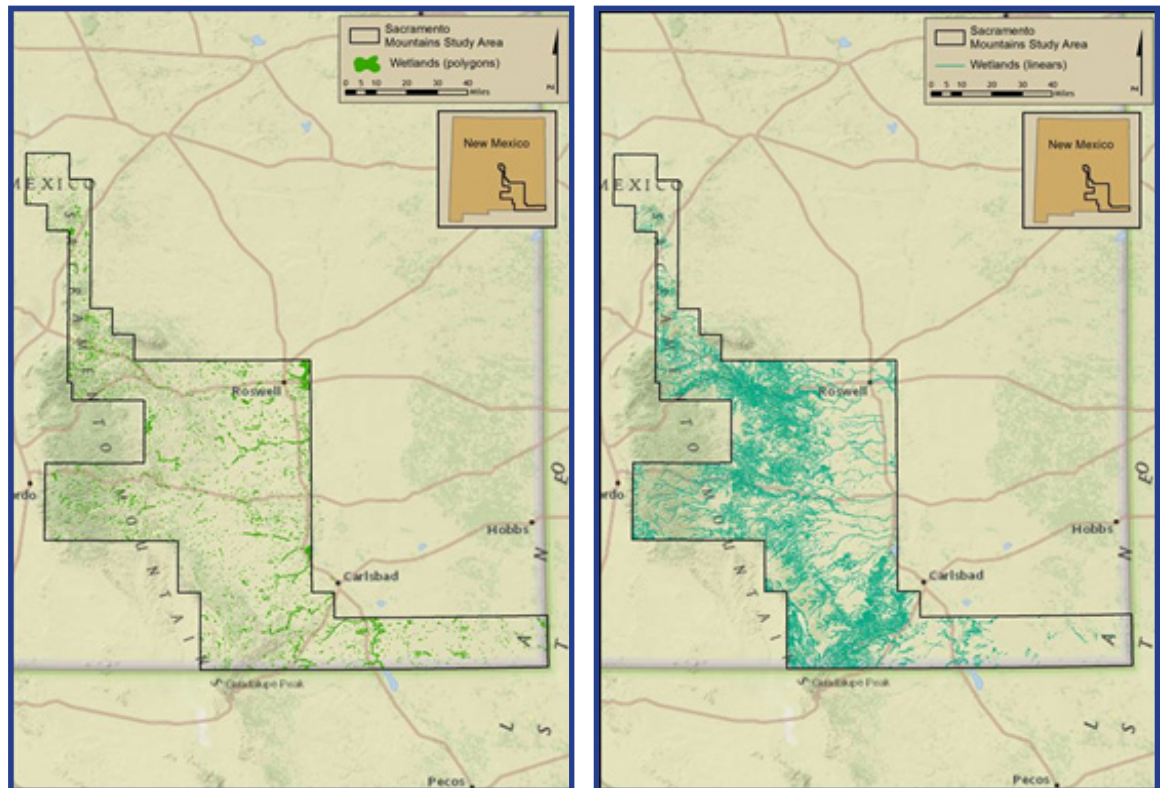
Figure 1. The GSS/SWQB Wetlands Program mapping team visiting a check site on Walnut Creek within Carlsbad Caverns National Park. Photo by M. McGraw

Image interpretation was supported by field verification of mapping signatures and wetland classifications by a team composed of GSS and Wetlands Program staff that visited hundreds of check sites during the mapping process (Figure 1).

Within the project area 39,829 acres (~0.8%) are comprised of wetlands, deepwater habitat and riparian areas (Figure 2). The mapping process, started in 2016, used the most recent National Agriculture Imagery Program (NAIP) imagery from 2014 as its primary imagery with additional region-specific and historical imagery to help support decision making.

Figure 2. The map on the left shows the Sacramento Mountains project area with updated polygonal wetland features mapped.

The map on the right shows the location of linear wetland features mapped (GSS, 2018).



