2025
NPS Annual Report

State of New Mexico
Nonpoint Source Management Program

New Mexico Environment Department
Surface Water Quality Bureau



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Copies of this report and other reports are available on the Surface Water Quality Bureau website available here env.nm.gov/surface-water-quality/watershed-protection-section/.

Cover Photo - Bosque del Apache National Wildlife Refuge.
Photo credit: Susan Lucas Kamat

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Acronyms and Abbreviations

ARP	advance restoration plan
AU	assessment unit
BEHI	Bank Erodibility Hazard Index
BDA	Beaver Dam Analog
BLM	Bureau of Land Management
BMP	best management practice
CWA	Clean Water Act
DOE	U.S. Department of Energy
E. coli	*Escherichia coli*
EMNRD	Energy Minerals and Natural Resources Department
EPA	U.S. Environmental Protection Agency
EQIP	Environmental Quality Incentives Program
Forestry Division	The New Mexico Forestry Division
FONSI	Finding of No Significant Impact
FY	Fiscal Year
GeoSpatial Services	Saint Mary's University of Minnesota Geospatial Services
GIS	geographic information system
GRTS	Grant Reporting and Tracking System
GWQB	Ground Water Quality Bureau
HGM	Hydrogeomorphic Classification System
HPCC	Hermit's Peak Calf-Canyon
HSP	Habitat Stamp Program
HUC	Hydrologic Unit Code
Integrated Report	State of New Mexico CWA Section 303(d)/305(b) Integrated Report
IPs	Standard Individual Permits
LLWW	Landscape Position, Landform, Waterflow Path and Water body Type
LOP	Letter of Permission
LWDs	Large Woody Debris Structures
MASS	Monitoring, Assessment, and Standards Section
MMD	Mining and Minerals Division of the Energy Minerals and Natural Resources Department
MOU	Memorandum of Understanding
NEPA	National Environmental Policy Act
NF	National Forest
NGOs	Non-governmental organizations
NMAC	New Mexico Administrative Code
NMDA	New Mexico Department of Agriculture
NMDGF	New Mexico Department of Game and Fish

Acronyms and Abbreviations

NMED	New Mexico Environment Department
NMRAM	New Mexico Rapid Assessment Method
NMSLO	New Mexico State Land Office
NNBF	Natural and Nature-Based Features
NPS	nonpoint source
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
NWP	Nationwide Permit
ONRW	Outstanding National Resource Water
PALs	Post Assisted Log Structures
PCBs	polychlorinated biphenyls
RFA	Request for Applications
RFP	Request for Proposals
RGP	Regional General Permit
RSP	River Stewardship Program
Rx	prescribed fire
SWCD	Soil and Water Conservation District
SWQB	Surface Water Quality Bureau
TMDL	Total Maximum Daily Load
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
WAP	Wetland Action Plan
WBP	watershed-based plan
WPAP	Watershed Protection Assistance Program
WPS	Watershed Protection Section
WQC	water quality certification
WQCC	Water Quality Control Commission
WQX	The Water Quality eXchange
WRAP	Watershed Restoration Action Plan
WUI	Wildland Urban Interface

2025 Executive Summary

This annual report to the United States Environmental Protection Agency is required by Section 319(h) of the Clean Water Act and provides an overview of the activities and accomplishments New Mexico made in administration of the Nonpoint Source Management Program from October 1, 2024, through September 30, 2025. New Mexico administered its Federal Fiscal Year 2025 Nonpoint Source Management Program according to the six core objectives identified in the 2024 Nonpoint Source Management Plan; each listed below with highlights from the reporting period.

Complete Watershed-Based Plans

New Mexico continued two watershed-based planning projects in 2025: the San Juan Watershed-Based Planning Project and the Rio Ruidoso Watershed Improvement Project – Planning Phase. Both efforts focused on assessment of watershed conditions and development of strategies to improve existing water quality impairments. The Rio Ruidoso Watershed-Based Plan project was updated and expanded to address a post-fire landscape and threats to water quality. No new watershed-based plans were completed or approved during the reporting period.

Implement Watershed Projects

Despite significant challenges related to wildfire activity, National Forest closures, and uncertainties on federal funding amounts, New Mexico continued eight watershed implementation projects, completing three during the reporting period. Low-tech, process-based erosion control, riparian restoration, wetland enhancement, and beaver habitat projects continued statewide. Two watershed implementation proposals selected in early 2025 proceeded to funding, while a third was withdrawn due to reductions in the final federal award.

Protect Water Quality

New Mexico submitted one Success Story for the Rito de las Vacas on the Santa Fe National Forest for the removal of a nutrient impairment. Surface Water Quality Bureau staff continued to respond to wildfire-related impacts on surface waters, water quality inquiries, provided technical support for post-fire planning, and coordinated with other agencies on Clean Water Act Section 401 and New Mexico Mining Act reviews to ensure water quality protections.

Share Information on Surface Water Quality

New Mexico continued outreach to government agencies, conservation districts, and watershed groups through workshops, community meetings, and technical assistance sessions. Staff participated in green infrastructure, nature-based features, and watershed restoration trainings and shared information with stakeholders on watershed planning, geomorphology, and best management practices. These efforts supported consistent communication on project development, monitoring, and surface water quality needs.

Protect Ground Water Quality

The Ground Water Quality Bureau issued 44 new, renewal, or renewal and modification discharge permits for groundwater resources and hosted seven Water Fairs across New Mexico in Chaves, Socorro, McKinley, Taos, Curry, Rio Arriba, San Juan, and Doña Ana counties where approximately 183 domestic well samples were tested to help residents understand and address groundwater quality concerns.

Cooperate with Other Agencies on Water Quality Protection and Improvement

New Mexico continued to strengthen partnerships with federal and state agencies, including the U.S. Forest Service, Bureau of Land Management, Natural Resources Conservation Service, New Mexico Forestry Division, New Mexico Department of Game and Fish, New Mexico Mining and Minerals Division of the Energy, Minerals, and Natural Resources Department, and Soil and Water Conservation Districts. Collaboration focused on cross-jurisdictional watershed restoration, post-fire recovery, wetland and riparian protection, and agricultural best management practice implementation.

Despite extensive wildfire impacts and uncertainties in federal funding, New Mexico continued to make meaningful progress in watershed planning, restoration, and water quality protection. Through technical support, local partnerships, adaptive project management, and strategic deployment of Section 319 resources, the state remains committed to restoring and protecting New Mexico's surface and groundwater quality.



Rio Grande National Monument. Photo credit: Lucas Graunke

Introduction

This annual report to the United States Environmental Protection Agency (EPA) provides an overview of nonpoint source (NPS) management related activities conducted in New Mexico in federal fiscal year (FY) 2025 (October 1, 2024 through September 30, 2025) by the Watershed Protection Section (WPS) of the New Mexico Environment Department (NMED) Surface Water Quality Bureau (SWQB). The report presents the state's progress in meeting the milestones outlined in the goals and objectives of the 2024 New Mexico Nonpoint Source Management Plan and provides information on reductions in NPS pollutant loading and improvements to water quality of New Mexico watersheds as required under Section 319(h)(11) of the Clean Water Act (CWA).

Funding to support the New Mexico Nonpoint Source Management Program was provided by Section 319(h) grants awarded to NMED by EPA. Activities and projects reported are fully funded or partially funded by CWA Section 319 in the main body of this report. Appendices of this report include NPS activities completed by NMED and other agencies that were funded outside of CWA Section 319 funds.

What is Nonpoint Source Pollution?

According to information from EPA at epa.gov/nps:

> "NPS pollution generally results from land runoff, precipitation, atmospheric deposition, drainage, seepage or hydrologic modification. NPS pollution, unlike pollution from industrial and sewage treatment plants, comes from many diffuse sources. NPS pollution is caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into lakes, rivers, wetlands, coastal waters and ground waters."

Some examples of nonpoint source pollution include:

- Excess fertilizers, herbicides and insecticides from agricultural and residential areas;
- Oil, grease and other water contaminants from urban runoff and human activities;
- Improper disposal of trash and other refuse materials that may wash or leach contaminants into streams;
- Sediment from improperly managed construction sites, agricultural operations, and roads; channel erosion and instability resulting from the reduction of riparian vegetation or hydromodification; post-fire erosion from increased wildfire intensity and severity exacerbated by the alteration of natural fire regimes;
- Salt from irrigation practices and deicing roads and sidewalks;
- Acid drainage from abandoned mines;
- Bacteria and nutrients from livestock, pet waste, and faulty septic systems. Nutrient contributions are also derived from soils and accelerated erosion;
- Atmospheric deposition of gases and particles from the combustion of fossil fuels and human activities;
- Solar radiation that increases surface water temperatures from the reduction of riparian shade or hydromodification.

Clean Water Act Section 319

NPS pollution is the leading cause of water quality degradation in the United States and poses a substantial problem for the health of New Mexico's rivers, wetlands, lakes, and streams. As in most other states, NPS pollution is the leading cause of water quality problems in New Mexico. When Congress amended the CWA in 1987, Section 319 was added to provide federal assistance to states, territories and tribes in developing programs that address NPS pollution. Under Section 319, grant funding is available to support the following activities: outreach and education, training, watershed-based planning, implementation of best management practices (BMPs), and monitoring to assess implementation efficacy. At the heart of the Section 319 program in New Mexico is working with stakeholders to seek solutions through collaboration in developing and implementing watershed-based plans that mitigate NPS pollution.

As a CWA Section 319 recipient, an annual report on activities to address NPS pollution is required. This annual report follows New Mexico's NPS Management Program as described in the *2024 New Mexico Nonpoint Source Management Plan*, approved by EPA on December 11, 2024, and will guide New Mexico's NPS Management Program through 2029. The plan is available to review at env.nm.gov/surface-water-quality/nps-plan/.



The Rio Ruidoso, July 24, 2025. Debris and sediment from post-fire flooding collects upstream of the Eagle Drive bridge in Ruidoso, NM.
Photo credit: Ashlie Carabajal

Clean Water Act Sections 303(d) and 305(b)

CWA Section 303(d) and Section 305(b) help understand impacts to water quality of both point sources and nonpoint sources statewide. Under Section 303(d), states are required to list all polluted surface waters in their jurisdiction which do not meet state water quality standards, also known as the impaired waters list. Under Section 305(b), states must publish a biennial report on the health of all surface waters. In New Mexico, the 305(b) report includes the 303(d) list and is referred to as the *State of New Mexico CWA Section 303(d)/305(b) Integrated Report* (Integrated Report). Current and past Integrated Reports are available at env.nm.gov/surface-water-quality/303d-305b.

In New Mexico, the most common NPS impairments in streams are temperature, *E. coli*, and nutrients. In lakes and reservoirs, the most common water quality impairments are mercury in fish tissue, polychlorobiphenyls (PCB's) in fish tissue, temperature, and eutrophication (nutrient impacts).

These pollutants prevent designated uses from being fully supported in many of New Mexico's waters. Of 8,673 miles of streams with assessment status provided in the *2024-2026 Integrated Report*, 4,874 (56%) were classified as impaired (Category 4 and 5 waters). Designated uses not fully supported in New Mexico's assessed rivers and streams, with the percentage of assessed waters not supporting uses in parentheses, include aquatic life uses (50%), primary and secondary contact (16%), livestock watering (1.4%) wildlife habitat (1%), irrigation (0.9%), and domestic water supply (0.4%). Most of these impairments are primarily or entirely caused by NPS pollution.

The majority of NPS pollution in New Mexico's streams is preliminarily attributed to unidentified sources, unmanaged or improperly managed rangeland grazing, road and bridge runoff, on-site treatment systems (e.g., septic systems), streambank modifications and destabilization, waterfowl, wildlife (other than waterfowl), and drought (Figure 1 below). The *2024- 2026 Integrated Report* provides probable source summary information only for waters with Total Maximum Daily Loads (TMDLs). Only one lake in New Mexico (Bluewater Lake) had an approved TMDL when the *2024-2026 Integrated Report* was approved, and the pollutant source was listed as "unknown" in that TMDL document. Later in 2024, the Canadian and Upper Rio Grande Basin Lakes TMDLs were developed and approved and included detailed pollutant sources for each lake. TMDLs developed for New Mexico are available on our website env.nm.gov/surface-water-quality/tmdl/.

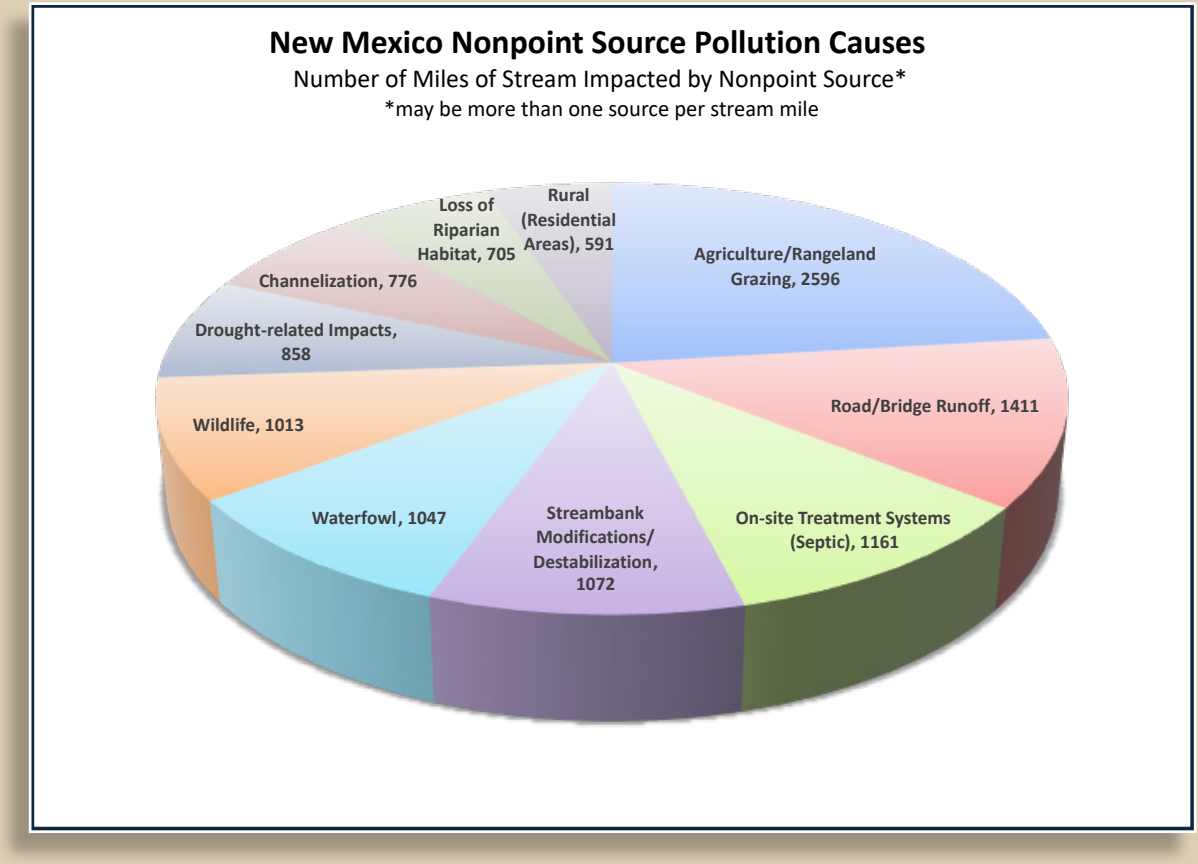


Figure 1 - Pie chart showing New Mexico's Nonpoint Source Pollution Causes by stream mile.

New Mexico's Nonpoint Source Management Program

The overall, long-term goal of New Mexico's NPS Management Program is:

> *To implement an adaptive watershed-based restoration and protection program with the active assistance of stakeholders, for all watersheds within New Mexico, to meet and maintain water quality standards and designated uses of surface water, and to protect ground water resources.*

As lead agency for the management of NPS pollution, NMED coordinates activities within the state through the SWQB and the Ground Water Quality Bureau (GWQB), and other agencies to accomplish its mission to improve surface water quality.

The NPS Management Program includes activities carried out by NMED staff to meet the objectives of the program and directs funding to support watershed-based planning projects, watershed-implementation projects, and state-funded projects to improve surface water quality. The NPS Management Program also relies on established resource protection programs, national and state NPS pollution prevention programs, and activities of other land management and resource protection agencies to address NPS pollution. New Mexico identifies programs and activities that will facilitate the achievement of surface water quality standards, using a voluntary approach to implement water quality improvements.

NMED reports how CWA Section 319(h) funds and state matching funds are used in EPA's Grants Reporting and Tracking System (GRTS). On-the-ground implementation or restoration projects and watershed-based planning projects in progress or completed in the reporting period (October 1, 2024 through September 30, 2025) are depicted in the project map in Figure 2. More information about each of the Section 319-funded watershed-based planning projects (Table 1) and Section 319-funded implementation projects (Table 2) and are included in GRTS and the tables below.

