CLEARING THE WATERS

A quarterly newsletter by the Surface Water Quality Bureau

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On-the-Ground Improvement Projects for the Mora River-Upper Canadian Plateau

By Wendy Pierard, WPS Implementation & Restoration Supervisor

The Hermit's Peak Watershed Alliance (HPWA) received $262,310 of Clean Water Act Section 319 funds for the Mora On-the-Ground project in Mora and San Miguel Counties, New Mexico. HPWA is a watershed group which works to protect and restore the ecological heritage of watersheds in the Hermit's Peak region through ecological restoration, environmental education and community action.

The Mora Watershed is a sub-basin in the Canadian Watershed. The Mora River starts in the Rincon Mountains north of Chacon (at about 10,000 ft.) and enters the Canadian River near the tri-county border of Mora, Harding and San Miguel Counties, a distance of 116 miles. The main tributaries feeding the lower Mora River in the Upper Canadian Plateau are the Sapello River (perennial), Wolf Creek, Tipton Creek and Dog Creek (all intermittent).

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This project's purpose was to reduce nutrient loading in the lower Mora River with on-the-ground projects across its watershed. The Watershed-Based Plan (WBP) for the Mora River, EPA accepted in 2016, was developed to address nutrient impairments identified in TMDLs from 2007 and 2015. The Watershed-Based Plan can be found here: https://www.env.nm.gov/surface-water-quality/wp-content/uploads/sites/25/2017/06/Lower-Mora-WBP-5-6-2016.pdf.

The 2007 TMDL identified probable sources for nutrients including flow alterations from water diversions, municipal point source discharges and on-site treatment systems (septic systems and similar decentralized systems). The 2015 TMDL updated the previous effort and included the following probable sources: recreation pollution sources, silviculture harvesting, wildlife other than waterfowl, habitat modification, drought-related impacts, natural sources, and rangeland grazing. The 2015 TMDL can be found here: https://www.env.nm.gov/surface-water-quality/wp-content/uploads/sites/25/2019/04/MoraRiver-NutrientTMDL_EPAapproved.pdf.

HPWA completed an ambitious project which included establishing effective long-term relationships with landowners, such as the Black Willow Ranch, the Fort Union Ranch, the King Ranch and the Goetsch Family Farm. Each of these landowners contributed significantly to the success of the measures placed on their property by providing labor, equipment and technical expertise.

Fence river crossing for riparian exclosure.

The Mora On-the-Ground project covered a large area. The measures selected focused on improving riparian habitat, stream channel function, livestock and grazing management, road drainage, and erosive upland areas. For example, projects included constructing approximately 4 miles of fencing to protect riparian habitat, caging over 300 mature or re-generating cottonwood trees; restoring 3 miles of Wolf Creek by constructing 39 one-rock dams, worm ditches, and rock rundowns, developing a regenerative agricultural plan and providing assistance on supporting and managing beaver.

A large part of this project was educational outreach and establishing relationships with landowners. Although the COVID-19 pandemic required