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Mapping and Classification continued from page 4

The mapping process utilized a mapping classification compliant with the Federal Geographic Data Committee Wetlands Mapping Standard and the National Wetlands Inventory (NWI) developed by Cowardin et al. Consequently you can find these mapped wetlands on the NWI website <https://www.fws.gov/wetlands/> which was a goal of the SWQB Wetlands Program. In addition, each of the wetland features were mapped using other classifications including the “Landscape Position, Landform, Water Flow Path, and Water Body Type” classification also known as “LLWW.” The LLWW classification in combination with the Cowardin classification allowed our mappers to apply hydrogeomorphic descriptors developed by Brinson and then correlate each hydrogeomorphic mapping unit to potential wetland functions performed by that wetland type.

For example, the Bluff Springs watershed (Figure 3) just southeast of Alamogordo, is principally mapped as Riverine (polygonal and linear) and Slope (polygonal) wetlands using the hydrogeomorphic classification (Figure 4). An example of a wetland function that some of these wetlands provide is “Bank and Shoreline Stabilization.” We are able to show where wetlands are providing the Bank and Shoreline Stabilization function and at what performance level each wetland would ideally provide that function (Figure 5).

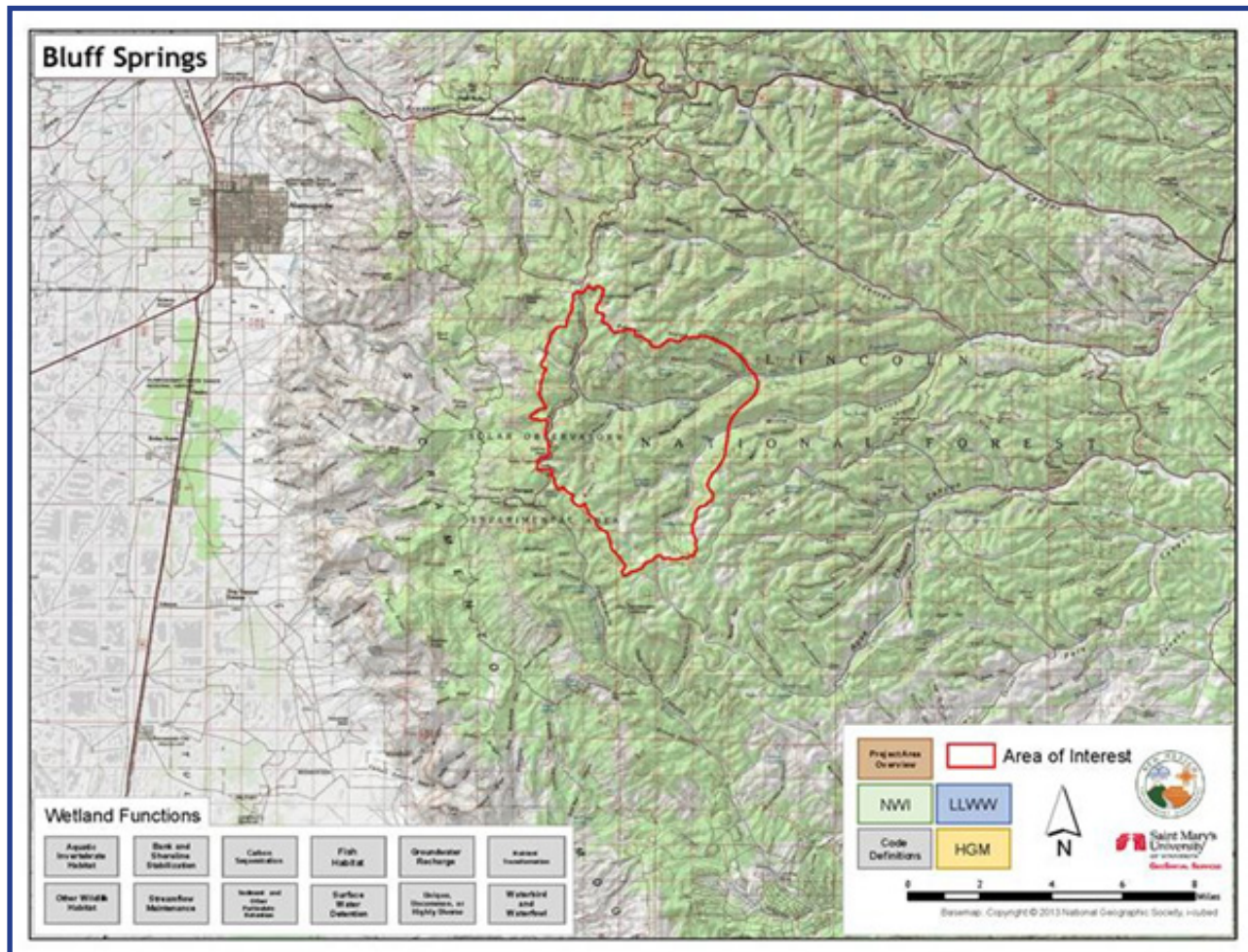


Figure 3. Location of Bluff Springs Watershed near Alamogordo. The figure also shows the list of wetland functions that are mapped by correlating each function to hydrogeomorphic wetland types.

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Another classification applied to the project area is “A System for Mapping Riparian Areas in the Western United States” developed by Jim Dick et al. from the New Mexico Field Office of the SW Region of the US Fish & Wildlife Service. This classification is used principally for riparian areas that occur outside the immediate floodplain. It is especially important in the Sacramento Mountain area where rivers and floodplains are severely downcut and in some places riparian zones are still supported by shallow groundwater, but overbank flooding no longer reaches these areas.

Saint Mary’s University of Minnesota developed a Storymap for this project which can be viewed at: <https://smumn.maps.arcgis.com/apps/MapJournal/index.html?appid=ced60f87d9b3493e8c874397826538bc>. Using photos, dialogue and interactive maps, the website takes you through New Mexico’s Wetlands Mapping Story, with descriptions of wetland classes, wetland functions and other interesting information about the Sacramento Mountains wetland mapping project area.

The Wetlands Program continues to map wetlands in all regions of the state. For each mapping region, GSS and SWQB Wetlands Program staff conduct Technical Advisory Committee meetings to obtain input from local experts, agencies and landowners about the wetlands in the area. The next Technical Advisory Committee meetings will be scheduled for the Fall 2020 in compliance with COVID-19 protocols. We would love for you to join us at one of these meetings to provide input and to learn more about the wetland mapping process. We will have additional Technical Advisory Committee meetings in association with other areas being mapped in Spring 2021. Please contact Emile Sawyer (Emile.Sawyer@state.nm.us) or Maryann McGraw (Maryann.McGraw@state.nm.us) for Technical Advisory Committee locations and dates and for more information.