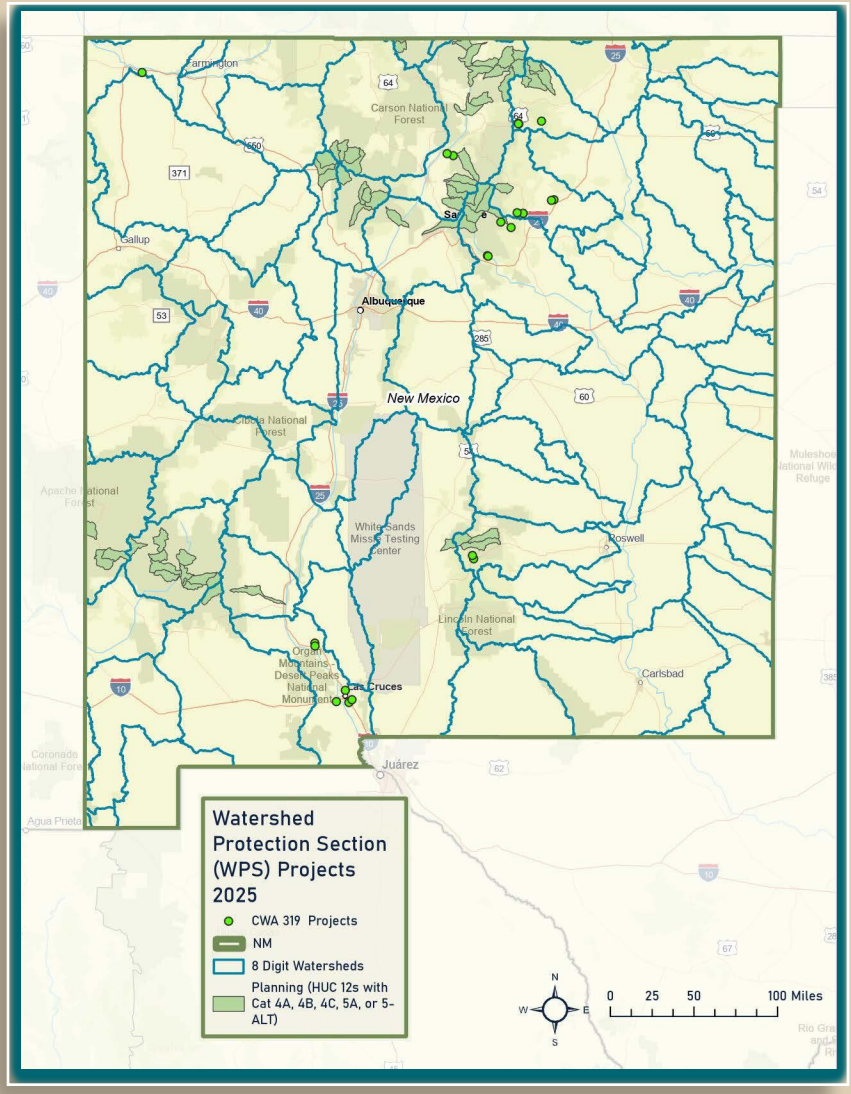


Figure 2 - Map of CWA Section 319 projects active in 2025

Water Quality Improvement Challenges and Lessons Learned

Over the course of 2025, there were several events that presented challenges to implementing the Section 319 grant. Some challenges we face have come to be expected every year, such as catastrophic wildfires and related National Forest closures. Other challenges were new for 2025, including uncertainty around receiving Section 319 funding to continue work under the grant. As a team, we are growing, learning from our experiences, and coming together to find successful solutions for each of the challenges described below.

Wildfires are a natural part of the landscape and are expected every year. However, the increased severity and intensity of wildfires in New Mexico have impacted our ability to address NPS pollution without interruption or intensification of the NPS problem midway through the project. Many of SWQB's projects use low-tech, process-based restoration techniques to address erosion, bank stabilization, temperature or nutrient impairments, or aquatic habitat needs. Projects typically are in a planning and permitting phase for 1-3 years before they are constructed. The interruption of severe wildfire in the headwaters of the project area completely changed the course of the project; often in the final year when construction is scheduled or has just been completed, leaving the project vulnerable to catastrophic post-fire debris flows that immensely change the form of the channel, making even the best laid design plans compromised.

Aside from the devasting post-fire debris flows, U.S. Forest Service closures impact projects each year. Many projects in New Mexico are located within U.S. Forest Service lands which account for approximately 11% of land in the state and many of the headwaters for New Mexico's streams. Forest closures due to proximity to ongoing wildfires, or fire restrictions because of the risk of wildfire, often put a hold on project work in these areas which prompts schedule changes and challenges to fully meet project deliverables on time. Wildfire response also consumes U.S. Forest Service staff time which usually results in further project delays due to the reprioritization of permitting actions for water quality projects during the wildfire emergency response. New Mexico does its best to accommodate project delays to ensure the on-the-ground work is still completed by extending agreements when possible.

New Mexico's Section 319 response to wildfires has been to offer technical support for groups interested in post-fire response to develop post-fire mitigation plans and discuss ideas for appropriate BMPs to utilize in an unstable post-fire watershed during the recovery phase. In 2025, New Mexico used state funding in a joint-agency response to quickly implement aerial seeding over severely burned areas of watersheds in the Trout Fire burn scar before monsoon season started to help mitigate impacts of downstream flooding and post-fire debris flows (Trout Fire project). This quick response was related to New Mexico's establishment and use of a statewide price agreement for watershed protection and restoration – a huge development for New Mexico to leverage a fast procurement process to get funding on the ground quickly where it can make a huge difference.

Related to funding challenges, all federal grants were put on pause in late January 2025 to allow for a pivot in the federal review process for federal grant actions. New Mexico had filed a subgrant amendment request to EPA for review in early January 2025 to increase the scope of a subgrant for the Village of Ruidoso to develop a watershed-based plan for their newly post-fire landscape. New Mexico waited in excess of 8 months after EPA's Programmatic Review and Approval for EPA's Administrative Review and Approval of the expanded watershed-based planning project Change Request, resulting in substantial project delays and uncertainty of how to move forward under the existing agreement during

the extended EPA review. Fortunately, the Village of Ruidoso was able to continue making progress on the project despite the uncertainties.

The extended federal government Administrative and Department of Government Efficiency review times have further impacted the Section 319 program by presenting uncertainty in exactly how much funding would be coming to New Mexico as the final incremental award for the grant. New Mexico had issued a Request for Applications (RFA) for Section 319 watershed implementation projects in early 2025 where three projects were selected, but only two could be funded based on cuts to the final incremental award for the Section 319 grant. Unfortunately, New Mexico had already been in discussions with the third potential subgrantee when it became clear the funding was not going to be available resulting in rescinding the offer to fund the project.

Despite the challenges New Mexico faced in a post-fire landscape and funding uncertainties, the Section 319 program remains successful in implementing on-the-ground work to improve surface water quality and develop watershed-based plans statewide.

Watershed-Based Planning Projects

An important component of the NPS Management Program is the watershed-based plan (WBP) approach as outlined in the guidance provided in EPA's *Nonpoint Source Program and Grants Guidelines for States and Territories*. A WBP expands on the information provided in a TMDL by identifying causes and sources of impairment, recommending management measures, estimating expected load reductions from management measures, providing methods to measure implementation success, estimating funding needs, and outlining potential education and outreach efforts. NMED supports watershed-based planning through a competitive process, conducted approximately every other year, and through technical support provided to partner agencies and stakeholder groups interested in developing watershed-based plans. WBP projects completed or in progress in 2025 are listed in Table 1 below. Completed WBPs and more information on watershed-based planning are available at env.nm.gov/surface-water-quality/wbp.

Table 1 - Watershed-based planning projects completed or in progress, 10/1/2024 through 9/30/2025.

Grant Number	Project Number	Project Title	Project End Date	Section 319 Funds	Local Match	Summary Report
01F98701	22-SJW	San Juan Watershed-Based Planning Project	6/30/2026	$116,056	$77,626	VIEW
99610120	23-C	Rio Ruidoso Watershed Improvement Project - Planning Phase	12/31/2026	$137,250	$91,500	VIEW

Watershed Implementation Projects

Through a combination of funding programs, partnerships, education and outreach activities, New Mexico encourages interested parties to implement WBPs to control or reduce water quality impairments. Table 2 lists New Mexico's current and recently completed Section 319 watershed implementation projects.

Projects denoted by "Part 1," "Part 2," or "Part 3" indicate a single project funded by more than one Section 319 grant from EPA to NMED. Projects with "Phase" in their titles were developed and funded separately under separate agreements from earlier projects completed in the same area. In Table 2, titles of completed projects are linked to the project summaries in this annual report.

Table 2 - Section 319 Watershed Implementation Projects completed or in progress, 10/1/2024 through 9/30/2025.

Grant Number	Project Number	Project Title	Project End Date	Section 319 Funds	Local Match	Summary Report
99610120	22-C	Temperature and Erosion Reduction in Lower Cow Creek – Phase III	09/30/2025	$257,640	$172,076	VIEW
99610120	22-D	Restoring Springs and Wetlands on State Trust Lands in the Lower Embudo Valley	12/31/2024	$150,510	$104,408	VIEW
99610120	22-E	Managing Watershed Runoff into the Mesilla Valley	06/30/2026	$443,067	$295,378	VIEW
99610120	22-F	Watershed Project Implementation for Upper Gallinas River and Porvenir Creek - Phase IV	12/31/2024	$505,063	$345,967	VIEW
99610119	23-E	Rincon Arroyo Watershed Stabilization Project to Reduce *E. coli* loading to the Rio Grande (Part 3)	06/30/2026	$256,952	$214,008	VIEW
99610121	23-F	Upper Cieneguilla Creek Wetland Restoration and Enhancement Project	06/30/2026	$99,695	$74,894	VIEW
99610121	24-D	Watershed Project Implementation and Post-Fire Remediation for Sapello River Watershed - Phase I	12/31/2026	$782,147	$522,686	VIEW
99610121	24-E	Watershed Project Implementation for Wolf Creek Watershed - Phase I	12/31/2026	$93,884	$82,690	VIEW

The comprehensive list of current and past Section 319 funded projects, including project work plans and reports, is available at env.nm.gov/surface-water-quality/watershed-protection-section/.

Summaries of Section 319 Projects Completed in 2025

Temperature and Erosion Control in Lower Cow Creek – Phase III (22-C)

Project Cost $251,033 (Section 319 funds) and $110,683 (matching funds and in-kind)

The Upper Pecos Watershed Association, Pathfinder Environmental, and Keystone Restoration Ecology successfully completed the restoration project including the installation of instream structures, streambank stabilization and plantings. The project is located on the lower section of Cow Creek, a tributary to the Pecos River. Cow Creek's impairments include benthic macroinvertebrates and temperature.

The goal of the project was to reduce temperatures and prevent erosion. J-hooks, cross vanes, rock vanes, and rock barbs were installed to increase pool depth and prevent streambank erosion. Bankfull benches were created by removing box elder trees and using the root wads to help stabilize the banks and provide habitat. A mix of willows and cottonwoods were planted on the benches to help stabilize the banks and provide shading. A fence was built along an adjacent field to protect the streamside vegetation from grazing.



Downstream view, showing a bankfull bench and structure. Photo Credit: Keystone Restoration Ecology

Restoring Springs and Wetlands on State Trust Lands in the Lower Embudo Valley (22-D)

Project Cost $145,917 (Section 319 funds) and $79,328 (matching funds and in-kind)







Top photo shows the 2022 baseline condition below Blackwater Spring (looking downstream).

Bottom photos show the 2023 post-implementation condition with the bottom left photo looking upstream at a wicker weir and the bottom right photo looking downstream at a one-rock dam. These structures are designed to mitigate erosion and improve water quality by slowing water and capturing sediment. The recovered wetlands further support water quality by filtering water and cycling nutrients. Additional co-benefits include flood mitigation and drought resiliency.

Photo credits: Ecotone Landscape Planning LLC

Ecotone Landscape Planning LLC, San Isidro Permaculture Inc, and Wood Shards LLC in collaboration with the New Mexico Bureau of Geology and Mineral Resources and New Mexico State Land Office successfully completed the restoration project titled, *Restoring Springs and Wetlands on State Trust Lands in the Lower Embudo Valley*, by constructing 140 erosion mitigation structures to help protect and restore three springs: Blackwater, Lightning Bolt, and Labyrinth Springs located on State land south of Dixon, NM. These springs and nearby arroyos flow to the Rio Embudo, a tributary to the Rio Grande.

The project stream segment of the Rio Embudo (assessment unit: Rio Grande to Cañada de Ojo Sarco) is currently listed as impaired and does not meet surface water quality standards needed to support aquatic life due to sedimentation/siltation, turbidity, and temperature. High erosion and sediment transport rates also impact local infrastructure including acequias and roads. By mitigating erosion from tributary arroyos, water quality in the Rio Embudo and Rio Grande is improved. Sediment from

non-natural sources can degrade water quality. Many pollutants attach to sediment and are then co-transported, therefore managing sediment can help reduce additional pollutants from impacting water quality. Erosion control structures for this project included one-rock dams, wicker weirs, log racks, Zuni bowls, brush mattresses, media lunas, plug and spread, and sod plugs. Using the Spreadsheet Tool for the Estimation of Pollutant Loads, Ecotone Landscape Planning LLC estimated a sediment reduction of 198 tons per year from the 140 erosion mitigation structures combined.

A Wetlands Action Plan (WAP) was developed during this project as an addendum to the EPA accepted, Lower Embudo Valley WBP; *Proyecto Embudo de Aqua Sagrada: An Updated Watershed-Based Plan for the Lower Rio Embudo Watershed, New Mexico*. The WAP describes the current wetland conditions, the threats and stressors that put wetlands at risk such as extreme drought and flooding impacts compounded by historical and ongoing land-use impacts and intense weather events and strategies to protect and restore these wetlands. Ecotone Landscape Planning LLC also conducted numerous stakeholder outreach events and restoration workshops to provide community members with an opportunity to provide input, learn about the project, and participate in building various erosion mitigation structures.

Watershed Project Implementation for Upper Gallinas River and Porvenir Creek Phase IV (22-F)

Project Cost $505,038 (Section 319 funds) and $589,900 (matching funds and in-kind)



One-rock dam built in Gallinas during Phase IV. Photo credit: Hermit's Peak Watershed Alliance

The Hermit's Peak Watershed Alliance developed this project to address the temperature impairment in the Gallinas River and its tributaries El Porvenir Creek and Beaver Creek, in furtherance of the *Updated Watershed Based Plan for the Upper Gallinas River*. Implementing a combination of riparian vegetation planting, livestock management assistance, trail maintenance, beaver habitat augmentation, and outreach and education.

Initial collaboration and planning with the Santa Fe National Forest (NF), the project's primary land manager, were underway when the 2022 Hermit's Peak–Calf Canyon Fire (HPCC) halted progress. The fire burned 341,471 acres, including 74% of the Upper Gallinas Watershed (19% high-severity, 24.8% moderate, 30.3% low-severity). In May 2022, NMED and HPWA developed a major subgrant

amendment to address the drastically altered landscape and new post-fire restoration needs. The amendment acknowledged that the original work plan was no longer feasible, redirected the project to post-fire recovery, and increased the grant amount.

In September 2023, a second amendment was necessary to adjust previously identified management measures that were more practical to achieve in the challenging and dynamic post-fire environment. Management measure changes involved a shift from significant work to install post assisted log structures (PALS) in the Gallinas River to hand-built work in ephemeral channels. The water quality conditions had changed completely due to the post-fire landscape of little to no forest canopy and little vegetation remaining to hold back soils, exacerbating the temperature impairment and adding a potentially new sedimentation impairment as well as other related pollutants.

Hermit's Peak Watershed Alliance and its subcontractor, Watershed Artisans Inc, installed PALS in the Gallinas River to promote overbank flooding, reduce downcutting and streambank erosion, enhance instream structure, and later added riparian plantings. They also completed major floodplain reconnection on a large City of Las Vegas property, effectively doubling its capacity to capture and store floodwater, ash, sediment, and debris. This area received flood flows about eight times after the fire, and downstream landowners recognized that the work on this City of Las Vegas property reduced flooding on their land. This project served as an important demonstration of a floodplain reconnection project that could mitigate flooding in many other areas and later received numerous tours of agency and elected officials to promote the idea of nature-based (in contrast to hard-engineering) restoration as a viable means of flood mitigation.



Hermit's Peak Watershed Alliance staff working on a log step down in Gallinas. Photo credit: Hermit's Peak Watershed Alliance

The post-fire restoration strategy shifted significantly to refocus work from the Gallinas River to hand-built restoration in headwater streams. This led to implementation of 13 post-fire restoration projects with landowners, at completion 397 structures were built, and 40 structures in need of maintenance were repaired. A total of 6.31 stream miles and 102.42 acres were treated in the project, including cross- and contour-felling, planting of seedlings, and seeding in the watershed.

Education and Outreach efforts consisted of both public education and in-house training to improve the contractor's capacity to address post-fire watershed restoration needs. They completed and distributed four Post-Fire Landowner Guide addressing Soil Erosion (a Post-Fire Watershed Restoration video series was created), Flood Mitigation, Loss of Herbaceous Plant Cover, and Post-Fire Landowner Resources. Hermit's Peak Watershed Alliance also produced a short video to accompany the Post-Fire Landowner Guide to seeding and mulching techniques.