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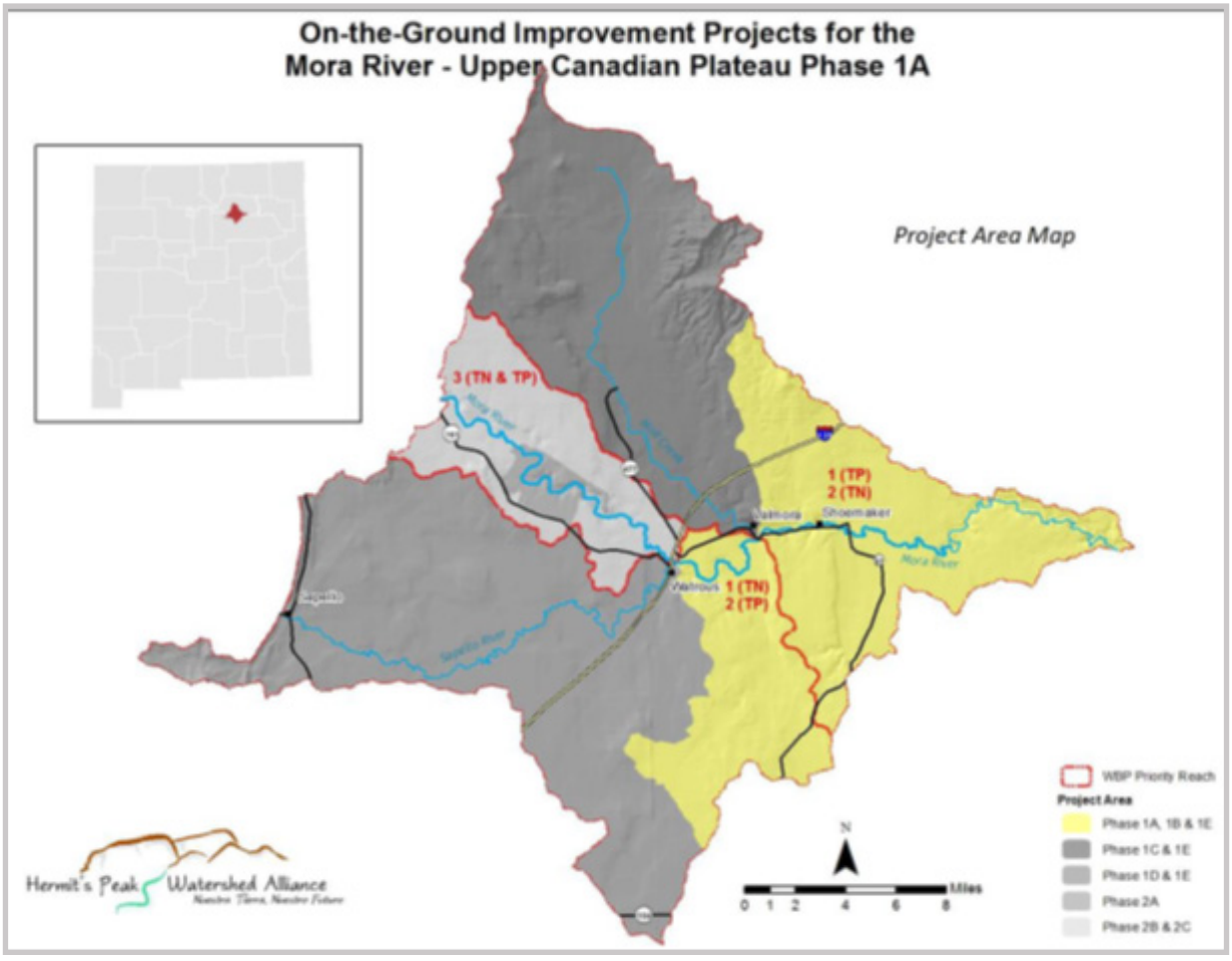
the cancellation of some events, several workshops were held before March 2020. These included a hands-on workshop to build 11 one-rock dams on Wolf Creek at Ft. Union Ranch with the Albuquerque Wildlife Federation, a prescribed fire workshop, a regenerative agriculture planning charette, a keyline plow design and pasture restoration workshop, and several presentations at New Mexico Highlands University on watershed and stream health. Getting the word out to the community on how restoration measures improve water quality is critical in getting their buy-in and support.

Caged Cottonwood to protect from grazing.

The improvement in water quality from the project is significant. Twenty-one projects were completed along the Mora River designed to decrease total nitrogen and total phosphorus loads in the river. Load reduction modeling indicates a total nitrate decrease of 5.22 lbs/day because of implemented projects and total phosphorus decrease of 0.91 lbs/day.

