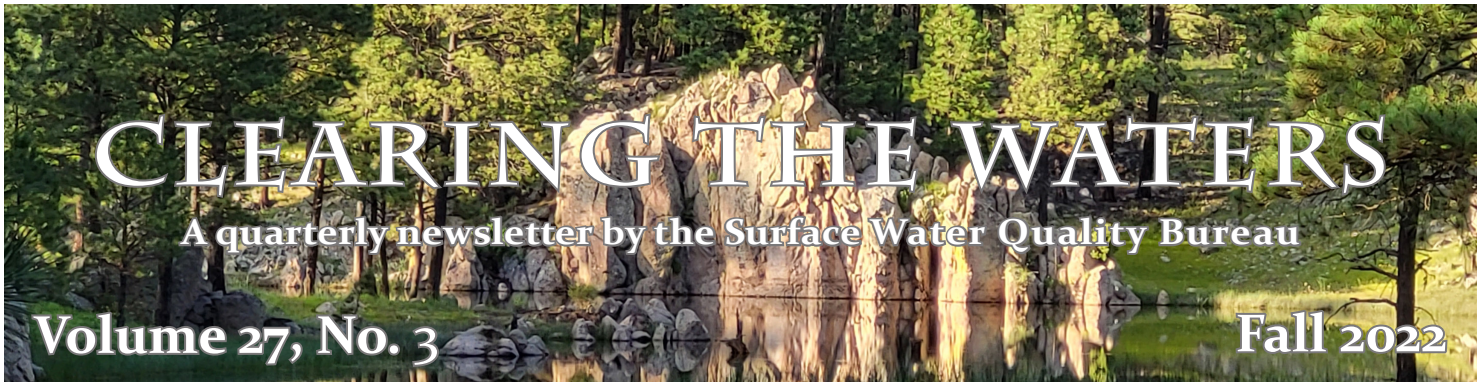

CLEARING THE WATERS

A quarterly newsletter by the Surface Water Quality Bureau

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Clearing The Waters is available on our website at: https://www.env.nm.gov/surface-water-quality/newsletters/

This newsletter is published quarterly by the New Mexico Environment Department's (NMED) Surface Water Quality Bureau (SWQB). Funding is provided by a Clean Water Act (CWA) §319(h) grant from the U.S. Environmental Protection Agency (EPA).

NMED to Seek Applications for Post-Fire Implementation Projects

Applications to Implement Watershed-Based Plans and Wetlands Action Plans are also Requested

By Abe Franklin, Program Manager, Watershed Protection Section

The Watershed Protection Section (WPS) plans to release a Solicitation for Applications (SFA) on October 31 for on-the-ground surface water quality improvement projects that will be funded under Section 319 of the Clean Water Act. Approximately $1,000,000 will be available for these projects. The SFA will be similar to the application process from FY 2022. Potential applicants can review the FY 2022 application form and related documents at www-archive.env.nm.gov/surface-water-quality/funding-sources (look under "FY2022 On-the-Ground" for a list of documents).

Of special note for this year is that NMED would like to support projects that implement post-fire response plans. Post-fire response plans are a type of "WBP Alternative" described in the State's Nonpoint Source Management Plan (www.env.nm.gov/surface-water-quality/nps-plan). The SFA will provide priority points (essentially, bonus points) for projects that implement post-fire response plans. After applications are evaluated and higher-scoring applications are designated as finalists, WPS staff will assist finalist applicants with completing these elements for their project work plans if needed.

As before, we are also looking for projects that implement Watershed-Based Plans (WBPs) and contribute to meeting water quality goals developed in Total Maximum Daily Loads. We are also seeking applications for projects that implement Wetlands Action Plans

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(WAPs). The SFA will also provide 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. More information on COAs is available at https://nmswap.org.

Eligibility

As noted above, projects that implement post-fire response plans, WBPs, or WAPs will be eligible. Completed WBPs and WAPs are available to review at www.env.nm.gov/surface-water-quality/wbp.

All types of organizations will be eligible to implement these projects, regardless of which organization developed the post-fire response plan, 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.