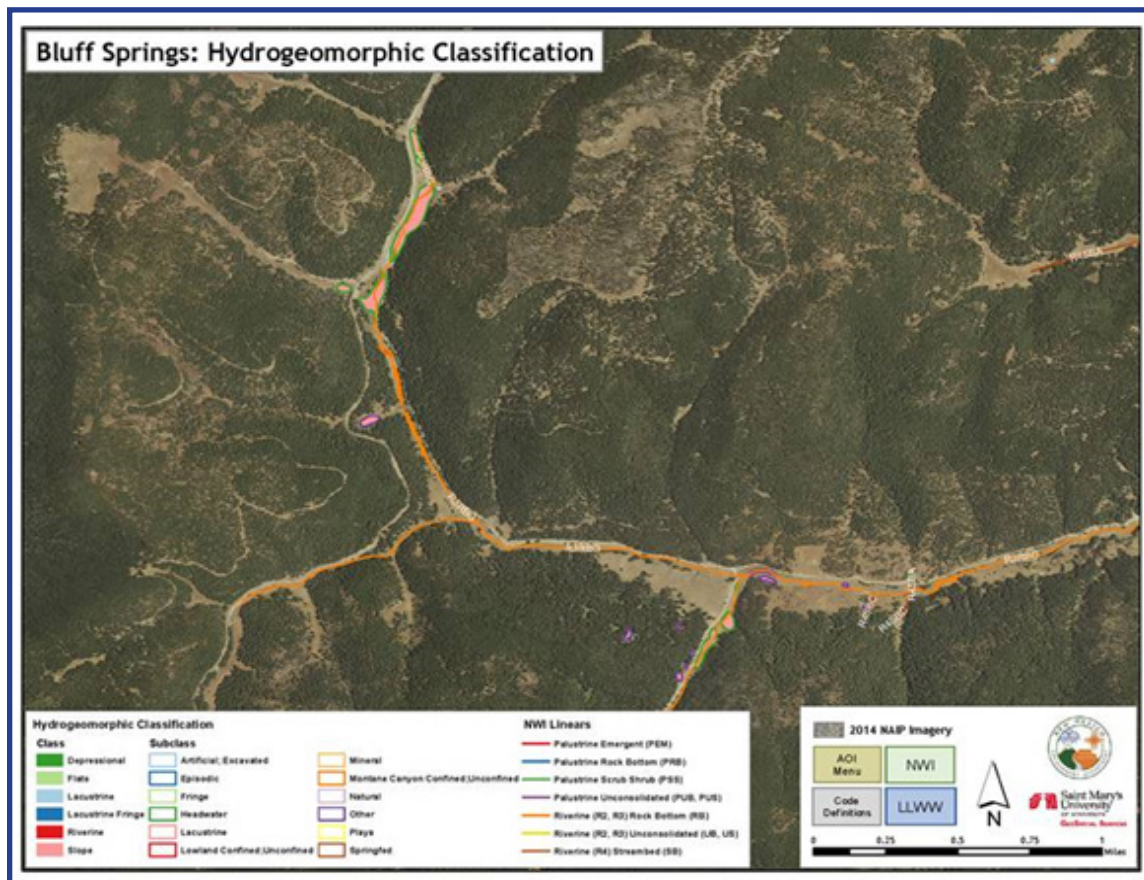


Figure 4. Image of Bluff Springs Watershed with Hydrogeomorphic Classification applied