HPWA stated that project success is due in large part to the long-term commitment from landowners to maintain and continually improve



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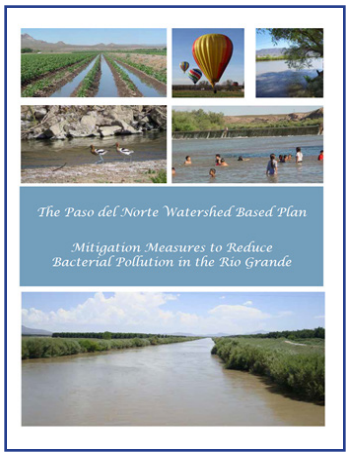
land restoration and management. By choosing a farming champion and ranching champion and developing long-term relationship with each, the chances of maintaining improvements are increased. They look forward to recruiting new landowners for future projects to broaden the group of people to participate in improved watershed management and restoration.

HPWA is also working on three additional projects, which together with the Mora project, represents a landscape level approach to reducing nonpoint source pollution in the Mora River. These projects are developing a WBP for the Sapello Watershed, updating the lower Mora WBP to address the Wolf Creek Watershed, and a new on-the-ground project described below.

Five New Watershed Protection Section 319 Projects Underway

The Watershed Protection Section and cooperators started five new projects in September, 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 January for on-the-ground projects that implement watershed-based plans (WBPs) and Wetlands Action Plans (WAPs). In addition to conventional implementation of management measures identified within WBPs and WAPs, 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.

Rincon Arroyo Watershed Stabilization Project to Reduce E. coli *loading to the Rio Grande*



The purpose of this project implemented by the New Mexico Water Resources Research Institute is to reduce *E. coli* loading from Rincon Arroyo to the Rio Grande in Doña Ana County, in furtherance of the Paso del Norte WBP. Infrequent intense storm events increase *E. coli* loading to the Rio Grande from ephemeral tributaries such as Rincon Arroyo. This project will construct stone lines along contours, wire and brush lines along contours, microcatchments, and one-rock dams, and will implement native grass seeding and protection from cattle grazing, to infiltrate storm runoff in two sub-watersheds totaling 180 acres. The project will also compare flow, *E. coli* loading, and vegetation among treatment areas and a separate non-treated control subwatershed, to inform future projects in the Rincon Arroyo watershed and elsewhere.

Temperature and Erosion Reduction in Lower Cow Creek – Phase II

The purpose of this project is to reduce water temperature in Cow Creek in furtherance of the Upper Pecos Watershed-Based Plan. The Upper Pecos Watershed Association will improve floodplain access for the creek, improve in-stream geometry so that vegetation can become established on the banks and nearby floodplain, plant native riparian vegetation, and conduct community outreach.

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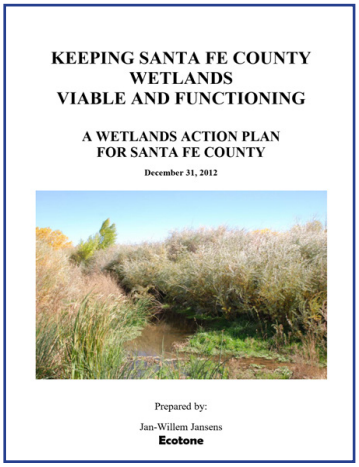
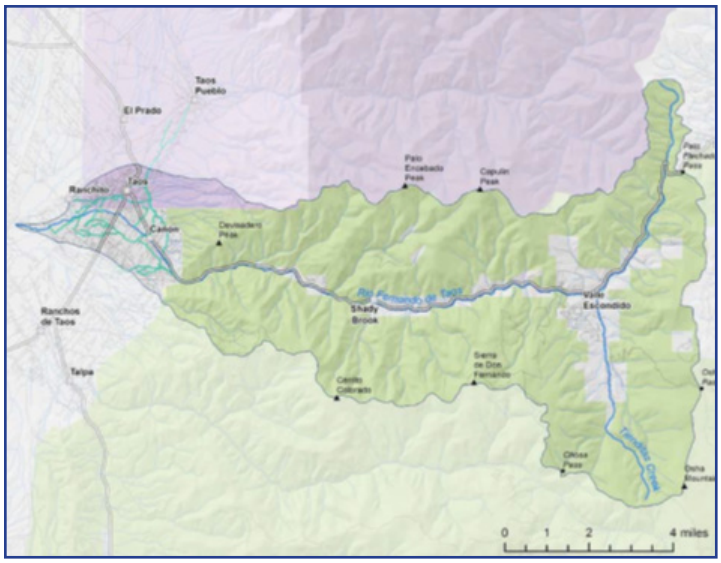