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 2023. The SFA will indicate a maximum term for projects of four years.

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.

To be notified of SWQB goings on including the SFA described above, please add yourself to the SWQB email list, by clicking below.

Click here to subscribe to receive email updates!

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

AMERICAN CREEK
SWQB's *First* Alternative Restoration Plan

By Rachel Jankowitz,
SWQB MASS TMDL Scientist

The EPA has accepted SWQB's first Alternative Restoration Plan (ARP), for American Creek, in Colfax County. The ARP utilizes a watershed-scale approach to identify strategies for addressing nonpoint source pollution that will cumulatively achieve the water quality targets. It is a near-term description of actions, with a schedule and milestones, that is more immediately beneficial or practicable to achieving water quality standards, and is particularly appropriate in watersheds with active, engaged stakeholders.

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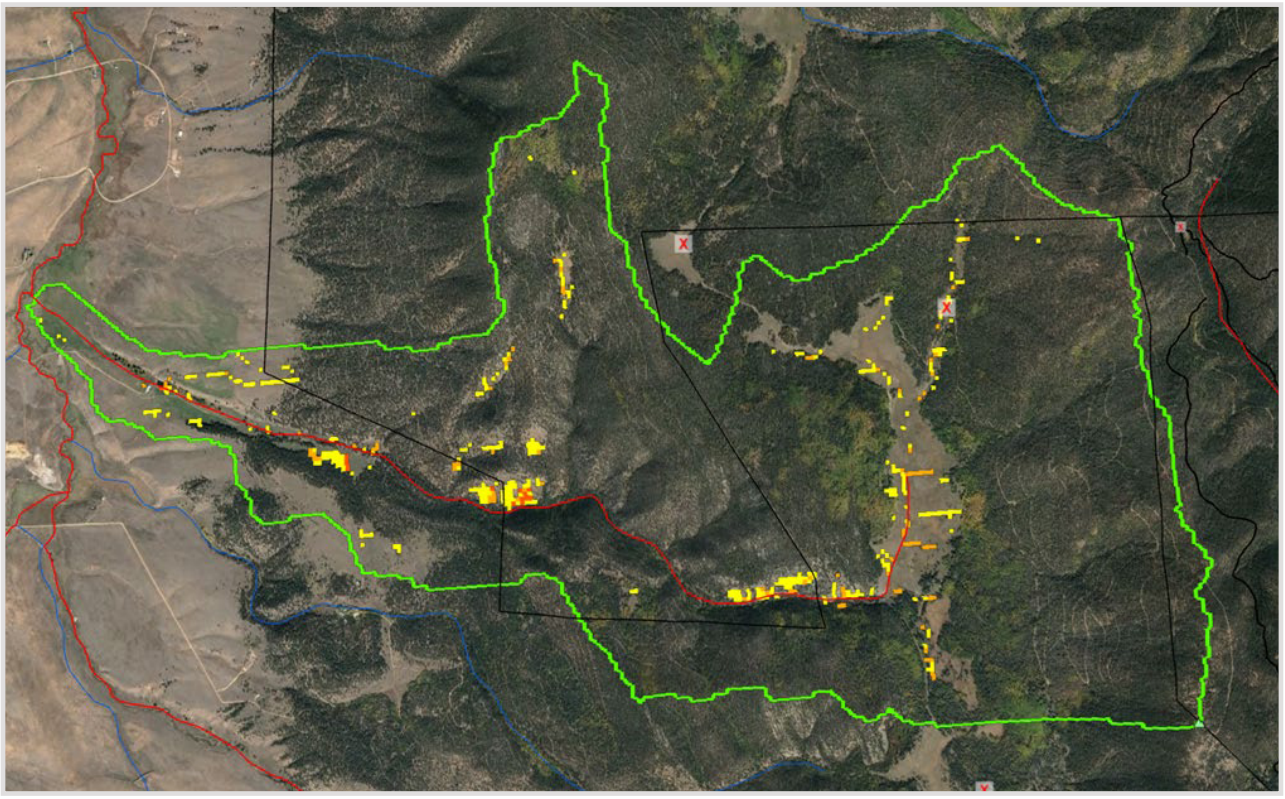
American Creek is a high-elevation stream located just upstream and to the south of Eagle Nest Lake. It is impaired relative to the applicable NM Water Quality Standards for total recoverable aluminum, and *E. coli* bacteria. The American Creek watershed is 85% forested, with sedge-dominated slope wetlands in the headwaters area, and upland pasture at lower elevations near the confluence with Cieneguilla Creek. One third of the 6.1 mi^2 drainage area is owned by the NM Game Commission, as part of the Colin Neblett State Wildlife Area, and managed by the Department of Game & Fish. The remainder is divided between three private ranches. In addition to the landowners, the other major stakeholder is the Cimarron Watershed Alliance, whose area of interest is the 8-digit Hydrologic Unit Code draining to the Cimarron River.