The project partners faced several challenges throughout the project. With no prior experience in fire-scarred landscapes, they had to quickly learn appropriate restoration strategies and techniques. Exchanging knowledge with others who had similar or prior experience proved invaluable. They also learned that post-fire restoration structures in flood-prone areas must be larger and more securely anchored, as post-fire flooding is highly unpredictable. Overall, they learned to expect the unexpected.

Nonpoint Source Management Program Accomplishments in 2025

NMED seeks to meet the long-term goal of the NPS Management Program with specific actions described in the NPS Management Plan taken over approximately a five-year period. The NPS Management Plan includes at its core six objectives aimed at reducing and preventing NPS pollution in New Mexico:

Complete WBPs to Enable Effective Implementation,

Implement Watershed Projects,

Protect Water Quality,

Share Information on Surface Water Quality,

Protect Ground Water Quality, and

Cooperate with other Agencies on Water Quality Protection and Improvement.

Activities to achieve the objectives (referenced in *italics* at the beginning of the milestone description) are described under each verification milestone to demonstrate progress towards the objectives. Milestones are an integral part of the NPS Management Program and a requirement under Section 319(b)(2)(c) of the CWA. The six program objectives and corresponding milestones from the NPS Management Plan are displayed in Table 3 and accompanied by progress reports for FY25 (October 1, 2024 through September 30, 2025).

Table 3 - NPS Management Program Milestone for (6) Core Objectives completed or in progress, 10/1/2024 through 9/30/2025.

Objective Number	Objective Short Name	Milestone	Schedule	Percent Complete
Objective 1				
1.a	Complete Watershed Plans	Develop templates or other guidance documents for WBPs, WAPs, and alternative WBPs and upload them to the SWQB's website for WBPs.	2025 through 2027, with the goal of one guidance per year	In Progress: 70% Complete: 30%
1.b	Complete Watershed Plans	Update or complete, with EPA's acceptance, at least one WBP per year covering at least one priority watershed.	Annually	In Progress: 100% Complete: 0%
1.c	Complete Watershed Plans	Complete at least one advanced restoration plan, in cooperation with TMDL staff, within 5 years.	2025 through 2029	In Progress: 80% Complete: 20%

Objective Number	Objective Short Name	Milestone	Schedule	Percent Complete
1.d	Complete Watershed Plans	Update the SWQB mapper website with geographic information systems layers depicting priority watersheds for implementation, including links to WBPs and alternative WBPs (such as WAPs and advanced restoration plans).	By December 31, 2025	Complete: 100%
1.e	Complete Watershed Plans	Submit a Post-Fire Watershed Mitigation Action Plan that qualifies as an alternative WBP to EPA within 5 years of a major wildfire occurring in a priority watershed, as identified in Section 4.2.6 of the NPS Management Plan.	Ongoing, as appropriate	In Progress: 100% Complete: 0%
Objective 2				
2.a	Implement Watershed Projects	Document water quality conditions in one priority watershed that improved because of projects or improvements in land management funded or encouraged by New Mexico's NPS Management Program by submitting at least one Success Story to EPA each year.	At least one Success Story annually, from 2024 through 2029	Complete: 100%
2.b	Implement Watershed Projects	Begin watershed restoration projects described in WBPs or alternative WBPs within two or more priority watersheds per year.	Two watersheds per year, from 2024 through 2029	Complete: 100%
2.c	Implement Watershed Projects	Begin watershed or water quality restoration projects that are State-funded in an average of three watersheds per year.	Approximately three watersheds per year, from 2024 through 2029	Complete: 100%

Objective Number	Objective Short Name	Milestone	Schedule	Percent Complete
2.d	Implement Watershed Projects	Document water quality improvements in the GRTS by performing pollutant load reduction estimates for implementation projects where on-the-ground improvements were completed in the previous year.	Annually	Complete: 100%
Objective 3				
3.a	Protect Water Quality	Fund post-fire actions that reduce sedimentation and protect aquatic habitat, with support of Section 319 watershed project funds within 5 years of a major wildfire with severity outside the natural range of variability for the affected forest types occurring in a watershed with one or more with high-quality coldwater, coldwater, or coolwater aquatic life–designated streams.	Within 5 years of a major and unnaturally intense wildfire in the watershed of a cold or coolwater stream	In Progress: 80% Complete: 20%
3.b	Protect Water Quality	Summarize CWA Section 401 certification activity for dredge and fill permits in the NPS Management Program Annual Report.	Annually	Complete: 100%
3.c	Protect Water Quality	Summarize activities related to the New Mexico Mining Act in the NPS Management Program Annual Report.	Annually	Complete: 100%
3.d	Protect Water Quality	Summarize significant developments related to Outstanding National Resource Water in the NPS Management Program Annual Report.	Annually	Complete: 100%

Objective Number	Objective Short Name	Milestone	Schedule	Percent Complete
3.e	Protect Water Quality	Summarize activities related to forest restoration in the NPS Management Program Annual Report.	Annually	Complete: 100%
3.f	Protect Water Quality	Summarize water quality survey activity, analysis, and conclusions in the biennial Integrated Report. The NPS Management Program Annual Report for these years will provide the percentage of assessed stream miles or watersheds designated as impaired, for comparison with previous years.	Reporting for 2024, 2026, and 2028	Complete: 100%
Objective 4				
4.a	Share Information on Surface Water Quality	Conduct a statewide NPS workshop and summarize the workshop in the NPS Management Program Annual Report.	Annually	Complete: 100%
4.b	Share Information on Surface Water Quality	Include a description of the Wetlands Roundtable meetings in the NPS Management Program Annual Report.	Annually	Complete: 100%
4.c	Share Information on Surface Water Quality	Publish *Clearing the Waters* with an email circulation of about 2,000 subscribers.	Semiannually	Complete: 100%
4.d	Share Information on Surface Water Quality	Summarize education and outreach activities completed during the reporting period in the NPS Management Program Annual Report.	Annually	Complete: 100%

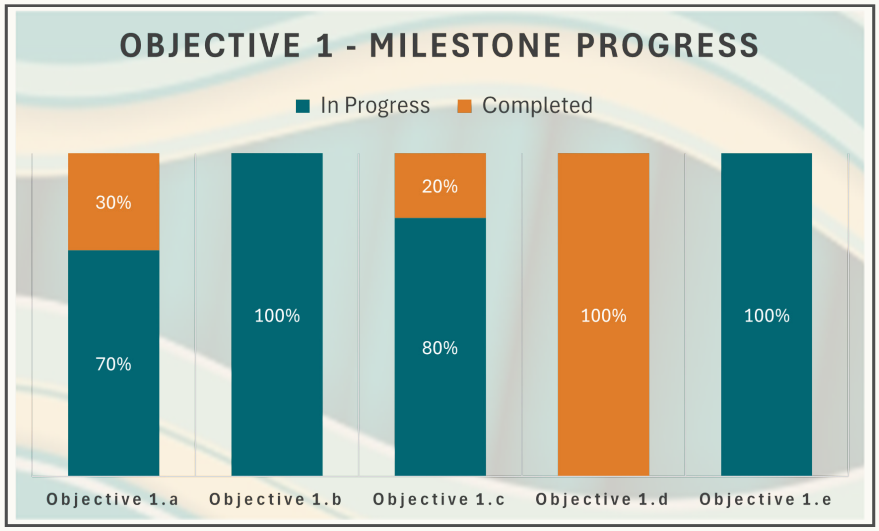
Objective Number	Objective Short Name	Milestone	Schedule	Percent Complete
Objective 5				
5.a	Protect Ground Water Quality	Report the activities conducted under the CWA Section 319 grant for the New Mexico Water Fairs, Water Quality Outreach Program, and Permitting and Compliance for Large-Capacity Septic Tank Leachfields in GRTS.	Semiannually	Complete: 100%
Objective 6				
6.a	Cooperate with other Agencies (U.S. Forest Service)	Renew the Memorandum of Understanding between NMED and the Southwestern Region of the U.S. Forest Service, which will terminate in 2028.	2028	In Progress: 100% Complete: 0%
6.b	Cooperate with other Agencies (Natural Resources Conservation Service)	For each NPS Management Program Annual Report, report on agricultural BMPs funded under the National Water Quality Initiative or other conservation programs that have been implemented during the calendar year and provide sufficient details for SWQB to estimate pollutant load reductions for identified water quality impairments.	Annually	In Progress: 50% Complete: 50%
6.c	Cooperate with other Agencies (Soil and Water Conservation Districts)	Include at least one profile of a project intended to protect or improve water quality implemented by a Soil and Water Conservation District, Soil and Water Conservation District clients, or other local government agency or nongovernmental organization in the NPS Management Program Annual Report.	Annually	Complete: 100%

Objective Number	Objective Short Name	Milestone	Schedule	Percent Complete
6.d	Cooperate with other Agencies (New)	Fund at least three competitively awarded water quality or aquatic habitat improvement projects with agencies or organizations with which NMED has not had an agreement within the previous 10 years.	Goal of three new agencies or organizations as partners, from 2024 through 2029	In Progress: 40% Complete: 60%
6.e	Cooperate with other Agencies (SWQB)	Submit the NPS Management Program Annual Report to EPA by January 31 and post the report on SWQB's website.	Annually by January 31	Complete: 100%
6.f	Cooperate with other Agencies (Governor or Designee)	Revise the New Mexico NPS Management Plan to reflect input and review by implementing agencies and organizations. The Governor of New Mexico, or the Governor's designee, will submit the revised Plan to the EPA Regional Administrator.	2029	In Progress: 100% Complete: 0%

Objective 1 – Complete WBPs to Enable Effective Implementation

Produce watershed plans that meet all elements identified in the Nonpoint Source Program and Grants Guidelines for States and Territories, for an average of three priority watersheds per year.

Objective 1 Verification Milestones and Reports of Progress



a. Develop templates or other guidance documents for WBPs, WAPs, and alternative WBPs and upload them to the SWQB's website for WBPs. Time frame: 2025 through 2027, with the goal of one guidance per year.

   (*Activities 2.1.1.a and 2.1.1.g*) This milestone was not met. A wetlands action plan template has been developed and is currently in the refinement process to finalize and post on our website as a template resource, likely to be completed during the next reporting period. Additional templates are still being discussed for development in 2026 and 2027.

b. Update or complete, with EPA's acceptance, at least one WBP per year covering at least one priority watershed. Time frame: Annually.

   (*Activities 2.1.1.b, 2.1.1.c, 2.1.1.d and 2.1.1.g*) This milestone was not met. There were no new EPA-accepted WBPs during this reporting period. A Request for Proposals (RFP) was developed and subsequently issued during the next reporting period to solicit new watershed-based planning projects. WPS is in the process of completing the San Juan WBP (ending 6/30/2026) and Rio Ruidoso Watershed WBP (ending 12/31/2026) which was amended during this reporting period to increase the number of watersheds addressed due to catastrophic wildfires and flooding in 2024 and 2025. NMED intends to have at least one WBP accepted by EPA in 2026 and does not anticipate further delays with this milestone.

   In collaboration with the Gila NF and in communication with EPA Region 6, began drafting an addendum to the Escudilla Watershed Restoration Action Plan (WRAP) and 9-Element WBP. The WRAP is a U.S. Forest Service planning document and the WBP is an EPA and state planning document. Combining WRAPs and WBPs improves coordination and streamlines the planning process. The Escudilla WRAP was published in 2018 and has been actively used by the Gila NF. The Escudilla WBP addresses non-point source pollution within the San Francisco River Basin for the temperature and nutrient impaired reaches of the San Francisco River and Whitewater Creek. WPS is coordinating with the Gila NF and EPA to complete an addendum to the Escudilla WBP to satisfy the 9-Element WBP requirements and plans to submit it for EPA review and acceptance in the next reporting period.

c. Complete at least one advance restoration plan (ARP), in cooperation with TMDL staff, within 5 years. Time frame: 2025 through 2029.

   (*Activities 2.1.1.a, 2.1.1.c and 2.1.1.d*) This milestone was not met. El Rito Creek, within the Headwaters El Rito Watershed (Hydrologic Unit Code (HUC) 130201021102), was identified in 2025 as the focus of a new ARP. The ARP will be a combined in-house project carried out by SWQB staff with support for specific portions of the plan developed by a contractor on New Mexico's Riparian, Aquatic and Wetland Restoration Services Statewide Price Agreement (#40-00000-23-00037). Approximately 94% of the watershed is NF land. Water quality issues in the headwaters of El Rito Creek include *E. coli* contamination and rising stream temperature. The ARP will outline the most effective means of reducing *E. coli* loading and stream temperatures so that El Rito Creek meets its water quality standards. NMED is aiming to complete this ARP in late 2026.

d. Update the SWQB mapper website with geographic information systems (GIS) layers

depicting priority watersheds for implementation, including links to WBPs and alternative WBPs (such as WAPs and ARPs). Target Date: December 31, 2025.

(*Activities 2.1.1.e*) This milestone was met. The SWQB mapper website was updated with new GIS layers, depicting priority watersheds for implementation and planning to reflect the most current water quality data. These layers now include links to approved WBPs and alternative WBPs.

e. Submit a Post-Fire Watershed Mitigation Action Plan that qualifies as an alternative WBP to EPA within 5 years of a major wildfire occurring in a priority watershed, as identified in Section 4.2.6 of the 2024 NPS Management Plan. Time frame: Ongoing, as appropriate.

(*Activities 2.1.1.f*) This milestone was not met. Collaborators worked to develop two key post-fire WRAPs during the reporting period: one for the 2022 Black Fire and one for the 2022 HPCC fire. Though no plans were submitted to EPA for approval, SWQB provided technical support and feedback to cooperators developing the post-fire WRAPs to help support development of an alternative WBP for EPA approval in the future.

Objective 2 – Implement Watershed Projects

Implement effective watershed-based NPS restoration programs in identified priority watersheds, using multiple funding sources, at an average of three new watersheds per year.

Objective 2 Verification Milestones and Reports of Progress



a. Document water quality conditions in one priority watershed that improved because of projects or improvements in land management funded or encouraged by New Mexico's NPS Management Program by submitting at least one Success Story to EPA each year. Time frame: Annually.

(*Activity 2.2.1.e*) This milestone was met. New Mexico submitted a Type 1 Success Story in September 2025 for the Rito de las Vacas for removing a nutrient impairment after years of restoration work have been completed. Effectiveness monitoring continued at multiple streams in priority watersheds to determine how restoration work will contribute to future water quality improvement (Table 4 and Table 5).

Table 4 - Stream assessment units and highlights of WPS Effectiveness Monitoring in 2024-2025 to determine the effects of restoration projects on water quality, primarily stream temperature unless otherwise indicated.

Assessment Unit	Notes
Comanche Creek (Costilla Creek to headwaters)	Stream temperature monitoring in 2024 at seven stations indicated that Comanche Creek still exceeded the water quality standard (Table 5). Stream temperature data was collected again in 2025 at the same locations from May to October, for further analysis in winter 2025-2026.
Holman Creek (Comanche Creek to headwaters)	Stream temperature loggers measured the effects of the Keyline design Wetlands project on two subwatersheds and just upstream of the confluence with Comanche Creek. Data loggers recorded stream temperature from May to October, 2025.
Jaramillo Creek (East Fork Jemez to headwaters)	The planted willows continued to thrive in 2024-2025. Monitoring during summer of 2024 at three stations shows that the stream temperature was very close to meeting the standards (Table 5). This monitoring continued at the same locations in Summer 2025, from June to October.
San Antonio Creek (San Antonio Creek (East Fork Jemez to Valles Caldera National Park boundary)	Stream temperature monitoring continued in 2024-2025 to determine the effects of the construction of beaver dam analogs. Data loggers recorded stream temperature at one station upstream of the project reach, and another station downstream. Although stream temperature exceeded the standard in 2024, turbidity data indicate strong potential for a de-listing and a Success Story (Table 5). Stream temperature data were collected again in 2025, from June to October for further analysis.
Willow Creek (Gilita Creek to headwaters)	Staff continued monitoring in 2024-2025 of stream temperature and metals, primarily aluminum. Staff deployed stream temperature loggers and collected metals samples upstream and downstream of the project area and measured stream flow in the middle of the reach. Stream temperature exceeded the standard in 2024 (Table 5). However, aluminum samples show a potential for de-listing. Stream temperature data were collected again in 2025, from June to November for further analysis. Staff also collected metals and hardness samples at both locations on May 30, 2025, and submitted them to the State Laboratory Division for analysis, including blanks for quality assurance and quality control.
Rio de las Vacas	Stream temperature exceeded the standard in 2024. Data loggers were again deployed in 2025 from May to October. Unfortunately, the downstream logger went missing sometime in 2025 due to construction at the bridge involving the placement of large boulder rip-rap at that location.
Rito Peñas Negras	Stream temperature exceeded the standard in 2024 (Table 5). Restoration work and maintenance of fenced exclosures has continued by Rio Grande Return crews. Stream temperature data were collected again in 2025, from May to October for further analysis.

Table 5 - 2025 WPS Effectiveness Monitoring Stream Temperature Data Summary.