Restoring the Rio Quemado Riverine Wetland on Los Potreros Open Space, in Chimayo, NM

Ecotone Landscape Planning will implement this project to reduce incision of the Rio Quemado channel and restore and protect native riparian and wetland vegetation and its associated aquatic and wildlife habitat, on the Los Potreros Open Space managed by Santa Fe County. This is the first project funded under the Nonpoint Source Management Program that implements a WAP, rather than a WBP. WAPs identify steps to improve wetland and riparian condition, rather than focus directly on pollutant load reduction.

Reducing Fecal Waste in the Rio Fernando de Taos

In this project, Amigos Bravos will work to reduce *E. coli* loading in the Rio Fernando de Taos, in furtherance of the Rio Fernando de Taos WBP. Amigos Bravos will install one portable toilet and hand-washing station for unsheltered people for two years, produce a backyard waste management guide for livestock owners, organize two backyard waste management workshops, install pet waste disposal stations at Forest Service trailheads along the Rio Fernando de Taos, conduct water quality monitoring and river clean-ups, and conduct community outreach.



Watershed Project Implementation for the Mora River-Upper Canadian Plateau Phase 1B

The Hermit's Peak Watershed Alliance will continue activities started in the Phase 1A project described in the article above, in furtherance of the WBP for the Mora River, Upper Canadian Plateau. The project will reduce loading of plant nutrients and *E. coli* into the Mora River by implementing wetland and in-stream restoration, road decommissioning, road drainage improvements, upland vegetation restoration, riparian buffer creation, riparian planting, and education and outreach.

HERMIT'S PEAK
WATERSHED ALLIANCE

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 projects listed above implement portions of WBPs and WAPs. To review these plans, or learn more about each type of plan, visit: www.env.nm.gov/surface-water-quality/wbp.

Three New Watershed-Based Plans are Ready to Implement!

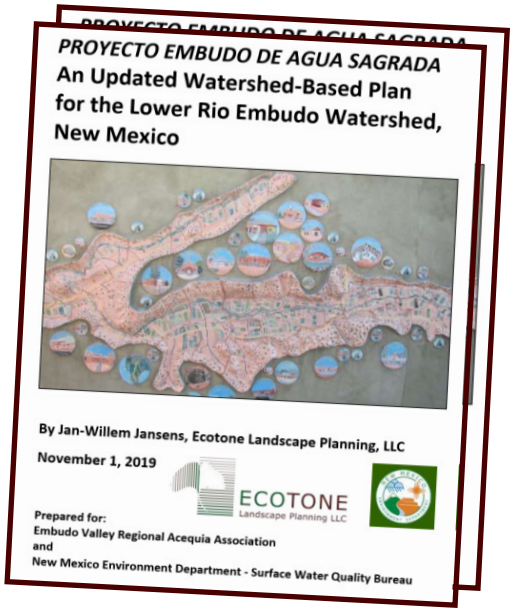
Watershed-Based Plans (WBPs) are comprehensive documents written to address water quality problems for watersheds with impaired streams. In New Mexico, completing and implementing WBPs are key parts of New Mexico's Nonpoint Source Management Program.