The ARP was completed in-house by the SWQB Monitoring, Assessment & Standards and Watershed Protection sections. It combines elements of the Total Maximum Daily Load and Watershed Based Plan approaches. Those elements unique to the TMDL (monitoring data, loading calculations) are shown in an appendix. Elements common to TMDLs and WBPs (watershed description, probable sources) are included in the main body of the report, which also meets all EPA requirements for a nine-element WBP. Unlike a traditional TMDL, there is no requirement to hold a public meeting or public comment period, and approval by the NM Water Quality Control Commission is not necessary.

Two computer models were used in Plan development. To target potential locations for erosion control BMPs, SWQB performed a stream channel sedimentation risk assessment by evaluating areas of high erosion potential identified by using the Revised Universal Soil Loss Equation. This widely used mathematical model estimates topsoil erosion potential through integration of local rainfall energy, soil type erodibility, slope angle and length, and land cover metrics. The resulting GIS raster coverage provides mean annual erosion potential estimates at 30-meter spatial resolution. Areas of low erosion potential were excluded from further investigation, while remaining areas were reclassified as moderate (yellow), high (orange) and extreme (red), then clipped to the watershed of interest and overlayed on Google Earth imagery (below).



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American Creek ARP continued from page 3

To characterize bacteria sources, SWQB selected the Bacteria Source Load Calculator model (BSLC). Model inputs include worksheets for livestock and wildlife, farm and land use, and human activities. The model can be customized, for example by adding elk as species of wildlife (the BSLC was developed in Virginia, which has no wild elk). The output report indicated that livestock are the source for 86% of the in-stream fecal bacterial load. One limitation of the BSLC is that it does not consider existing grazing management measures, such as off-channel watering tanks which function to move the cows away from the stream.

Recommended actions to achieve Water Quality Standards include wetland restoration, improving drainage of active and historical roads, forest and pasture management, streambank stabilization, and practices intended to limit wildlife and livestock access and proximity to the watercourse. A number of data gaps were identified, where additional water sampling and condition assessment could be useful to prioritize on-the-ground projects.

American Creek is within the perimeter of a $3,000,000 NM State Forestry Division project called the Cimarron Range Forest Management Initiative. The project will treat forested land over 10 years starting in 2023, across a 40,000-acre area, to protect against high-intensity catastrophic fire. Additionally, the project is intended to kick-start ongoing forest treatment activities that would offer a small but steady flow of forest products and jobs for forestry operations and wood products manufacturers in the region. This project will complement a number of nearby forest restoration treatments which are planned, on-going, or have been completed, by various land-managing entities in the Cimarron watershed.

With the completion of an EPA-accepted ARP, the landowners, the Cimarron Watershed Alliance, or other stakeholders are eligible to apply for Clean Water Act Section 319 funding to fill data gaps or conduct on-the-ground projects.

Santa Fe River Rain Garden and Zuni Bowl Project
River Stewardship Program

By Emily Toczek,Project Manager, Watershed Protection Section

Photo was taken looking south towards the Santa Fe River from Alameda Street in the downtown area of Santa Fe, NM.