Stream	Station ID	2025 start	2025 end	days	Max	4T3 *
Comanche Creek	CC-CONF	13-May	22-Oct	162	23.74	20.91
Jaramillo Creek	JC-CINE	20-Jun	24-Oct	126	22.23	19.01
Rio de las Vacas	MV-DOWN	Logger missing due to construction.				
Rito Penas Negras	PN-CON2	Logger exposed; channel went dry.				
San Antonio Creek	SA-HSPG	7-Jun	21-Oct	136	25.96	23.55
Willow Creek	WC-CONF	29-May	25-Nov	180	26.82	22.73

* 4T3 temperature is the temperature not to be exceeded for four or more consecutive hours in a 24-hour period on more than three consecutive days. Temperature criteria for High Quality Coldwater Aquatic Life Use: 4T3 temperature 20°C, maximum temperature 23°C.

b. Begin watershed restoration projects described in WBPs or alternative WBPs within two or more priority watersheds per year. Time frame: 2024 through 2029.

   (*Activities 2.2.1.a, 2.2.1.b and 2.2.1.c*) This milestone was met. SWQB released a RFA for Watershed Implementation Projects on January 24, 2025 and closed on April 3, 2025. SWQB received nine applications and funded two projects in two priority implementation watersheds with Section 319 funds available. Agreements were signed and fully executed in the next reporting period.

c. Begin watershed or water quality restoration projects that are State-funded in an average of three watersheds per year. Time frame: 2024 through 2029.

   (*Activity 2.2.1.d*) This milestone was met. The SWQB continues to develop, manage, and provide oversight of state-funded watershed and riparian restoration projects through the RSP. Twelve new state-funded projects begin in January 2025 in 9 different watersheds. During the reporting period, 14 state-funded projects were completed. A total of 21 state-funded projects are in progress.

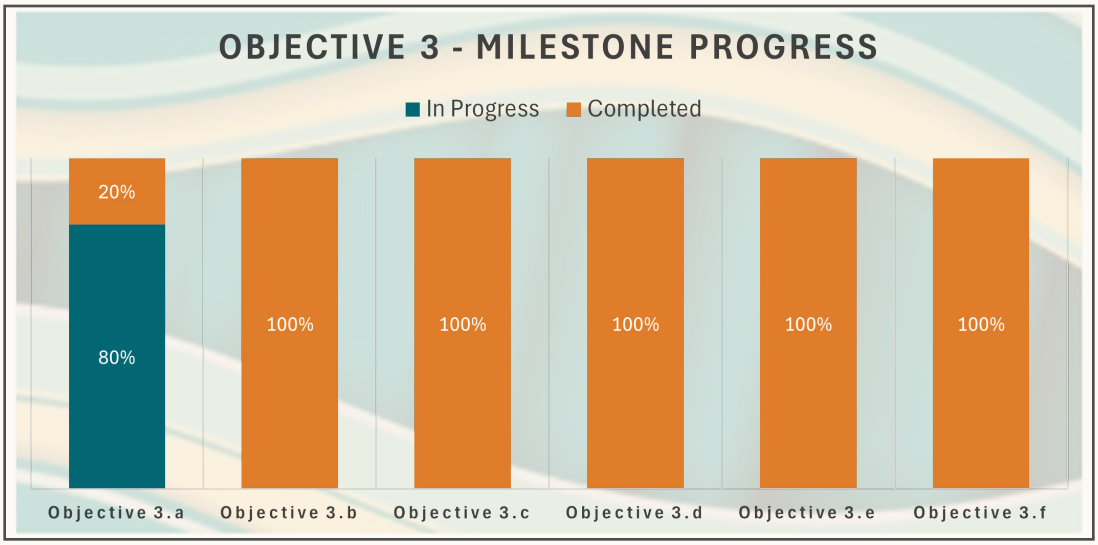
d. Document water quality improvements in the GRTS by performing pollutant load reduction estimates for implementation projects where on-the-ground improvements were completed in the previous year. Time frame: Annually.

   (*Activities 2.2.1.c and 2.2.1.d*) This milestone was met. Each year, project officers evaluate work completed on the ground and perform pollutant load reduction estimates for both Section 319 and state-funded projects. This information is entered into GRTS annually and summarized in the NPS Pollutant Load Reduction Report section below.

Objective 3 – Protect Water Quality

Maintain surface water quality through coordinated activities, permitting programs, and technical assistance provided to assist cooperating agencies and landowners with efforts to understand water quality and protect surface waters from NPS pollution.

Objective 3 Verification Milestones and Reports of Progress



a. Fund post-fire actions that reduce sedimentation and protect aquatic habitat, with support of Section 319 watershed project funds within 5 years of a major wildfire with severity outside the natural range of variability for the affected forest types occurring in a watershed with one or more with high-quality coldwater, coldwater, or coolwater aquatic life–designated streams. Time frame: Ongoing, as required.

   (*Activity 2.3.1.a*) This milestone was not met. During the reporting period, the SWQB used state funding to pay for post-fire aerial seeding on the Trout Fire to protect aquatic habitat, reduce sedimentation, and stabilize severely burned portions of the watershed prior to monsoon rains during the summer of 2025. Though Section 319 Project funds were not utilized directly to pay for the on-the-ground work, Section 319 funds supported the staff time to support coordination among agencies to make this post-fire restoration possible.

b. Summarize CWA Section 401 certification activity for dredge and fill permits in the NPS Management Program Annual Report. Time frame: Annually.

   (*Activity 2.3.1.b*) This milestone was met. The purpose of CWA Section 401 is to ensure that federally issued permits and licenses, including CWA Section 404 permits authorized by the U.S. Army Corps of Engineers (USACE) for the discharge of dredged or fill material into waters of the United States, comply with State water quality standards. The USACE generally issues three kinds of permits in New Mexico: Standard Individual Permits (IPs), Nationwide Permits (NWPs), and Regional General Permits (RGPs). The most commonly used permit is the NWP which covers a wide range of activities that generally have no more than minimal individual and cumulative adverse environmental effects. SWQB ensures that these permits comply with State water quality standards by either granting

certification with or without conditions, denying certification which prohibits the federal permit or license from being issued, or waiving certification which allows the permit or license to be issued without comment. The NWPs and RGPs are generally re-issued every five years along with re-issued CWA Section 401 water quality certifications (WQC). SWQB's CWA Section 401 reviews ensure projects are consistent with the WQC and that BMPs for each project will be protective of water quality. More information about New Mexico's CWA Section 401 program is available at SWQB's website: env.nm.gov/surface-water-quality/dredgeandfillactivities/.

In 2025, SWQB staff reviewed 54 projects covered by NWPs, three projects covered by RGP 16-01 (utility line construction, maintenance, repair or removal), five projects covered by a Letter of Permission (LOP), six enforcement actions, and one project covered by RGP 17-01 (Emergency Repair and Protection Activities) for a total of 69 projects. The most common NWP issued in 2025 was NWP 27-Aquatic Habitat Restoration Projects (20 projects) followed by NWP 14-Linear Transportation Projects (14 projects). SWQB also reviewed the proposed 2026 NWPs and prepared for the WQC decision that is expected by December 18, 2025.

During this reporting period, SWQB issued an Individual WQC for the U.S. Bureau of Reclamation's River Mile 199 project along the Rio Grande. An Individual WQC is required, because the USACE authorized this project under a new LOP (SPK-2024-00011) for which the SWQB has not issued a blanket certification. SPK-2024-00011 allows for a relatively larger impact, up to 1-acre of permanent loss of waters and 1,000 linear feet of streambed, which in the past would have required an Individual Permit from the USACE. At this time, SWQB prefers issuing an individual WQC for such projects, because this allows SWQB to develop project specific water quality conditions. The primary goal of this particular project is to protect the riverside levee. One of the *project specific* conditions included in this individual WQC is a condition to screen or filter excavated materials during side channel construction to remove fine sediments before placement into the Rio Grande. The placement of sediment in the Rio Grande is proposed to aggrade the river, reverse channel incision, and support floodplain connectivity; However, fine sediment is listed as a water quality contaminant under 20.6.4.13 New Mexico Administrative Code. Therefore, additional precautions are needed to protect water quality standards.

c. Summarize activities related to the New Mexico Mining Act in the NPS Management Program Annual Report. Time frame: Annually.

(*Activity 2.3.1.c*) This milestone was met. The New Mexico Mining Act obligates the NMED to review and comment on various applications associated with non-coal mining in New Mexico. Proposed actions range from recreational mining (such as panning for gold) to large mine and mill operations. For minimum-impact exploration applications or modifications of existing exploration permits, NMED is provided an opportunity for formal comment. For new mining operations, NMED is responsible to "provided a written determination stating that the permit applicant has demonstrated that the activities to be permitted or authorized will be expected to achieve compliance with all applicable air, water quality and other environmental standards if carried out as described in the permit application." For modification of existing operations, NMED has the opportunity to comment on proposed permit changes.

NMED has a Mining Act team that includes representatives from SWQB, GWQB, and the Air Quality Bureau to review mining applications and otherwise support the work of the New Mexico Mining and Minerals Division (MMD) of the Energy, Minerals, and Natural Resources Department (EMNRD). This work involves reviewing applications, site inspections, hydrologic interpretations, and evaluating water quality standards against proposed mining activities. SWQB discusses BMPs and other mitigation measures with MMD to implement mining plans that prevent or minimize environmental risks. The team's written comments often include conditions necessary to ensure compliance with both state and federal environmental standards. The team also participates in meetings and reviews documents in collaboration with EMNRD, New Mexico Department of Game and Fish (NMDGF), U.S. Forest Service, New Mexico State Land Office (NMSLO), the USACE, EPA, and others.

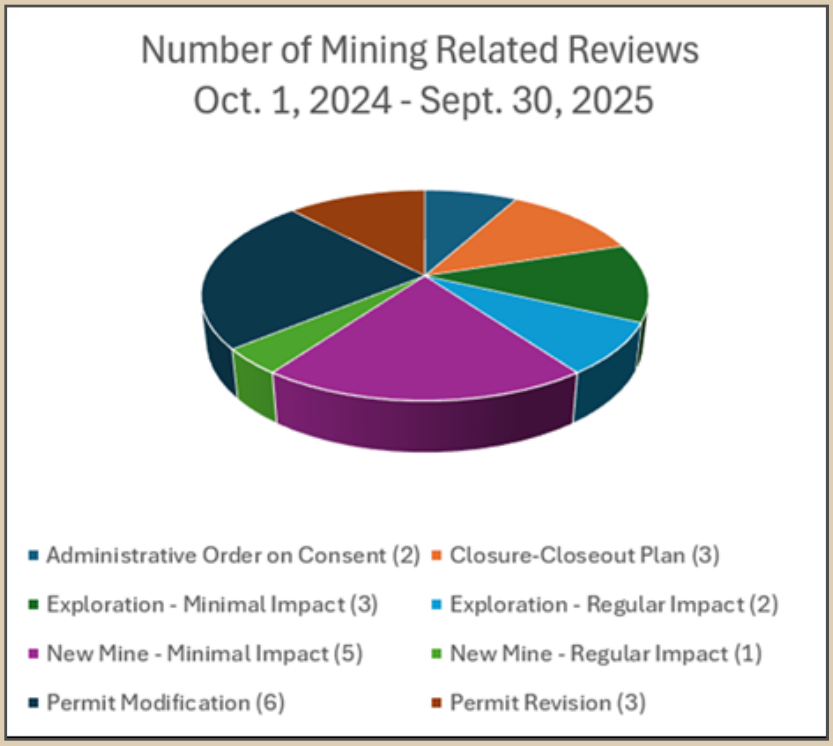


Figure 3 - 25 Mining Act reviews shown by request type and quantity.

During the reporting period, SWQB staff reviewed and commented on 25 Mining Act requests from MMD for 17 different mines. The majority of mine permit activity was for permit revisions and new minimal impact permits.

d. Summarize significant developments related to Outstanding National Resource Waters (ONRWs) in the NPS Management Program Annual Report. Time frame: Annually.

(*Activity 2.3.1.d*) This milestone was met. On December 10, 2024, the Water Quality Control Commission (WQCC) held a public hearing to consider NMED SWQB's nomination for new ONRWs. As a result, over 240 miles of New Mexico's streams and rivers were designated as ONRWs on March 15, 2025 and effective for federal CWA purposes on April 10, 2025.

The Gila NF Wilderness Ranger District reported ONRWs that may have had water quality impacts due to the Iron Fire and Ridge Fire in 2025. The Santa Fe NF reported ONRWs that may have had water quality impacts due to the Indios Fire in the Chama River Wilderness. Water body names, fire suppression actions, BMPs, and retardant avoidance areas for the fires were included with reports.

e. Summarize activities related to forest restoration in the NPS Management Program Annual Report. Time frame: Annually

(*Activity 2.3.1.e*) This milestone was met. The SWQB coordinates an annual meeting with staff from the Carson, Cibola, Gila, Lincoln, and Santa Fe NFs and National Grasslands to discuss collaborative forest restoration efforts and provide information related to water quality and forest ecology, as a means of preventing impacts to water quality from catastrophic wildfire.

SWQB also participates in quarterly meetings with other state agencies and non-governmental organizations (NGOs) to discuss forest and watershed health across the state and efforts to improve water quality and impacts from wildfires. Detailed descriptions of our partner agencies activities to mitigate nonpoint source pollution in New Mexico can be found in Appendix B.

f. Summarize water quality survey activity, analysis, and conclusions in the biennial Integrated Report. The NPS Management Program Annual Report for these years will provide the percentage of assessed stream miles or watersheds designated as impaired, for comparison with previous years. Time frame: Reporting for 2024, 2026, and 2028.

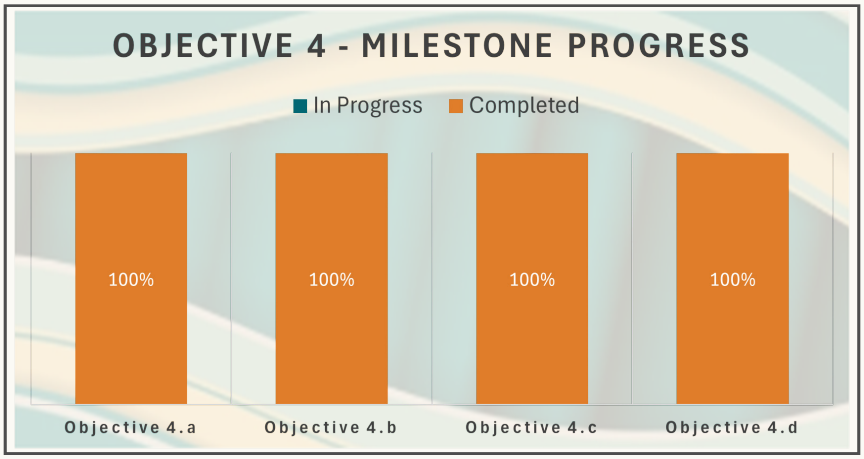
(*Activity 2.3.1.f*) This milestone was met. The CWA Section 303(d)/305(b) Integrated Report was published in 2024 and under development in 2025 for the next reporting cycle in 2026. Details on the percentage of assessed stream miles and impaired watersheds can be found in the section above, CWA Sections 303(d) and 305(b).

Objective 4 – Share Information on Surface Water Quality

Increase and maintain public awareness of NPS pollution and water quality through an effective education and outreach program using strategically selected educational resources available throughout the State.

In 2025 during New Mexico's annual Section 319 review, data uploads to the Water Quality eXchange (WQX) were identified as an outstanding state deliverable. SWQB uploads its Section 106-funded water quality data to WQX and added its effectiveness monitoring water quality data to the annual upload to the portal. During the reporting period, staff worked to identify additional data from current 319-funded projects that will be uploaded to WQX and will be steadily making progress in uploading past 319-funded project monitoring data to WQX as capacity allows.

Objective 4 Verification Milestones and Reports of Progress



a. Conduct a statewide NPS workshop and summarize the workshop in the NPS Management Program Annual Report. Time frame: Annually.

   (*Activity 2.4.1.a*) This milestone was met. Two virtual NPS workshops were held during the reporting: October 23, 2024 and October 31, 2024. During the workshops, both identical, SWQB discussed upcoming funding opportunities, NPS program updates, the upcoming 2025 call for data from cooperators to support water quality assessments, and new reporting and reimbursement requirements implemented by SWQB to assist with the various grants and funding opportunities. Two identical workshops were hosted to try and ensure all cooperators could attend at least one of the dates provided so the SWQB could answer any questions on the important program updates delivered in the workshops.

b. Include a description of the Wetlands Roundtable meetings in the NPS Management Program Annual Report. Time frame: Annually.