to wetland mapping units.

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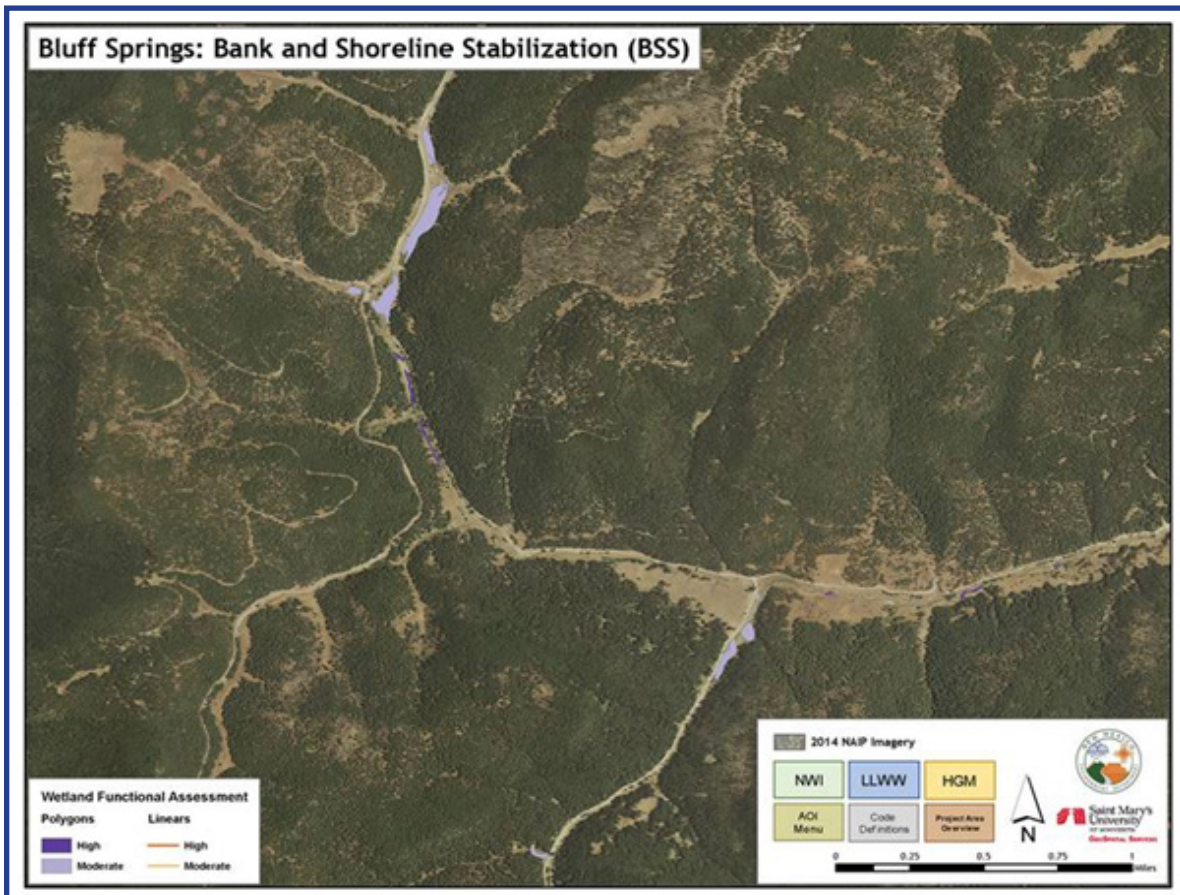