The Surface Water Quality Bureau – Watershed Protection Section has funded the Santa Fe Watershed Association (SFWA) through the River Stewardship Program to protect and improve water quality in the Santa Fe River at a targeted urban reach near downtown Santa Fe, NM. Much of the urban reach of the River is not currently meeting the Primary Contact and Aquatic Life designations under the New Mexico's water quality standards. This section of the Santa Fe River is currently listed as impaired for *E. coli*, Poly-chlorinated Biphenyls (PCBs), and Aluminum. The project focuses primarily on the *E. coli* impairment. The most likely source of this impairment is storm water runoff and the transport of suspended animal wastes and sediment. The project goals include documenting baseline conditions in the intermittent urban reach, documenting water quality changes in the targeted urban reach, and construct two stormwater control and management structures such as rain gardens and Zuni bowls. These structures will remove some of the *E. coli* and other pollutants in stormwater runoff before it reaches the Santa Fe River.

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Reese Baker, a PhD student from University of New Mexico and owner and founder of RainCatcher, Inc, is the subcontractor constructing the two stormwater control and management structures. He is very interested in the functions of these structures. His design incorporates two of native grasses - big bluestem (*Andropogon gerardii*) and little bluestem (*Schizachyrium scoparium*) that will be planted in the inlets of the gardens, and throughout the Zuni bowls. Both species of grasses have extremely extensive root systems that are fibrous and have a large exposure to pollutants in stormwater. RainCatcher will also be using the white rot fungi *Pleuotus ostreatus* (oyster mushrooms) in each Zuni bowl, which will be planted into Siberian elm tree branches as the substrate to grow the fungi. This particular species of fungi is a voracious wood decomposer and uses enzymes with free radical oxygen species to break down lignin and cellulose - in fact white rot fungi are pretty much the only organism on earth that can do this chemical transformation! The other interesting aspect of these fungi are that they literally hydrate the environment as they grow out into the soil medium. Some of the oxygen radicals will combine with hydrogen during the decomposition process, and the mycelium will pull water out of the wood. Reese calls this process a magical transformation of wood to water. If you are interested in learning more about this process, please contact Reese Baker at getgreen@theraincatcherinc.com.

The construction and planting phase was completed in Spring 2022. Monitoring of water quality and quantity will be conducted by City of Santa Fe and SFWA volunteers and is scheduled to begin now that construction has been completed. All photos are the rain gardens in action during a summer storm event this summer.

Eastern portion of the Rain Garden.

Western edge of Rain Garden with Alameda Street to the right.

WATERSHED-BASED PLANNING SOLICITATION FOR APPLICATIONS

By Abe Franklin, Program Manager, Watershed Protection Section

The Surface Water Quality Bureau is pleased to announce plans to release a Solicitation for Applications (SFA) for watershed-based planning (WBP) projects on October 31. This SFA will be similar to the previous SFA for WBP projects, which is still available at www-archive.env.nm.gov/surface-water-quality/funding-sources.

The SFA will solicit applications to develop or update comprehensive WBPs to identify and build the methods, programs, and partnerships required for eligible streams to meet their water quality standards. Each new planning project must address at least one total maximum daily load (TMDL) for an impaired stream, or develop a hydrologic solution to a water quality problem in a limited category of streams without TMDLs (Category 4C streams). Also eligible is New Mexico's only stream in assessment Category 4B, Sandia Canyon (near Los Alamos). Streams in Category 4B are thought to have adequate planning such that a TMDL is not required, but their plans may need to be updated or expanded.

Projects funded under the SFA will require a minimum forty percent non-federal match, which may consist of cash expenditures or in-kind contributions of labor, equipment, and materials. The SFA will include opportunities for potential applicants to ask questions. The SFA will be open until approximately January 3, 2023. Applications will be submitted via email. Applicants should plan for projects that begin on July 1, 2023. Detailed information about watershed-based planning is provided by EPA in their *Handbook for Developing Watershed Plans to Restore and Protect Our Waters*, available at https://www.epa.gov/nps/handbook-developing-watershed-plans-restore-and-protect-our-waters. Information on watershed-based planning in New Mexico, including links to download completed plans, is available at www.env.nm.gov/surface-water-quality/wbp. The SFA including an application form and instructions will be posted at www.env.nm.gov/subgrants. For more information, please contact Abe Franklin at abraham.franklin@state.nm.us.