   (*Activity 2.4.1.b*) This milestone was met. SWQB coordinated four statewide New Mexico Wetlands Roundtables for agencies and nongovernmental organizations. The purpose of the roundtables are to work together to improve wetland resources in New Mexico. Reporting for the Wetlands Roundtable meetings are found in Appendix A.

c. Publish *Clearing the Waters* with an email circulation of about 2,000 subscribers. Time frame: Semiannually

   (*Activity 2.4.1.d*) This milestone was met. *Clearing the Waters* (env.nm.gov/surface-water-quality/newsletters) was published on December 12, 2024 and April 24, 2025. The December issue announced NMED SWQB Nominations of ONRWs, an article to introduce the SWQB State Permitting Program, project highlights from RSP, and CWA 319 and RSP funding opportunities. The April issue was dedicated to *Uncovering the Wonders of New Mexico's Wetlands: An Interactive Journey through StoryMaps*, RSP project announcements, program funding opportunities, SWQB staff updates, new ONRW Designations, Monitoring , Assessment, and Standards Section (MASS) survey updates. Clearing the Waters email circulation reached 1,927 subscribers, a slight increase from 1,919 reported last year.

d. Summarize education and outreach activities completed during the reporting period in the NPS Management Program Annual Report. Time frame: Annually.

   During FY25, SWQB staff attended 14 in-person and 24 virtual Soil and Water Conservation District (SWCD) meetings. These meetings were held with the Chaves, Ciudad, Colfax, Cuba, East Rio Arriba, Otero, San Francisco, San Juan, Taos, Tierra y Montes, and Upper Hondo SWCDs. Staff also attended three South-Central New Mexico Stormwater Management Coalition meetings.

   (*Activities 2.4.1.c, 2.4.1.e and 2.4.1.f*) This milestone was met. SWQB staff attended the Green Infrastructure and Watershed Restoration Workshop September 23 – 24, 2025. The workshop focused on water harvesting green infrastructure and green infrastructure strategies and practices and consisted of two project sites: Sandhill Arroyo Restoration Project and Butler & Cothern Watershed Restoration Project. The workshop was attended by local and state government employees, members of the public and private entities.

SWQB staff attended the USACE's Natural and Nature-Based Features (NNBFs) workshop on May 7 - 8, 2025, and SWQB staff provided a presentation on how NNBFs protect and support water quality. For example, incorporating native vegetation maintains shade and protects surface water from increased solar radiation.

SWQB staff also attended the Village of Ruidoso WBP Community Meeting on September 23, 2025. This community meeting was the first meeting open to stakeholders for the planning phase of the WBP. SWQB staff discussed the WBP at the meeting with stakeholders, including members of the public, agencies, and other interested parties, to describe the purpose of the WBP and what future benefits it can bring to the community.

Additionally, staff participated in the Natural Channel Design Engineering Inc. Level 1 training to understand geomorphic processes of natural channels in the arid southwest, located in Springerville, AZ in September 2025. Staff who had completed the Level 1 training but were looking to further their skills in these methodologies, including the Rosgen Natural Channel Classification System, took the Level 2 course hosted in Santa Fe in October 2024. The Level 2 workshop is designed to practice the field monitoring methodologies to build inventories and assess geomorphological condition of streams

Objective 5 – Protect Ground Water Quality

Maintain groundwater quality through the water fair and water-quality outreach program along with permitting and compliance assistance for large-capacity septic tank leachfields and surface disposal sites with efforts to understand water quality and protect groundwater from NPS pollution.

Objective 5 Verification Milestones and Reports of Progress



a. Report the activities conducted under the CWA Section 319 grant for the New Mexico Water Fairs, Water Quality Outreach Program, and Permitting and Compliance for Large-Capacity Septic Tank Leachfields in GRTS. Time frame: Semiannually.

(*Activities 2.5.1.a and 2.5.1.b*) This milestone was met. The GWQB works to protect ground water quality from NPS pollution attributed to large capacity septic tank and leachfield systems (septic systems), septage disposal facilities, sludge disposal facilities, and land farms (surface disposal facilities). Technical personnel in GWQB review state

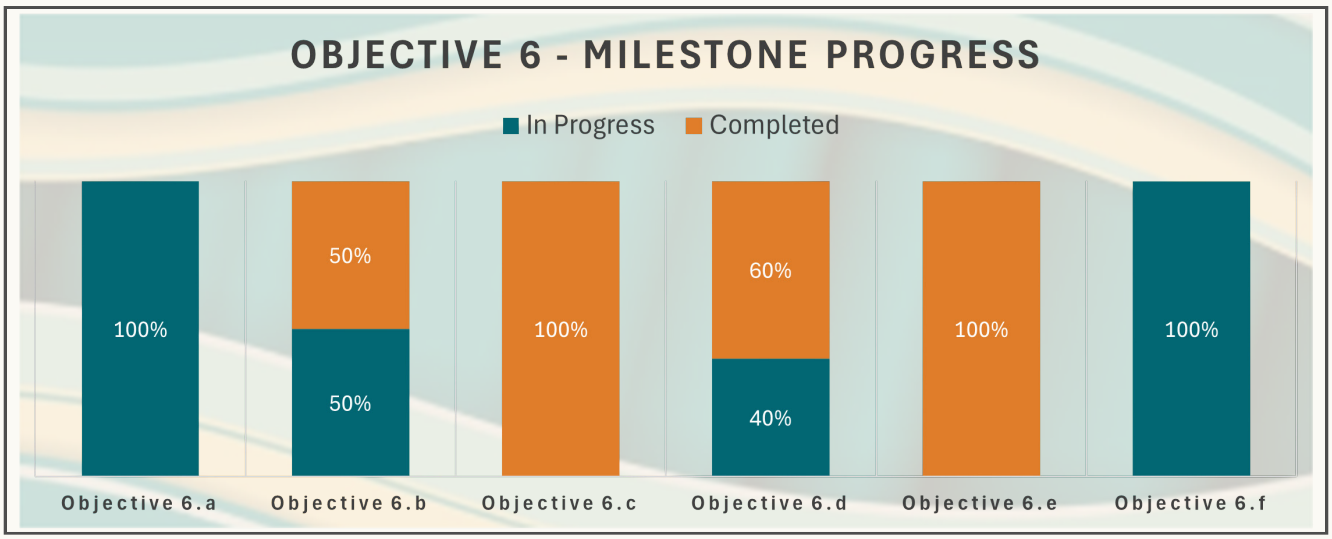
Discharge Permit applications, prepare and issue Discharge Permits, perform compliance assistance activities for permittees, and enforce Discharge Permit requirements for septic systems and surface disposal facilities. During the reporting period, GWQB issued 44 New, Renewal, or Renewal and Modification Discharge Permits.

Residents of New Mexico primarily rely on ground water for drinking water, and in some locations ground water is the only available source of drinking water. Since many communities are concentrated in river valleys where ground water is shallow, their drinking water supplies are susceptible to contamination from NPS pollution. To identify possible NPS water quality problems in rural New Mexico communities, GWQB conducts free testing of domestic wells ("Water Fairs") throughout the state. In 2025, GWQB conducted eight water fairs, receiving approximately 183 water samples. The Water Fairs were conducted in Chaves, Socorro, McKinley, Taos, Curry, Rio Arriba, San Juan, and Doña Ana counties.

Objective 6 – Cooperate with other Agencies on Water Quality Protection and Improvement

Actively manage a variety of natural resources to protect and restore water quality with assistance provided by the WPS and other SWQB programs, federal agencies, and State agencies in New Mexico.

Objective 6 Verification Milestones and Reports of Progress



a. Renew the Memorandum of Understanding (MOU) between NMED and the Southwestern Region of the U.S. Forest Service, which will terminate in 2028. Target Date: 2028.

   (*Activity 2.6.1.a)* This milestone was not met. The MOU was last updated and signed in 2023 and discussions to renew the MOU will begin in 2027.

b. For each NPS Management Program Annual Report, report on agricultural BMPs funded under the National Water Quality Initiative or other conservation programs that have been implemented during the calendar year and provide sufficient details for SWQB to estimate pollutant load reductions for identified water quality impairments. Time frame: Annually

(*Activity 2.6.1.b*) This milestone was met. SWQB staff attended the annual State Technical Committee meeting of the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) in October 2024 to hear updates on water quality programs. A detailed description of the National Water Quality Initiative and Environmental Quality Incentives Program activities conducted by the NRCS are located in Appendix B descriptions of other cooperating agencies work to mitigate nonpoint source pollution in New Mexico.

c. Include at least one profile of a project intended to protect or improve water quality implemented by an SWCD, SWCD clients, or other local government agency or nongovernmental organization in the NPS Management Program Annual Report. Time frame: Annually.

(*Activity 2.6.1.d)* This milestone was met. Staff continued close work with the SWCDs of New Mexico by partnering on projects, attending meetings, and responding to technical assistance for surface water quality inquiries throughout the year. Of note, SWQB staff attended 14 in-person and 24 virtual SWCD meetings. These meetings were held with the Chaves, Ciudad, Colfax, Cuba, East Rio Arriba, Otero, San Francisco, San Juan, Taos, Tierra y Montes, and Upper Hondo SWCDs. Staff also attended three South-Central New Mexico Stormwater Management Coalition meetings. This year, Chaves SWCD provided a project highlight, *Chaves Cooperative Weed Management Areas Project*, to address nonnative species to restore riparian areas in their district.

d. Fund at least three competitively awarded water quality or aquatic habitat improvement projects with agencies or organizations with which NMED has not had an agreement within the previous 10 years. Target: Partner with three new agencies/organizations between 2024 and 2029.

(*Activity 2.6.1.d*) This milestone was partially met. During the reporting period, the state-funded RSP funded a project with a new cooperator, JEB Outfitters. Additionally, the Section 319 program funded a project with Bernalillo County, a new cooperator for our program.

e. Submit the NPS Management Program Annual Report to EPA by January 31 and post the report on SWQB's website. Time frame: Annually.

(*Activity 2.6.1.f*) This milestone was met. SWQB staff collaborate each year to develop this report and ensure we represent all of the great activities New Mexico does each year to reduce NPS pollution and deliver the annual report to EPA.

f. Revise the New Mexico NPS Management Plan to reflect input and review by implementing agencies and organizations. The Governor of New Mexico, or the Governor's designee, will submit the revised Plan to the EPA Regional Administrator. Target Date: 2029.

(*Activity 2.6.1.g*) This milestone was not met. The 2024 New Mexico NPS Management Plan was approved by EPA on December 10, 2024 and will be updated in five years, beginning in late 2027 for approval in 2029.

NPS Pollutant Load Reduction Reporting

Section 319(h)(11) of the CWA requires each state to report to EPA on an annual basis "reductions in nonpoint source pollutant loading," as a component of the Nonpoint Source Management Program Annual Report. EPA and NMED use GRTS to implement this reporting requirement. Pollutant load reduction estimates reported by NMED for January 1, 2025 through December 31, 2025 will be available after February 28, 2026 in GRTS. Table 6 shows the load reduction estimates for projects in New Mexico to improve surface water quality between May 1, 2024 and April 30, 2025. Projects that do not have load reduction estimates did not complete construction in the reporting period and may have load reduction estimates in previous years or will be reported in future years when construction is completed.

Table 6 - Estimated load reductions of pollutants from May 1, 2024 to April 30, 2025 for projects to improve water quality in New Mexico.

Grant Number	Project Title	Nitrogen (lbs/year)	Phosphorus (lbs/year)	Sedimentation-Siltation (tons/year)
99610119	Rio Nutrias Watershed-Based Plan Implementation Phase II (Section 319)	4	1	3
99610120	Restoring Springs and Wetlands on State Trust Lands in the Lower Embudo Valley (Section 319)	318	122	199
99610120	Managing watershed runoff into the Mesilla Valley (Section 319)	0	0	841
99610120	Watershed Project Implementation for Upper Gallinas River and Porvenir Creek - Phase IV (Section 319)	22	8	16
99610120	Reimagining San Vicente Creek (RSP)	2	1	2
99610120	Centerfire Creek Headwaters Restoration Project (RSP)	1,462	701	1,132
99610120	Los Alamos Canyon Creek Watershed Restoration Project (RSP)	5	2	3
99610120	Riparian Restoration in Torreon Wash Watershed - Phase II (RSP)	52	20	38
99610120	San Antonio Creek Headwaters and Erosion Control Project (RSP)	609	234	381
99610121	Upper Cieneguilla Creek Wetland Restoration and Enhancement Project (Section 319)	158	61	116
99610121	Watershed Project Implementation and Post-Fire Remediation for Sapello River Watershed – Phase I (Section 319)	3552	1364	2209

Grant Number	Project Title	Nitrogen (lbs/year)	Phosphorus (lbs/year)	Sedimentation-Siltation (tons/year)
99610121	Stream and Riparian Restoration on Stone Creek, Quemado Ranger District, Gila National Forest **(RSP)**	716	239	106
99610121	Wetland and Stream Restoration in the Moreno Valley **(RSP)**	11	4	8
99610121	Reimagining San Vicente Creek and the Silver City Watershed - Phase 2 **(RSP)**	8	3	2
99610121	Mora River Restoration, Rio Mora National Wildlife Refuge - Phase II **(RSP)**	2	0	0
99610121	Sapello River Restoration, Pritzlaff Ranch (**RSP**)	2	0	0
99610121	San Antonio Creek Riparian and Beaver Habitat Restoration Project **(RSP)**	37	4	2
99610121	Adapting and Improving River Stewardship in the Torreon Wash Watershed **(RSP)**	1	0	34
99610121	Willow Creek Watershed Restoration Project - Private Lands Reach **(RSP)**	122	58	78
99610121	Curb Cuts and County Roads: Greening Urban Infrastructure to Improve Water Quality in San Vicente Creek **(RSP)**	28	25	17
99610121	Rio Pueblo Restoration Project **(RSP)**	3	1	2
	Estimated TOTAL load reductions of pollutants	7,111 lbs/year	2,581 lbs/year	5,187 tons/year
	Section 319 Projects estimated load reductions of pollutants	4,054 lbs/year	1,556 lbs/year	3,384 tons/year
	River Stewardship Projects estimated load reductions of pollutants	3,057 lbs/year	1,025 lbs/year	1,803 tons/year

Appendix A - State Funded Programs and Projects

River Stewardship Program

A key part of the NPS Management Program is the state-funded RSP. The goal of RSP is to fund projects that enhance the health of rivers by addressing the root causes of poor water quality and stream habitat. The New Mexico Legislature appropriates funds for RSP to design and construct projects that improve surface water quality or river habitat statewide and to provide state matching funds to match NMED CWA grants. Annual appropriations range from $2 million to $6.5 million.

Table 7 - River Stewardship Program projects completed or in progress, 10/1/2024 through 9/30/2025.

Grant Number	Project Number	Project Title	Project End Date	State Funds	Summary Report
99610120	22-K	Centerfire Creek Headwaters Restoration Project	06/30/2025	$445,370	VIEW
99610120	22-L	Los Alamos Canyon Creek Watershed Restoration Project	06/30/2025	$291,709	VIEW
99610120	22-N	San Antonio Creek Headwaters and Erosion Control Project	06/30/2025	$259,214	VIEW
99610120	22-O	Chihuahueños Creek Headwaters Restoration Project	06/30/2025	$209,990	VIEW
99610120	22-Q	Dalton Fishing Area Restoration Project	06/30/2025	$243,245	VIEW
99610120	23-D	Stream and Wetland Restoration along the Arroyo La Mina in the Lower Embudo Valley	6/30/2025	$310,080	VIEW
99610121	24-F	Expanding Riparian and Wetland Resilience in Burro Ciénaga, NM	1/21/2025	$109,712.19	VIEW
99610121	24-G	Stream and Riparian Restoration on Stone Creek, Quemado Ranger District, Gila National Forest	11/15/2026	$291,174	VIEW
99610121	24-H	Restoration of Trout Habitat on the Cimarron River – Phase II	6/30/2025	$471,935	VIEW
99610121	24-I	Wetland and Stream Restoration in the Moreno Valley	6/30/2025	$95,737	VIEW
99610121	24-J	Restoration of Tijeras Creek Floodplain, Streambed and Riparian Habitat	11/15/2026	$824,352	VIEW
99610121	24-K	Reimagining San Vicente Creek and the Silver City Watershed – Phase 2	6/30/2025	$298,387	VIEW

Grant Number	Project Number	Project Title	Project End Date	State Funds	Summary Report
99610121	24-L	Mora River Restoration, Rio Mora National Wildlife Refuge – Phase II	6/30/2025	$439,981	VIEW
99610121	24-M	Sapello River Restoration, Pritzlaff Ranch	12/15/2026	$415,720	VIEW
99610121	24-N	Taos Pueblo Ecological Restoration of Buffalo Pasture and the Rio Lucero Project	6/30/2026	$676,859	VIEW
99610121	24-O	Santa Clara Creek Restoration Project	11/15/2026	$1,031,352	VIEW
99610121	24-P	Improving Watershed Hydrologic Function along Farming and Rangeland Communities of the Rio Grande Basin	11/15/2026	$2,449,437	VIEW
99610121	24-Q	Calf Canyon and Hermit's Peak Post-fire Rapid Response Mitigation and Protection of Acequias in Mora County	11/15/2026	$515,906	VIEW
99610121	24-R	San Antonio Creek Riparian and Beaver Habitat Restoration Project	06/30/2026	$211,377	VIEW
99610121	24-S	Adapting and Improving River Stewardship in the Torreon Wash Watershed	06/30/2025	$221,660	VIEW
99610121	24-T	Willow Creek Watershed Restoration Project – Private Lands Reach	06/30/2025	$598,980	VIEW
99610121	24-U	Curb Cuts and County Roads: Greening Urban Infrastructure to Improve Water Quality in San Vicente Creek	11/15/2026	$302,658	VIEW
99610121	24-V	Rio Pueblo Restoration Project	06/30/2025	$788,562	VIEW
99610121	25-C	Midnight Meadows and Bitter Creek Restoration	11/15/2026	$639,392	VIEW
99610121	25-D	Restoration of Trout Creek and Romero Creek	06/30/2027	$677,130	VIEW
99610121	25-E	Post-fire Restoration of Gila Trout and Riparian Habitat on Gila National Forest	06/30/2027	$330,385	VIEW
99610121	25-F	Ecological Restoration of Rio Embudo Tributaries on BLM Land in the Lower Embudo Watershed	06/30/2027	$530,306	VIEW

Grant Number	Project Number	Project Title	Project End Date	State Funds	Summary Report
99610121	25-G	Dorsey Spring/ Bear Creek Riparian Restoration Project	11/15/2026	$231,615	VIEW
99610121	25-H	Phase 2- Post-Wildfire Restoration of Little Turkey Creek	11/15/2026	$209,679	VIEW
99610121	25-I	Process-based Restoration of Cimarroncito Creek: Phase 1	06/30/2027	$409,400	VIEW
99610121	25-J	Rio Puerco Riparian and Beaver Habitat Restoration Project	06/30/2027	$511,928	VIEW
99610121	25-K	Valle de Oro National Wildlife Refuge Riparian and Wetland Habitat Development and Surface Water Quality Improvement Project	06/30/2027	$540,359	VIEW
99610121	25-L	Town of Chama Restoration Project	06/30/2027	$697,011	VIEW
99610121	25-M	Bloodgood Spring Preservation Project	06/30/2027	$105,958	VIEW
99610121	25-N	Our Lady of Guadalupe Monastery-Pecos River Restoration Project	06/30/2027	$728,539	VIEW

Summaries for the New Mexico River Stewardship Program Projects Completed in 2025

Centerfire Creek Headwaters Restoration Project (22-K)

Project cost: $445,370 (River Stewardship Program funds) and $2,052 (local match)

This project was implemented by Keystone Restoration Ecology with project partner Natural Channel Design Engineering Inc., and two land managers: the U.S. Forest Service and a private landowner. The watersheds of Centerfire Creek, Spur Lake Draw and SA Creek together consist of nearly 67,000 acres and were considered part of the project's purview. Over this vast landscape, Keystone Restoration Ecology incorporated improvements on streams, grasslands, and wet meadows. All three watersheds arise from the Datil Mountains influenced by highly erodible volcanic tuff soil which suffer from the effects of gullying, grazing, and road building.