Figure 5. An image of the Bluff Springs Watershed showing mapped wetlands that perform Bank and Shoreline Stabilization function. Light purple shows wetland areas that ideally would be performing this function at a moderate level of performance. Dark purple shows wetland areas performing at high level.

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EVENTS & ANNOUNCEMENTS

Call for Abstracts

The next **National Nonpoint Source Training Workshop** will be here in New Mexico! **When?** November 16-19, 2020. **Where?** The El Dorado Hotel in Santa Fe. **Why?** This event is for invited presenters and nonpoint source program staff from states, tribes, and EPA. It is a great opportunity for New Mexicans to highlight their projects and network with others from around the west and around the country. The conference web site, including the call for abstracts, is at <http://projects.erg.com/conferences/nps2020>.

April

April 22nd - Gila Resources Information Project hosts - the first “*Digital Earth Day*,” a global digital mobilization to address the most urgent threats to people and planet. April 22nd marks the 50th anniversary of Earth Day, please join us for Gila Earth Day 2020, a special 2-hour online event showcasing the earth-friendly work, goals, and products of organizations and businesses around our region. This year’s international Earth Day theme is climate action. As we respond to the current COVID-19 outbreak, what are the lessons we are learning that we can carry forward as we address the climate crisis? Gila Earth Day’s virtual event will highlight themes of resilience, community planning and response, and cooperation that will be critical to local efforts to address climate change. Connect via Zoom - Register at: https://zoom.us/webinar/register/WN_biQmtQGYQrC8dizesXWIHA or watch live on **Facebook @GilaEarthDay** starting at 10 am (Recording will be available following the program.) For more information, visit www.gilaresources.info or contact **Doyle Wreall**, GRIP program associate and Gila Earth Day coordinator at earthendoyle@gmail.com or 575-297-9734.

April 30th - NMED SWQB Wetlands Program hosts - the **Southern Wetlands Roundtable Webex** webinar from 9:00 am until 4:00 pm. So grab your cup of coffee and morning energy bar and cozy up to your telework computer. We have excellent speakers for the Spring Southern Wetlands Roundtable Webinar on **Webex Meeting number 285 666 920 and Password jEcEC4yVi32**. To join by phone: 1-415-655-0001. For more information please contact Emile, Emile.Sawyer@state.nm.us or Maryann, Maryann.McGraw@state.nm.us for log-in information.

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