NMED supports WBP development with Section 319 funds made available through a competitive Solicitation for Applications conducted about every other year. The newest WBP projects began in January 2020. Fourteen WBPs have been completed in New Mexico, as indicated by EPA review which found them to meet nine elements detailed in their *Nonpoint Source Program and Grants Guidelines for States and Territories*. Briefly, these elements are a) identify causes and sources of impairment; b) estimate pollutant load reductions required to meet water quality standards; c) describe management measures to reduce pollutant loading; d) estimate funding required for implementation, and identify appropriate partners to assist with implementation; e) describe education and outreach to reduce pollutant loading; f) provide a schedule for implementation; g) describe milestones for determining whether the plan is being implemented; h) provide criteria that can be used to determine whether loading reductions are being achieved; and i) describe monitoring to evaluate effectiveness, relative to item h.

Three WBP projects have been completed since January 2020, and each resulted in a new WBP accepted as such by Region 6 EPA reviewers. EPA's acceptance letter for each notes, "Based on our acceptance of the WBP, the State of New Mexico is now eligible for CWA Section 319 funding for watershed implementation projects consistent with this WBP and the Surface Water Quality Bureau's Nonpoint Source Management Plan." As such, these watersheds will be eligible for funding when NMED announces a Solicitation for Applications for implementation projects, described in another article below. Following is a short summary of each new WBP.

Lower Rio Embudo Watershed-Based Plan

This WBP covers the lower Rio Embudo watershed in the vicinity of Dixon, where the Rio Embudo is listed as impaired by temperature, turbidity, and sedimentation, and has a Total Maximum Daily Load for total suspended solids. The WBP focusses on sediment, and the lower watershed is where the lion's share of this sediment originates. The WBP provides a comprehensive description of watershed issues and available information, and prioritizes potential future projects including thinning treatments (combined where possible with prescribed fire), seeding, water source construction or removal, fence management, riparian buffer establishment, restoration of riparian areas in such ways that natural stream functions are restored across the floodplain, improvements to drainage of unpaved roads and driveways, growing cover crops, terracing, establishing contour buffer strips, building soil conservation structures, mulching and composting, and applying restorative, rotational grazing practices. The plan was developed through a project completed by the Arid Lands Institute and Ecotone Landscape Planning, LLC in 2015, and was completed in January 2020 by Ecotone under a separate professional services contract.



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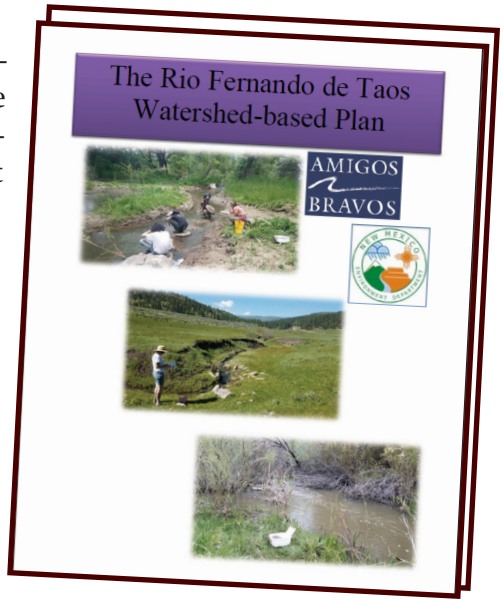
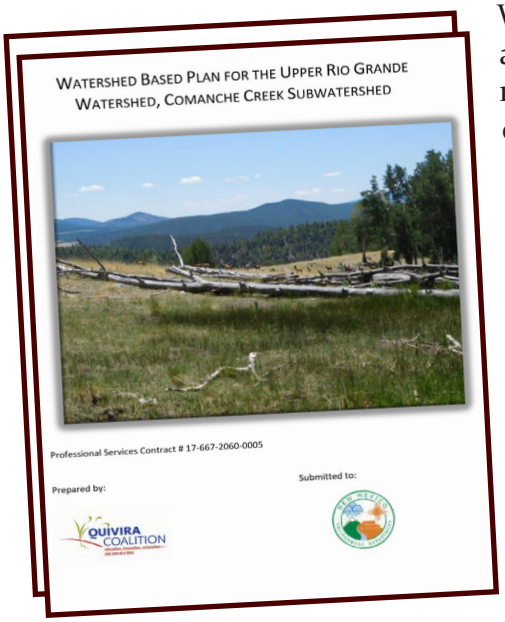
Rio Fernando de Taos Watershed-Based Plan