Centerfire Creek, Spur Lake Draw and SA Creek are classified as "Functioning at Risk" by the U.S. Forest Service. Centerfire Creek is listed as not supporting Cold Water Aquatic Life. At the time of the project, the §303(d)/§305(b) Integrated Report List, stated that Centerfire Creek, a tributary to the San Fransico River, is impaired by the following causes: turbidity, specific conductance, plant nutrients, sediment/ siltation, and temperature. TMDL documents have been written for conductance, nutrients, *E. coli*, and turbidity.

The purpose of the project was to increase infiltration and reduce enormous amounts of erosion that contribute to the sedimentation issue in the watershed from the fragile soils of the 25,000-acre Spur Draw basin which had deeply incised stream channels. This was accomplished by installing sod structures throughout the basin to spread flows across the meadow surface while repairing or diverting flows

away from incised channels and headcuts in turn to reduce sediment contributions to Centerfire Creek. A total of 141 structures were constructed to reduce sediment and restore wet meadows. These built structures include; 51 plug and spread structures, 25 contour swales, 9 berm removals and 56 rolling dips were implemented. The rolling dips provide drainage for the incised roads which capture most of the runoff. Spreading road drainage water will have a positive impact on surrounding grassland areas and prevent formation of new gullies. Restoration of approximately 3,000 feet of Centerfire Creek included channel realignment and instream rock structures consisting of one-rock dams, cross vanes, plug and pond, and J-hooks, to hold grade and create a function channel form with stream features, and a low water crossing was repaired.



Natural Channel Design Engineering Inc. provided a presentation of the project during the Spring 2024 SWQB Wetlands Roundtable. This project encountered several obstacles, including vacancies within the Gila NF, subcontractor scheduling challenges, and ongoing erosion along Centerfire Creek that expanded the project's scope before construction even began. Many of these complications were not possible to overcome by the contractor.



Top photo Spur Lake Photo Point #13 gully before project.

Middle photo is after implementation which shows water being spread to reduce erosion and re-establish sheet flow.

The third photo was taken post construction in Sept 2024.

Photo credits: Keystone Restoration Ecology



Los Alamos Canyon Creek Watershed Restoration and Sediment Reduction Project (22-L)

Project cost: $291,709 (River Stewardship Program funds) and $435,827 (local match)

Los Alamos County Department of Public Utilities, Keystone Restoration Ecology, Natural Channel Design Engineering Inc., the U.S. Forest Service, and the U.S. Department of Energy (DOE) all collaborated to successfully complete the project titled, "*Los Alamos Canyon Creek Watershed Restoration and Sediment Reduction Project (22-L)*". The project area is on property owned by DOE and Santa Fe NF. Los Alamos Canyon Road and Reservoir are widely used by the public for hiking, swimming and general recreation.

The project area was severely burned in the 2000 Cerro Grande and 2011 Las Conchas wildfires, increasing runoff and sediment that impacted the road and the reservoir, and created additional stress on the Los Alamos Canyon Creek. Los Alamos County funds were used for restoration of the reservoir, reservoir amenities, and road rehabilitation. RSP funds were used to improve stream stability and riparian habitat by restoring channel dimensions and removing excess sediment on adjacent floodplains to reduce further erosion. All project work was completed in summer of 2024, with one year of post-project monitoring finalized in June 2025. The project included 23 road barbs and road vanes, 6 rock cross vanes, 1 media luna, 11 J-hooks, 1 one-rock dam, willow plantings, and removing approximately 269 cubic yards of sediment from 2.5 miles of floodplain along Los Alamos Creek. Monitoring under the CWA Section 404 permit occurred in 2025, and no maintenance needs have been identified thus far. Monitoring involved three repeatable cross sections and two Bank Erodibility Hazard Indices (BEHI)s. In September of 2024, there was one large flow event, but no significant flow events since then.



Pre-construction, looking downstream at Los Alamos Canyon with the eroded roadbed capturing a portion of the creek.
Photo credits: Keystone Restoration Ecology

A major challenge of the project was completing two separate National Environmental Policy Act (NEPA) reviews for the separately administered DOE lands and U.S. Forest Service lands. Short-staffing issues at the Santa Fe NF also contributed to an extended NEPA process. All NEPA requirements were satisfied through an exhaustive checklist. Both the Santa Fe NF and DOE portions received a Finding of No Significant Impact (FONSI).



During construction of a rock barb and road re-alignment to protect the road and the creek from future flood events.



Post-construction, looking downstream of Los Alamos Canyon after the road is realigned. The creek is behind the vegetation at the right side of the photo. The roadbed is dry.

San Antonio Creek Headwaters and Erosion Control Project (22-N)

Project cost: $ 259,214 (River Stewardship Program funds)

This project, implemented by Rio Puerco Alliance and Keystone Restoration Ecology, aimed to restore the channel form of San Antonio Creek and Santa Rosa Creek in the Valles Caldera National Preserve in Sandoval County, NM within HUC 130202020201 – Headwaters San Antonio Creek to improve access to the floodplain, create riffle and pool features within the channel, and mitigate bank erosion. By restoring the connection to the floodplain, this project enhanced surrounding wetlands by encouraging water spreading and restoring gullies and headcuts that had formed in the channel.

Water quality in the San Antonio Creek headwaters are impaired for total aluminum, nutrients, and temperature on the 2024 CWA Section 303(d)/305(b) Integrated List and have experienced wetland drying between 2016 and 2024, an impairment that was removed during the project term. Project construction on San Antonio Creek occurred in the summer of 2024 (after the 2024 Integrated List was published) and will contribute to keeping the turbidity impairment from returning to this reach of San Antonio Creek in the future and will help address the existing temperature and nutrient impairments by reducing the channel width and increasing wetland acreage to help filter nutrients from the watershed.

Structural improvements to San Antonio Creek and Santa Rosa Creek included construction of floodplain berms (17), plug and ponds (68), contour swales (16), J-hook vanes (3), one-rock dams (28), cross vane (1), excavator plugs (42), and bank sod replacement (31) to address bank erosion, repair headcuts, and expand wetland acreage around the streams. Pollutant load reduction modeling for the project estimated 609 pounds per year of nitrogen, 234 pounds per year per year of phosphorus, and 381 tons per year of sediment loads have been reduced as a result of the project.



Photo Left - Santa Rosa Creek before restoration.



Photo Right - Santa Rosa Creek after restoration. A series of plugs restored flow and connected the floodplains on Santa Rosa Creek.

Photo credits: Keystone Restoration Ecology

Chihuahueños Creek Headwaters Restoration Project (22-O)

Project cost: $205,564 (River Stewardship Program funds) and $58,441 (local match)

This project was managed by Trout Unlimited Inc, and Anabranch Solutions was subcontracted for the project construction work along four miles of Chihuahueños Creek, located in the Santa Fe NF. A series of Beaver Dam Analogs (BDAs), PALS, and Large Woody Debris Structures (LWDS), totaling 210 structures, were constructed with RSP funds. Project goals included reducing stream temperatures in Chihuahueños Creek and increasing riparian vegetation in the upper watershed.

Outreach for this project involved Trout Unlimited Inc staff meeting with cattle lessees who run their cattle in the Cañones watershed and discussing range management. Pre-implementation and post-implementation monitoring included photo points, cross-section data, and temperature sensor data. Several loggers utilized for stream temperature data were lost in high flow events or burial by sediment, but available data (especially from the middle reach loggers) has provided insight into peak summer temperatures. This project is anticipated to improve stream temperatures, especially during summer months, and signs of increasing riparian vegetation have been noted. In-stream restoration structures have helped reconnect the stream channel with the floodplain in certain areas, which will raise the water table, leading to increases in riparian vegetation.

Photopoints taken before and after the implementation of low-tech structures show there is already a noticeable increase in surface water retention and saturated soil area. The headcuts at the upstream end of the project site have been addressed by adding woody debris and building BDAs below them, reducing the active erosion that was taking place.

The BDAs, PALS, and LWDS provide support for the channel structure and also slow water so that suspended sediment has time to drop out of suspension and aggrade behind them.



Photo Point 8 - Looking downstream.



Photo Point 9 - Looking upstream.

The before-and-after photos at designated photo points demonstrate the effectiveness of low-tech process-based restoration techniques in promoting hydrologic recovery and re-establishing floodplain connectivity in this montane meadow system.
Photo credits: Trout Unlimited

Dalton Fishing Area Restoration Project (22-Q)

Project cost: $241,696 (River Stewardship Program funds) and $2,150 (local match)

The Upper Pecos Watershed Association along with Pathfinder Environmental, and Natural Channel Design Engineering Inc. worked to improve stream geomorphology, sediment transport, and in-stream habitat on the Pecos River in San Miguel County. The Pecos River is a popular fishing and recreation location, seeing hundreds of visitors yearly.

This area of the Pecos River was wide and shallow and did not provide adequate habitat, little to no riparian area or floodplain, and contributed to temperature impairments downstream.

The following was achieved with the completion of this project:

1. Improved stream geomorphology, sediment transport, and habitat value by restoring river channel dimensions by narrowing the channel and creating pools for fish habitat.
2. Improved resistance to impacts from future flooding, reduced stream temperatures, and further benefit trout habitat by creating gravel bars to narrow the channel and introduce a slight meander, encouraging riparian vegetation on the gravel bars, and re-vegetation of riparian area with native plants and trees.
3. Reduced sediment settling by narrowing the channel, thus increasing stream energy to move sediments through the system.

The project consisted of in-stream structures including, J-hooks, boulder clusters, and other bank stabilization structures. Willow plants were also planted along the banks to provide cover.



Photo Above - Pre- Construction



Photo Below - Post Construction, Pecos River.
Photos credits: Upper Pecos Watershed Association

Stream and Wetland Restoration along the Arroyo La Mina in the Lower Embudo Valley (23-D)

Project cost: $310,800 (River Stewardship Program funds) and $5,396 (local match)

Ecotone Landscape Planning LLC in collaboration with the NMSLO (landowner), William J. Miller Engineers, Inc., San Isidro Permaculture (primary construction services), and Wood Sharks LLC (supplemental construction services) successfully completed the project titled, *Stream and Wetland Restoration along the Arroyo La Mina in Lower Embudo Valley*. The project area is located just southwest of Dixon, NM. The project addressed the degradation of riparian and wetland conditions in an approximately 1,000-

ft section of the Arroyo la Mina caused by loss of vegetation, incised channels, and loss of floodplain connectivity leading to increased bank erosion and sediment transport. Reducing erosion in Arroyo la Mina will improve the water quality for the downstream Rio Embudo (which is impaired due to sedimentation/siltation and turbidity) and the Rio Grande which is impaired for turbidity below the confluence with the Rio Embudo.



Transect 2, Baseline 2023, View Upstream.



Transect 2, Post-Implementation 2024, View Upstream.



Transect 2, Post-Implementation 2025, View Upstream. Photo credits: Ecotone Landscape Planning LLC

To address erosion in the Arroyo la Mina, the project objectives were to improve stream morphology and stream connectivity within an historic floodplain and improve riparian health by enhancing wetland hydrology and riparian vegetation. Project methods included excavating a 400-ft of floodplain benches, 150-ft of road repairs, constructing eight (8) post-vane structures with grade control, five (5) post-vane structures without grade control; five (5) log grade controls, planting native grass and forb seeds and approximately 60 cottonwoods (in blude plastic collars to protect from ungulates) and 1,600 willows (in bundles of 8-12 stems) in areas adjacent to the structures and floodplain benches, and treatment trains of brush mattresses, rock rundown, Zuni bowl, and one-rock dam, wicker weir, log rack, and a media luna to reduce hillslope erosion caused by an unauthorized two-track into a sensitive area and an adjacent gully. The project also included two interagency and non-profit workshops, one youth and community workshop, and three local elementary school field trips where students got a chance to learn about arroyo ecosystems and help plant seed balls.

Using the Spreadsheet Tool for Estimating Pollutant Load Reductions, Ecotone Landscape Planning LLC estimated that the project resulted in a sediment load reduction of approximately 95 tons per year. Additional project benefits include encouraging off-road vehicle recreators to stay on the road and out of the arroyo and attenuating flooding for downstream community members. Sediment retention achievements met project goals and exceeded expectations. Slowing water, which forces sediment to drop out of suspension and aggraded the system, and biotic regeneration also exceeded expectations. In conclusion, the project demonstrates how a riparian restoration project can transform a degraded systems back to its former, functioning condition.

Expanding Riparian and Wetland Resilience in Burro Ciénaga, NM (24-F)

Project cost: $109,712 (River Stewardship Program funds) and $14,957 (local match)

The Burro Ciénaga in the Burro Mountains of southwestern New Mexico was severely incised increasing the effects of aridification on the historic ciénaga portion and the riverine riparian reach of the project area. The goals of this project were to, 1) restore riparian and wetland habitat and ecosystem health through improved watershed conditions, and 2) reestablish native vegetation along the major drainages within the watershed.



Crisscross post vane on Burro Ciénaga.

A total of 52 crisscross post vane structures were installed on the main channel of Burro Ciénaga, and an additional 17 one-rock dams and single post vane structures were installed in tributaries. These structures were both machine and hand built to slow surface water runoff. Structures were designed to capture suspended sediment from surface flows to expand aggradation within the incised channel, increase surface water infiltration and deposition of fine sediments to improve native vegetation recruitment and establishment, and enhance the channel's capacity to capture surface flow into alluvial groundwater storage.



One-rock dam structure on tributary.
Photo credits: Pitchfork Ranch

The Burro Ciénaga project faced multiple challenges including a delay in on-the-ground implementation and early termination of the project contract. However, the project outcome was largely successful. The Pitchfork Ranch completed substantially more work than planned in the original Scope of Work during 2024. In January 2025, Pitchfork Ranch consulted with local riparian restoration experts about completing the remaining work in the Scope of Work and it was determined that Burro Ciénaga, the restoration area, had improved significantly owing to restoration efforts over the past 20 years and that the work completed under this contract in 2024 had largely accomplished the stated goals of the project. The Pitchfork Ranch owners requested early termination of the contract to allow the unused funds to be reallocated for other projects.

Burro Ciénaga riparian area soils have stabilized through twenty years of efforts, including those completed during this project, allowing aggradation of sediment and establishment of vegetation which will facilitate further aggradation of sediment and infiltration of water improving the ciénega resiliency to drought conditions and spreading water from seasonal flooding across the floodplain rather than downcutting the channel.