EVENTS & ANNOUNCEMENTS

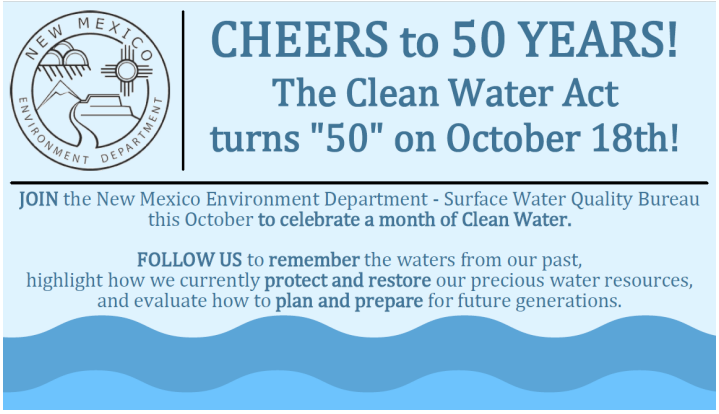
October

October 7th - 9th. Cebolla Canyon in the El Malpais National Conservation Area, south of Grants, NM. Join Albuquerque Wildlife Federation's October workshop. The work will focus on hand-building rock structures designed to allow water to infiltrate more gradually into the landscape and prevent down-cutting and gully formation. AWF has organized restoration projects at Cebolla Canyon for more than two decades, and our work has successfully added over forty acres of wetlands around Cebolla Spring, providing critical wildlife habitat in an arid region. Volunteers do not need to be present for the entire weekend to participate. You are welcome to join for the work day Saturday, or camp for just one of the two nights. Check for more details on their website abq.nmwildlife.org/projects.html or to sign up: email Scial at rioscial@gmail.com. Directions and further details will be sent to you once you sign up.

October 12th - 14th. Albuquerque - Isleta Resort & Casino. THE 2022 NEW MEXICO WATERSHED AND DAM OWNERS COALITION (NMWDOC) ANNUAL CONFERENCE AND BUSINESS MEETING. Conference Theme: "Impacts of Wildfires on Dams & Watersheds". The conference will include both indoor technical sessions and outdoor field workshops addressing a range of topics of interest to watershed managers, dam owners, and others. An optional tour of the Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA) sediment removal facility will round out the event. For more information, visit https://nmwdoc.org/conference/ or email jornadaresourceconservationdev@gmail.com.

October 14th - 16th. Apache Kid Wilderness. Apache Kid Wildnerness Sign Project - **Volunteers Needed!!** New Mexico Wild is looking for experienced backpacking volunteers to help us install 10 signs along the southern portion of the Apache Kid Trail in the Apache Kid Wilderness. This wilderness is a unique and truly wild and rugged area of New Mexico located ~60 miles southwest of Socorro. Please RSVP to walker@nmwild.org.
The Project:
- Lead by New Mexico Wild Wilderness Rangers
- 3-day project. Backpack 6 miles to base camp in a steep and rugged terrain. 6 miles of hiking a day.
- Installing junction signs in teams of 2.
- Volunteers will provide their own meals and equipment.
- We just need your working hands!

October 18th - The Clean Water Act turns "50". Please join NMED SWQB as we celebrate the 50th Anniversary of the Clean Water Act through our ***Month of Clean Water.*** Information can be found at https://www.env.nm.gov/surface-water-quality/cwa50/ - see *what's planned for* October!



October 29th. Santa Fe. Save the date for Santa Fe Watershed Association's Hunt for the Red Rocktober Community Cleanup event on Saturday! This event is just one of the many ways that SFWA rallies the community to collectively care for our waterways. Stay tuned for all the details! https://www.santafewatershed.org/