This WBP covers the Rio Fernando de Taos watershed, where three sections of the Rio Fernando were listed as impaired by *E. coli* and have Total Maximum Daily Loads for *E. coli*, among other impairment parameters. The plan was developed by Amigos Bravos under contract to NMED and involved a relatively extensive data collection effort in which Amigos Bravos repeated sampling for *E. coli* at some sites and added sites based on results obtained as the project progressed. Amigos Bravos also conducted extensive public outreach through a series of meetings, follow-up communications, volunteer monitoring, and coordination with public agencies in the area. Example management measures described in the WBP include a homeless shelter waste disposal campaign, backyard livestock waste management, rest-rotation or deferred-rotation grazing management, riparian pasture fencing, pet waste disposal resources at trailheads and parks, and a private land livestock and pet fencing cost-share program, among others. This WBP is already being partially implemented through a new on-the-ground project described in a separate article highlighted previously.

Watershed-Based Plan for the Upper Rio Grande Watershed, Comanche Creek Subwatershed

The Comanche Creek watershed is almost entirely within the Valle Vidal Unit of the Carson National Forest, and the stream itself is an Outstanding National Resource Water. After several restoration projects, NMED "de-listed" the stream for sediment, and it was subsequently recognized as a Nonpoint Source Success story by EPA in 2013. Despite this success, the stream still does not meet its temperature standard, and this WBP completed by the Quivira Coalition analyzes this thorny problem and potential solutions. Goal-setting in most TMDLs for temperature relies on a model called SSTEMP, in which canopy cover is the main driver for temperature that can be influenced by land management. Some Comanche Creek Working Group participants considered the canopy cover increase goal in the TMDL from 4.5% to 54% to be unrealistic and wanted to explore the potential for temperature reduction through increasing hyporheic flow. Hyporheic flow is the flow of water in shallow groundwater near a stream. The healthier the riparian area and adjacent wetlands, as well as wetlands in tributary drainages, the greater the potential for those areas to deliver cool water to the stream, supporters of this idea contended. The Quivira Coalition explored these possibilities through scientific literature review and concluded that projects that enhance hyporheic exchange are appropriate for reducing stream temperature, along with more conventional approaches such as maintaining existing elk exclosures.



The fourteen completed WBPs in New Mexico, including the three new WBPs listed above, are available for download at www.env.nm.gov/surface-water-quality/accepted-wbp. Current and recently completed Section 319 and River Stewardship Program projects, including watershed-based planning projects, are listed at www.env.nm.gov/surface-water-quality/nmed_319_and_rsp_project_list. The project list includes links to detailed information on each project.

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

By Abe Franklin, WPS Program Manager

The Watershed Protection Section (WPS) plans to release a Solicitation for Applications (SFA) in **November 2020** for on-the-ground surface water quality improvement projects. Our goal is for the new projects to begin on July 1, 2021 (the beginning of state fiscal year 2022). The new SFA will be posted at www.env.nm.gov/surface-water-quality/funding-sources. It will be similar to the previous application process, which is still posted there as well.

Consistent with the State's Nonpoint Source Management Plan (https://www.env.nm.gov/surface-water-quality/nps-plan), we are looking for projects that implement Watershed-Based Plans (WBPs) and contribute to meeting water quality goals developed in Total Maximum Daily Loads. 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. Starting with this SFA, we will also seek applications for projects that implement post-fire rehabilitation plans.