Restoration of Trout Habitat on the Cimarron River - Phase II (24-H)

Project cost: $400,533 (River Stewardship Program funds) and $41,090 (local match)

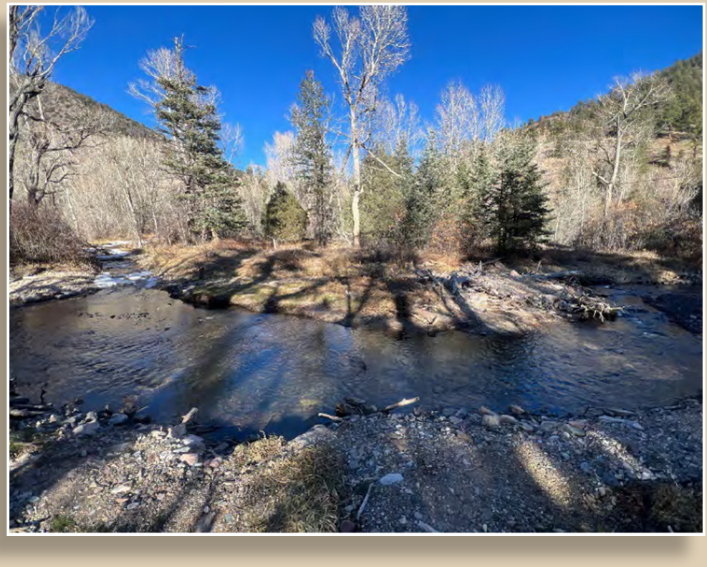
The *Trout Habitat Restoration on the Cimarron River – Phase II* project began in April 2023 and was managed by the Cimarron Watershed Alliance in partnership with NMDGF, Oxbow Ecological Engineering, and Trout Unlimited. This phase II project was an expansion of the initial *Restoration of Trout Habitat on the Cimarron River Project* that was funded under the RSP and was completed in June 2023 and expanded from Tolby Creek Campground and recreation area all the way back downstream to the start of the previous project area, near Maverick Campground.

The goal of this project aimed to improve instream trout habitat on the Cimarron River, particularly low flow and overwintering habitat, and fish holding capacity throughout Cimarron Canyon State Park and the Colin Neblett Wildlife Management Area. The Cimarron River, a designated special "Red Chile" trout water fishery, has extremely low flows in the winter because the Eagle Nest Dam upstream does not release in the winter, resulting in Cimarron River base flows reliant on the natural flows from Tolby Creek and Clear Creek which may not be sufficient to support the habitat necessary for overwintering fish. Upon project completion, approximately seven miles of the Cimarron River were treated in this project, including:

- 427 pools enhanced or established
- 370 inner berms were constructed
- 150 log jams constructed
- 48 two-inch cottonwood trees planted and fenced
- 163 clusters of habitat boulders placed in riffles or pools
- 106 boulder clusters placed along the riverbank
- 16 willow clumps transplanted for bank stabilization



Pre-project.
Photo credits: Cimarron Watershed Alliance



Post-project.

Wetland and Stream Restoration in the Moreno Valley (24-I)

Project cost: $94,435 (River Stewardship Program funds) and $2,970 (local match)

The *Wetland and Stream Restoration in the Moreno Valley* project started in April 2023 and was managed by Cimarron Watershed Alliance and completed in partnership with KC&MC Construction and the ranch manager for the High Life Ranch in June 2025. The goals of the project were to stabilize channels and restore more natural geomorphic conditions, including wetlands adjacent to streams on the High Life Ranch to reduce turbidity, sedimentation, nutrients, and bacteria from entering the streams through erosion processes.

A total of 50 restoration structures were planned to be built in Saladon Creek, Garcia Creek, and Cieneguilla Creek for the entire project. Due to budget limitation, not all of the structures were completed on Saladon Creek or Garcia Creek, although all of the planned structures were built on Cieneguilla Creek. Work completed on Garcia Creek included gully fills to prevent further erosion and work on Saladon Creek included structures described below. This project was limited to the budget and accomplished what was possible with what was available, though work could have been expanded with additional funds.

An overview of the structures completed include:

- 26 One-rock dams (Cieneguilla Creek)
- 1 Rock vane (Saladon Creek)
- 1 armored crossing (Saladon Creek)
- Bank reshaping along 0.70 miles of Cieneguilla Creek



Photo - During Construction, September 5, 2025.
Photo credits: Cimarron Watershed Alliance



Photo - Post-Construction, September 19, 2025.

Reimagining San Vicente Creek and the San Vicente Watershed - Phase 2 (24-K)

Project cost: $297,735 (River Stewardship Program funds) and $55,762 (local match)

The Gila Resources Information Project San Vicente Creek RSP Phase 2 project worked cooperatively with the Town of Silver City, subcontractors, area partners, and private landowners to accomplish multiple

project objectives. Building upon past work conducted by NMED and the San Vicente Creek RSP Phase 1 project, the Phase 2 project addressed water quality impairments and threats to riparian habitat in San Vicente, Pinos Altos and Silva Creeks through non-native invasive tree removal, native plant restoration, stream channel work to reconnect the floodplain, willow and cottonwood plantings for stream bank protection, induced meandering, and construction of water harvesting infrastructure to capture urban stormwater runoff with check dams and Zuni bowls.

This project provides long-term benefits to improve water quality in the watershed which include, reduced sediment loads into the creeks, mitigating the potential for a sewer line break and discharge of raw sewage into the creek by protecting the Town of Silver City's sewer line from high velocity stormwater; and improved access and maintenance of the sewer line will reduce the frequency/eliminate sanitary sewer overflows that discharge into the creek, raising levels of *E. coli*, reduced the fire risk by eliminating an estimated 266 tons of non-native woody biomass from 30 acres of riparian corridor, and improved riparian habitat by opening the once non-native dominant canopy to allow native tree species to thrive.

There were 13 volunteer work events organized, and students and local volunteers planted 700 willows and cottonwoods (whips and poles), 325 other native trees and shrubs, spread native seed mix, removed trash removal, constructed and performed maintenance on check dams, and constructed protective hardware shrouds around newly planted vegetation. Working with the youth educated and taught skills to the next generation of stream restorationists and work with community volunteers has connected community members to local water resources and riparian ecosystem. This work can provide people with a strong sense of place and feeling of giving back to the local environment and community.

One of the challenges experienced during this project was new limitations of planting vegetation. The severe drought and high heat have narrowed the window of time for planting and constrained locations for planting to areas with access to consistent water, which forced more time and resources to watering and influenced planting methods going forward.



Grade control structure #1 post-construction, February 2024.
Photo credit: Gila Resources Information Project

Mora River Restoration , Rio Mora National Wildlife Refuge Phase II (24-L)

Project cost: $406,929 (River Stewardship Program funds) and $47,208 (local match)

This project was managed by Hermit's Peak Watershed Alliance and construction was implemented by Watershed Artisans and Wildlands Stewardship, LLC. The project occurred along 1.3 miles of the Mora River at the Rio Mora National Wildlife Refuge. This phase II project expanded work completed on the Mora River during the Phase I project, *On-the-Ground Improvement Projects for the Mora River – Upper Canadian Plateau - Phase IA*, completed in June 2020, which was funded under CWA Section 319(h).

Water quality concerns include both excessive nutrients and elevated amounts of *E. coli*. Probable sources of pollutants include loss of riparian habitat, prolonged drought, unpaved roads, rangeland grazing, streambank modifications/destabilization and baseflow depletion from irrigation for agriculture and ponds for livestock use.

This Phase II project included the construction of log jams along two reaches, as well as seven anabranch channels to help increase hydraulic diversity. Six backwater wetlands provide a greater area of inundation and water storage outside of the main river channel, while also helping to dissipate flood energy. The construction of floodplain benches, amounting to 3.7 acres, helped improve floodplain access at variable flood stages. Restoration work also included planting diverse riparian woody vegetation and wetland plants. The addition of riparian and wetland plants help improve canopy cover, protect streambanks from erosion, and help filter runoff containing pollutants. The restoration treatments contribute to adding and diversifying habitat niches and resources for fish and wildlife. There was a short window during which construction could occur without impacting the endangered New Mexico Meadow Jumping Mouse and not disturbing bison calving season.

For education and outreach activities, Hermit's Peak Watershed Alliance employed, trained, and worked with a nine-member local New Mexico Youth Conservation Corps crew throughout the summer of 2024. An elementary school class and a middle school class from Rio Gallinas School for Ecology and the Arts also helped with riparian vegetation restoration by planting aquatic plant plugs.





Photo Above - an island, with established vegetation, developed at this constructed anabranch channel.
Photo Below - a constructed anabranch channel includes a low-velocity backwater area.
Photo credits: Hermit's Peak Watershed Alliance

Adapting and Improving River Stewardship in the Torreon Wash Watershed (24-S)

Project cost: $214,804 (River Stewardship Program funds)

This project, *Adapting and Improving River Stewardship in the Torreon Wash Watershed*, started in March 2023 and was managed and completed by the Rio Puerco Alliance in partnership with River Source, Ojo Encino Ranchers' Committee, Hasbidito, West Construction, and the Navajo Summer Youth Program in June 2025. Project activities were implemented within dry arroyos and tributaries of the intermittent Rio Puerco in the Torreon Wash Watershed (HUC 1302020505), situated in the Navajo Nation checkerboard area of New Mexico.

The goals of this project aimed to continue revegetation efforts in riparian areas with native plants, stabilize streambanks, and reduce sediment from headcuts. This project built on past project efforts from the Rio Puerco Alliance that spans 15 years, including two previous phases of this project to improve these riparian areas, funded by the RSP.

One of the biggest obstacles for restoring the riparian areas of these watersheds and 40-square mile project area continues to be extreme heat. Youth crews had to start work earlier during the day due to the heat and at times were unable to work due to extreme heat conditions. Unfortunately, cottonwood poles planted in 2024 had a survival rate of less than 5%; Rio Puerco Alliance believes this was due to extreme heat and drought. To improve planting survival rate, this phase of work focused on planting more Goodings and coyote willows rather than cottonwoods which require less maintenance and have somewhat better survival rates in tough conditions. Fortunately, the 2025 survival rate was around 60% to 80% during a survey conducted in June 2025. Fencing was installed around all planting sites to help prevent cattle and wildlife from accessing the area.

An overview of the work completed includes:

- Planting 1,250 cottonwood poles, 350 riparian shrubs, and 2,000 willow poles.
  Video link for 2024 planting.
- 259 one-rock dams
  Video link for one-rock dam structures.
- 1 plug and spread
  Video link for plug and spread structure.
- 2 Zuni bowls





Photo Left - Willow Pole Bundles. Photo Above - Cottonwood Poles. Photo credits: Rio Puerco Alliance

Willow Creek Watershed Restoration Project – Private Lands Reach (24-T)

Project cost: $593,253 (River Stewardship Program funds)

The Willow Creek Watershed encompasses the Gila NF and Gila Wilderness and was heavily impacted by the 2010 Whitewater Baldy Complex Fire. Post-fire flooding has severely degraded channels through incision and widening, with significant loss of riparian canopy. Less than one percent of the watershed includes the Willow Creek community, an incorporated private land within the Gila NF located directly along Willow Creek.



Photo Above - (photo point-6a, looking upstream) Rock vane, channel realignment (split channel) Photo Below - Pre-construction, (August 2023) looking upstream (September 2024). Photo credits: Natural Channel Design Engineering Inc.



The San Francisco SWCD and Natural Channel Design Engineering Inc. implemented the project, which focused on a 73-acre area of private inholdings along Willow Creek, including the channel, banks, and floodplain. The project covered 1.8 river miles and approximately 15 riparian acres and was a key component of a larger effort to address the aluminum and temperature TMDL identified in the approved 2021 Willow Creek WBP.

The WBP identified goals to improve channel lateral stability through rock grade control and bank protection, and to increase canopy cover by planting willows. Native materials were used to stabilize eroding banks, repair channel features, improve crossings, and enhance Gila trout habitat. Channel stability was improved through construction of nearly 50 rock grade control and bank protection structures, including cross vane weirs, J-hooks, rock veins, bank sloping, channel realignment, toe rock, and rock barbs. Temperature reduction was addressed by planting 5,000 linear feet of willows, which will increase future canopy cover and shading.

Monitoring included BEHI methods to determine bank erosion hazard index, photo point monitoring that focused on the functional integrity of structures built in the stream and repaired banks as well as on growth and density of planted riparian vegetation, and in-stream temperatures were monitored using temperature data loggers.

Rio Pueblo Restoration, Taos County (24-V)

Project cost: $500,418 (River Stewardship Program funds) and $337,169 (local match)



Site 3 location photos. Before construction, looking downstream showing a failing gabion structure and lack of riparian vegetation. Photo credit: Taos SWCD



Aerial view of site during construction of four new rock vanes nearing completion. Photo credit: William J Miller Engineers



Post-construction view looking downstream of the restored streambank, with temporary erosion control fabric in place as riparian vegetation re-establishes. Photo credit: Taos SWCD

The Taos SWCD in partnership with William J Miller Engineers, Robins Construction LLLP, and four private property owners have successfully completed the RSP funded project titled, *Rio Pueblo Restoration Project*. The Rio Pueblo is in the southern part of Taos County and flows through the communities of Tres Ritos, Vadito, and Picuris Pueblo before joining with the Rio Santa Barbara to form the Rio Embudo before ultimately connecting to the Rio Grande.

The project occurred in the vicinity of Vadito where the Rio Pueblo provides water for numerous acequias that irrigate gardens, orchards and hay fields. Following severe flooding in the 1980's, Taos County Government utilized heavy equipment to move streambed material onto the streambanks in an effort to reduce future flooding. By the early 1990's the loose material placed on the streambanks had severely eroded and local landowners requested assistance from the Taos SWCD. At that time, it was recommended to armor eroded streambanks instead of holistically treating the stream system as a whole – current practices focus on engineering with nature and natural channel design to support ecosystem function. Over time, the gabion structures contributed to further channelization and downcutting which led to accelerated bank erosion, sedimentation, and the loss of riparian vegetation and shade which is critical to maintain cool stream temperatures to support trout and other aquatic life.

To address this issue the Taos SWCD worked with William J Miller Engineers, Robins Construction LLLP, and four property owners to restore approximately 700 feet of severely eroded streambank with boulder cross vanes, wooden post vanes, willow plantings, cottonwood plantings, streambank reshaping, and removing gabion baskets to help restore the banks of the Rio Pueblo, reduce sedimentation, increase vegetative cover, and improve aquatic habitat. Additional project components included project meetings, site surveys, design, permitting, subcontractor procurement, project construction, project inspection, and project reporting.

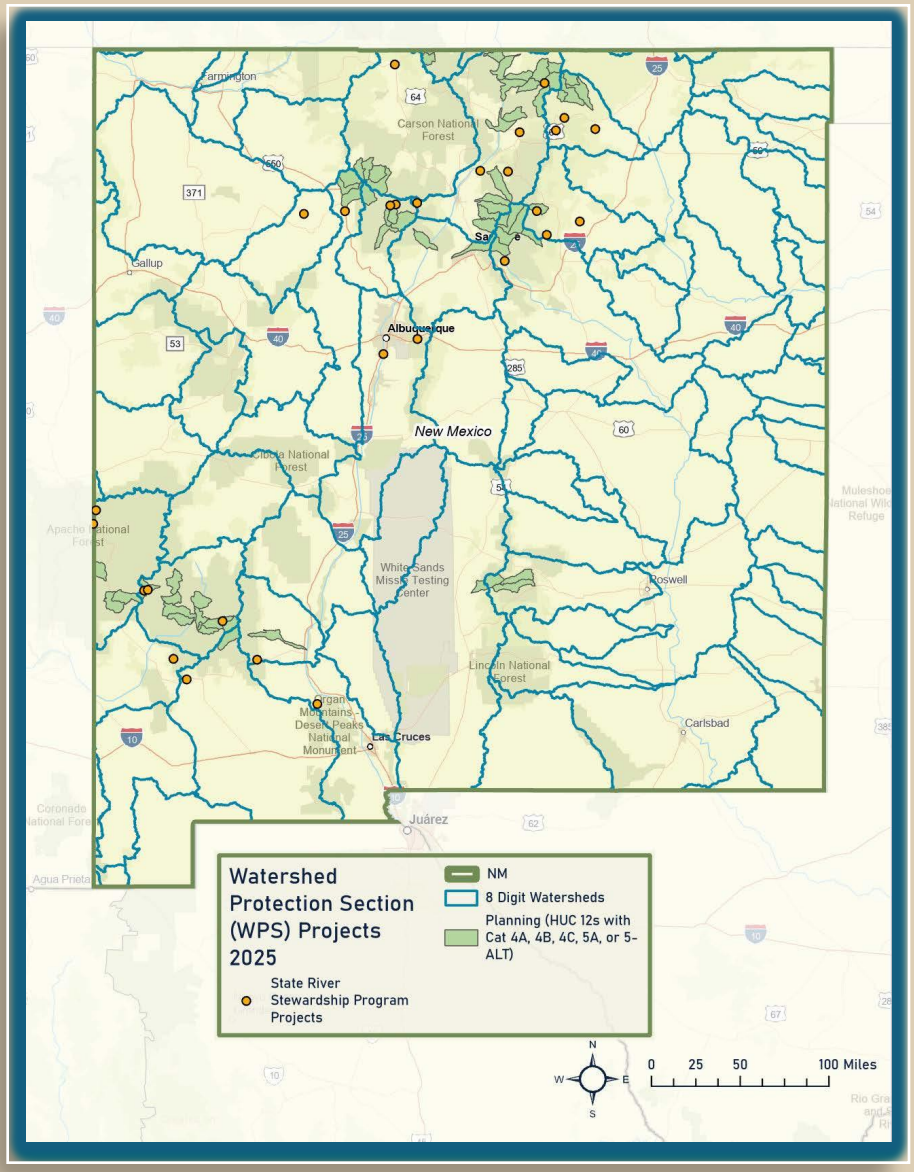


Figure 4 - Map of RSP projects active in 2025.