We will also award priority points to encourage applicants to consider developing projects expected to have a greater range of resource benefits or be more likely to succeed based on watershed characteristics. Priority points will be awarded for two areas described below. Each area will receive twenty-five priority points.

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.

We will also award priority points for projects that address wildfire impacts. Eligible projects will help reduce impacts of major wildfires, with severity outside the range of natural variability for the affected forest types, to waters with cold water or cool water designated uses.

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Eligibility

As noted above, projects that implement WBPs, WAPs, and/or post-fire rehabilitation plans will be eligible. WBPs are a specific type of planning document, described further at www.env.nm.gov/surface-water-quality/wbp. Completed WBPs are available at www.env.nm.gov/surface-water-quality/accepted-wbp. WAPs are available at www.env.nm.gov/surface-water-quality/wap. Post-fire rehabilitation plans are often prepared by the agency responsible for managing the fire, most commonly the United States Forest Service. The plans may be available on agency web sites or upon request from agency personnel.

All types of organizations will be eligible to implement these projects, regardless of which organization developed the WBP, WAP, or post-fire plan. 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 2021. 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.

The SFA will be announced via the SWQB email list. As a Clearing the Waters reader, you may already be on this list. You can add yourself to the list, or change subscription preferences, by clicking here: https://public.govdelivery.com/accounts/NMES/subscriber/new?topic_id=NMED_4.

Updates from The SWQB Monitoring, Assessment and Standards Section

Monitoring Team News

Despite pandemic-related restrictions on field activities, the monitoring team was able to complete 100% of planned fieldwork in the Upper Pecos watershed, and most of the planned activities in the San Francisco, Gila and Mimbres watersheds. In the Lower Rio Grande, only lakes were monitored. Monitoring, Assessment and Standards Section (MASS) will consider sampling additional priority locations in the Lower Rio Grande as a special data gaps project. In 2021-22, the monitoring team will move on to the Jemez, Chama, Lower Pecos and Sacramento Mountains watersheds. Stakeholder outreach will be conducted in January-February 2021.

Monitoring Team completing fieldwork at Centerfire Creek in the Gila National Forest.

Meredith Ziegler and Eliza Montoya conducting fieldwork.

Water Quality Standards Team News

Following an extensive review, public comment, and incorporation of additional information requested by the Water Quality Control Commission (WQCC) at its June 9 meeting, updates to the Water Quality Management Plan/Continuing Planning Process (WQMP/CPP) were approved by the WQCC on September 8. Next steps include posting the WQCC-Approved WQMP/CPP to the Bureau's website and sending the updated WQMP/CPP to EPA Region 6 for review and approval. Upon EPA approval, the Final WQMP/CPP will be posted to the SWQB website at https://www.env.nm.gov/surface-water-quality/wqmp-cpp/.

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MASS updates *continued from page 10*

A review of the Standards on a three-year basis is required by Section 303(c) of the federal Clean Water Act. The WQCC has scheduled a Triennial Review hearing for July 13-16, 2021. The public comment period on NMED's proposed amendments will be scheduled to begin in November 2020. The proposed amendments will be available to the public at https://www.env.nm.gov/surface-water-quality/2020-triennial-review/, during the comment period.

TMDL/Assessment Team News

The public comment period for the draft Clean Water Act *§303(d)/§305(b) 2020-2022 Integrated List* closed on September 10. Six sets of comments were received. SWQB will prepare the final draft 2020-2022 Integrated List, including a Response to Comments. The Integrated List, as an appendix of the Integrated Report, will be presented to the New Mexico WQCC for review and approval at their regularly scheduled meeting (tentatively set for December 8, 2020). The Integrated List and Report will be available to the public via download from the SWQB website, or upon request, no later than 10 days prior to the WQCC meeting. The WQCC meeting schedule and agendas are maintained on the WQCC website (https://www.env.nm.gov/water-quality-control-commission/wqcc/). The final Integrated Report and List, as approved by the WQCC, will then be submitted to the U.S. Environmental Protection Agency (EPA) Region 6 for approval under the Clean Water Act.

Previous versions of the SWQB Assessed Waters geospatial data were based on the National Hydrography Dataset (NHD) Medium Resolution network, but this year we've updated to NHD High Resolution data. Recent advances in remote sensing, elevation data resolution, computational power and watershed mapping have allowed surface drainage networks and waterbodies to be represented with unprecedented fidelity. Our Assessment Units now capture much more of the actual stream channel sinuosity, resulting in longer Assessment Units. The NHD Medium Resolution data represented New Mexico's surface drainage network with 72,013 stream segments totaling 115,073 miles, while the NHD High Resolution data represents the same with 487,038 stream segments totaling 242,637 miles. SWQB's Assessed Streams have increased in length from 7,832 miles to 8,647 miles while Assessed Lakes decreased in area from 89,030 acres to 85,515 acres. To take a closer look, please visit our OpenEnviroMap GIS portal here and turn on the Assessed Waters 2020 DRAFT layer.

On October 13, the WQCC voted unanimously to approve *E. coli*, sedimentation, and temperature Total Maximum Daily Loads for eight stream reaches in the Rio Chama watershed. Total Maximum Daily Loads (TMDLs) describe stream impairments and pollution reduction targets needed to meet water quality standards. TMDLs can lead to new or revised National Pollutant Discharge Elimination System permit limits and inform stakeholder and watershed planning and restoration efforts. Once final approval is received from EPA Region 6, the EPA approval letter and Final TMDL will be posted to the SWQB website at https://www.env.nm.gov/surface-water-quality/tmdl/ .

EVENTS & ANNOUNCEMENTS

October

October 26th - October 29th - Webinar. New Mexico Water Resources Research Institute hosts 65th Annual New Mexico Water Conference. *Meeting New Mexico's Pressing Water Needs: Challenges, Successes, and Opportunities*. Webinar Registration: https://nmwaterconference.nmwrri.nmsu.edu/2020/.

October 27th - November 4 - Webinar. Join Defenders of Wildlife for the New Mexico Beaver Summit. Go to https://nmbeaversummit.org/schedule-register/ for more information on the agenda and registration for this free webinar series:
Living with Beavers – Tuesday, October 27th, 1-3:30pm
Why Beavers – Friday, October 30th, 1-3:30pm
Return of the Beaver – Monday, November 2nd, 1-3:30pm
A Vision for the Future - Wednesday, November 4th, 1-2:00pm

November

November 1st - 30th - Public comment period for comments to NMED on Section 401 water quality certification of new Section 404 Nationwide Permits (https://www.env.nm.gov/surface-water-quality/public-notices/).

November 16th - Deadline to submit public comments to the U.S. Army Corps of Engineers on new Section 404 Nationwide Permits (https://www.spa.usace.army.mil/Missions/Regulatory-Program-and-Permits/Public-Notices/).

November 24th - Virtual WEBEX. NMED/SWQB Wetlands Program's northern New Mexico Wetlands Roundtable. The New Mexico Wetlands Roundtable events are combined government agency/non-governmental organizations roundtables. For more details or if you would like to present contact Karen Menetrey (karen.menetrey@state.nm.us).

December

December 10th - Virtual WEBEX. NMED/SWQB Wetlands Program's southern New Mexico Wetlands Roundtable. The New Mexico Wetlands Roundtable events are combined government agency/non-governmental organizations roundtables. For more details or if you would like to present contact Emile Sawyer (Emile.Sawyer@state.nm.us).

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New Mexico Environment Department
1190 St. Francis Dr., Suite N4050
P.O. Box 5469
Santa Fe, NM 87502
(505) 827-2855
nd.coordinator@state.nm.us

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