Watershed Protection Assistance Program

In addition to the RSP, SWQB piloted the Watershed Protection Assistance Program (WPAP) in 2025 as a means to provide additional state-funding to projects quickly. The WPAP provides a small funding opportunity to support communities and organizations in their efforts to improve water quality and stream habitat. Eligible projects include planning, designs, construction, maintenance of previously completed projects, or water quality or effectiveness monitoring within a watershed. Funds for this program are part of NMED's base budget dedicated to the RSP and improving surface water quality. Annual funding for this program is between $250,000 and $500,000.

Table 8 - WPAP Projects in completed or in progress, 10/1/2024 through 9/30/2025.

Project Title	Project End Date	State Funds	Summary Report
Madrid Arroyo Habitat Restoration and Channel Stabilization	06/30/2025	$73,642	VIEW
McCrystal Creek Restoration Project, Phase 1	11/15/2026	$63,918	VIEW
El Valle Post-Fire Forest and Watershed Restoration Planning	06/30/2026	$73,982	N/A
Post-Fire Restoration Effectiveness Monitoring and Maintenance in the Upper Gallinas and Sapello Watersheds	04/30/2026	$74,950	N/A
Trout Fire-Seeding Project	07/17/2025	$50,020	N/A

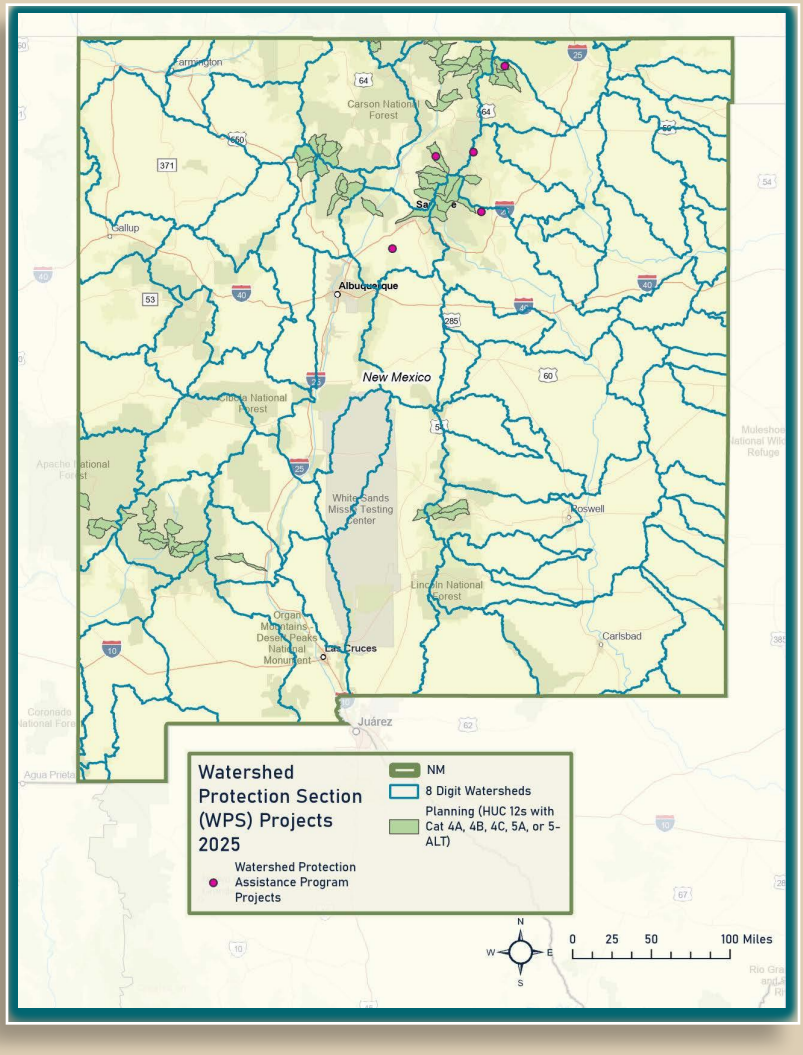


Figure 5 - Map of WPAP projects active in 2025.

Madrid Arroyo Habitat Restoration and Channel Stabilization

Project cost: $73,642 (WPAP Funds) and $ 15,140 (Local Match)

Keystone Restoration Ecology, in partnership with Ampersand Sustainable Learning Center, completed a project on an on an arroyo tributary to Galisteo Creek to reduce sediment and stabilize the channel. The project included adding instream rock structures as well as riparian plantings to improve stream geomorphology, sediment transport, and stabilize eroding stream banks.



Trout Fire Seeding Project

Project cost: $50,020 (WPAP Funds) and $161,329 (NMDGF)

NMED, NMDGF, and the Gila NF coordinated and contracted Corvus LLC to apply aerial seeding on 1,243 acres of high and moderate burn severity areas immediately after the 49,572-acre 2025 Trout Fire in Grant County, New Mexico. The goals for the project were to:

1. Provide emergency vegetation cover in select moderate and high severity burn areas to reduce erosion and flood severity,
2. Limit water quality degradation caused by flooding from the burn scar, and
3. Mitigate flooding impacts from the burn scar to fish and wildlife habitat, critical infrastructure, and surrounding property.

A site visit conducted on September 11, 2025, verified that seed had germinated and was providing early cover to soils, contributing to stabilization of the watershed to help mitigate post-fire flooding impacts downstream.





Photo Left - Trout Fire burn scar at head of Allie Canyon.
Photo Right - Trout Fire vegetation response 2-months post-aerial seeding. Photo credits: Davena Crosley

Wetlands Program

New Mexico Wetlands Roundtables

The SWQB Wetlands Roundtables continued in Fall 2024 and Spring 2025 remotely as Webex Webinars. The SWQB Wetlands Program conducted two very successful Wetlands Roundtables in the Fall of 2024 and one in the Spring of 2025 and both the Northern and Southern Wetlands Roundtables continue to exceed expectations in remote participant attendance. The NM Wetlands Northern and Southern Wetlands Roundtables feature presentations on water resources relevant to the northern and southern parts of New Mexico. The New Mexico Wetlands Roundtables are conducted as part of Wetlands Program Development Grants from EPA Region 6 to foster partnerships and collaboration for the restoration and protection of wetlands and water resources in New Mexico. To sign up to receive notifications for the New Mexico Wetlands Roundtables, please join the SWQB mailing list or *Clearing the Waters* mailing list.

The SWQB Wetlands Program conducted two exceptional virtual New Mexico Northern and Southern Wetlands Roundtables in the fall of 2024 attracting 236 attendees. The Fall Southern Wetlands Roundtable was held on November 19, 2024, and featured eight outstanding presentations. The online event covered a spectrum of topics, ranging from ecological site descriptions, beaver habitat restoration, playa conservation and planning, and outreach for wetlands mapping in Southern New Mexico, to the seasonal outlook for New Mexico and what is in store for us pending the La Niña year. A highlight of the Roundtable was a presentation by videographer Renea Roberts introducing a new series of videos *Thinking Like Water* about Bill Zeedyk and his restoration philosophies, designs and innovations which helped restore New Mexico's streams and wetlands for the last quarter century. Restoration leader and authority, Bill Zeedyk was also on hand to answer questions. Tavin Dotson presented the *Texas Playa Lake Conservation Initiative* about the efforts of Ducks Unlimited and Texas Parks and Wildlife conserving and restoring playa wetlands in west Texas. Joni Cockman also presented the unique and vastly interesting WAP for the Lordsburg Playa in southeastern New Mexico. The seasonal outlook for New Mexico was aptly presented by Kerry Jones, the Air and Water Quality Specialist for the U.S. Forest Service. Karen Menetrey of Rio Grande Return presented *Nature's Engineers: What Beavers are Teaching Us About Stream and Floodplain Restoration*, and Andy Robertson of Saint Mary's University of Minnesota GeoSpatial Services (GeoSpatial Services) presented *New Mexico: Where the Wetlands Are, Turns Out There's A Lot*,and the meeting was rounded out with Aaron Miller, NRCS Soil Scientist - Major Land Resource Ares Soil Survey Leader, presenting *Ecological Site and Soil Survey Updates*.

Then on December 11, 2024, the SWQB Wetlands Program hosted the virtual Fall Northern Wetlands Roundtable via WEBEX with 116 participants joining online. This Roundtable also featured eight thought-provoking presentations providing valuable information and opportunities to make a difference regarding our State's precious landscapes, wetlands, and water resources. An update on post-fire restoration within the HPCC burn scar was presented by Hermit's Peak Watershed Alliance. The line-up of presentations also included *Ecologically-based Revegetation Strategies for Resiliency of Upper Rio Grande Basin Communities*, by Emily Wolf of American Rivers and Cary Aloia of Wetland Dynamics LLC, who presented strategies for restoration using winter ice moisture regimes. Amigos Bravos staff presented *Wetland Jewels at Midnight Meadows* and the *Cruces Basin Wetlands Action Plan*. Allyson Siwik of Gila Resources Information Project and Van Clothier, Stream Dynamics presented their innovative restoration strategies for *Reimagining San Vicente Creek and the Silver City Watershed through Riparian Restoration*. SWQB's Kate Lacey-Younge and Samantha Ferguson provided an update on the RSP and what is in store for its future. Renea Roberts presented an encore of *Thinking Like Water* and Micheal Freeling presented a history of Tsinat Mesa wetlands and their unique habitat in Santa Fe County.

Another excellent virtual Spring New Mexico Wetlands Roundtable was hosted by SWQB Wetlands Program on April 3, 2025 via WEBEX, with over 100 participants joining online. This Roundtable featured presentations by Richard Wagner, Bosque Ecosystem Monitoring Program and Isleta Reach Stewardship Association entitled *Isleta Reach Stewardship Association: Improving Communication and Picking up Loose Ends in an Underserved Ecosystem*, Aubrey Harris, PE of the USACE presented *Riverine Analyses for Ecosystem Function*, a call for participation in presenting restoration techniques and methods for riverine systems for mitigation and other USACE projects. Carol Lydic of the U.S. Geological Survey presented *The 3D Hydrography Program*, and Matt Ramey, Center for Environmental Health Monitoring and Management, provided an update on the Texas Hornshell Candidate Conservation Agreement Assurance Program. The Texas Hornshell mollusk is facing life-threatening conditions due to extreme drought in its remaining range including the Black River of New Mexico. Steve Vrooman, President of Keystone Restoration Ecology provided an history of ecological stream and wetland processes and why it is important to be cognitive of ecological goals when implementing restoration practices in *Form and Process in Stream Function and Choosing Ecological Goals*. Alan Klatt of the SWQB Program raised our awareness with his presentation, *Nokomis Silverspot Butterfly – New Endangered Species Act Listing and Beneficial Wetland Measures* providing information and recommendations that can aid the endangered butterfly. Tavin Dotson presented an encore of the *Texas Playa Lake Conservation Initiative* and the efforts of Ducks Unlimited and Texas Parks and Wildlife in west Texas. The presentation included a video showing how playas aid in groundwater recharge, and finally, Dr. Norm Gaume of Water New Mexico Water Advocates, presented *The Middle Rio Grande on the Brink*, explaining what the compact agreement with Texas means to river restoration efforts of the future.

Wetland Projects Completed

Mapping and Classification of Wetlands in the Bootheel and Permian Basin of New Mexico

Assistance Agreement No. CD-01F67401

Project Costs: $353,854 Federal and $138,321 Match.

The SWQB Wetlands Program, in cooperation with GeoSpatial Services, undertook this project with the goal of performing new wetlands mapping and updating existing wetlands mapping for more than 10 million acres in southeastern and southwestern New Mexico as part of an overall statewide wetlands mapping effort. Of the 10 million acres, roughly 155,000 acres were mapped as wetland, riparian area and deepwater habitat. This project area included Hidalgo, Luna and Grant counties in the Bootheel portion, and Lea, Eddy, Chaves and Roosevelt counties in the Permian Basin portion in New Mexico. Objectives of the project were to update the U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) using the Cowardin Classification and apply additional wetland classifications consistent with prior mapping projects in New Mexico and used by the SWQB Wetlands Program for a variety of applications. Additional

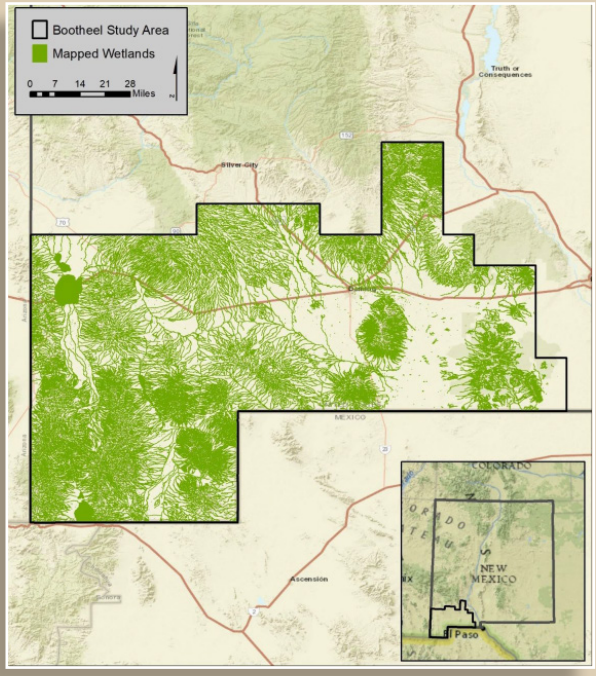


Figure 6. The Bootheel Study Area (note that mapped features at this mapping scale look denser due to line width.)

classifications applied to mapped wetlands included the Landscape Position, Landform, Waterflow Path and Waterbody Type (LLWW) Classification (Tiner 2014), the Riparian Classification System (USFWS 2009), and the Hydrogeomorphic Classification System (HGM) (Brinson 1993). A Wetlands Functional Assessment to identify and rank 12 important wetland functions for wetland types was also completed. Additional objectives met were to engage interested stakeholders in the wetland inventory process through Technical Advisory Committee meetings and wetland mapping webinars, and to promote the use of the mapping products by conducting in-person meetings, providing fact sheets and giving presentations to 10 stakeholder groups in or near the project area. As part of the Outreach Plan a StoryMap entitled *Mapping and Exploring Southern New Mexico Wetlands: Bootheel and Permian Basin Project Areas* was created for the Bootheel and Permian Basin project area by GeoSpatial Services.

The StoryMap includes photographs of wetlands in the Bootheel and Permian Basin project area and includes a feature that allows users to provide their observations on wetlands that are mapped in the area. A nomenclature system for identifying individual wetland assessment units (AUs) in preparation for developing wetland standards was applied to HGM subclasses of wetlands throughout the project area. Also, as part of this project wetland maps were created for all 35 State Parks in New Mexico.

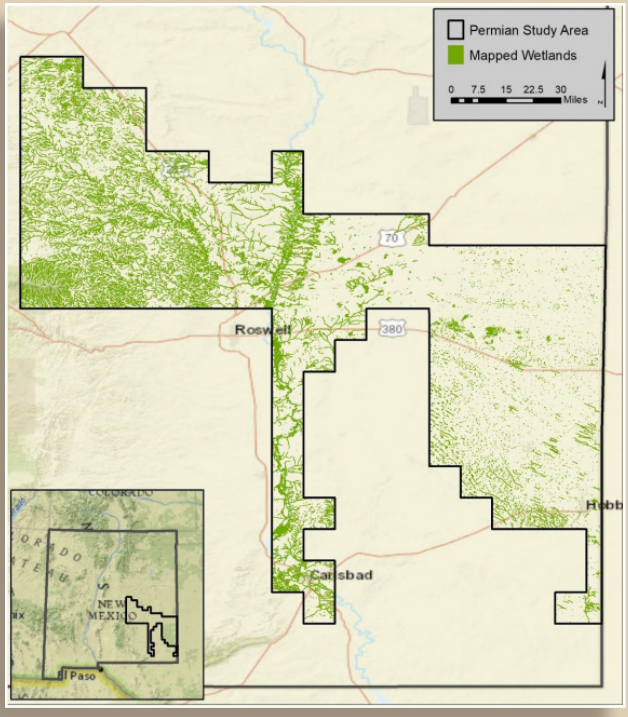


Figure 7. Permian Basin Study Area (note that wetland mapped features look denser at this mapping scale due to line width).



Ranger Lake Check site on the Permian Basin pre-mapping field review conducted April 18 through April 27, 2021.

Mapping and Classification of Wetlands in the Eastern Plains of New Mexico

Assistance Agreement No. CD-01F67201

Project Costs: $312,643 Federal and $169,314 match.

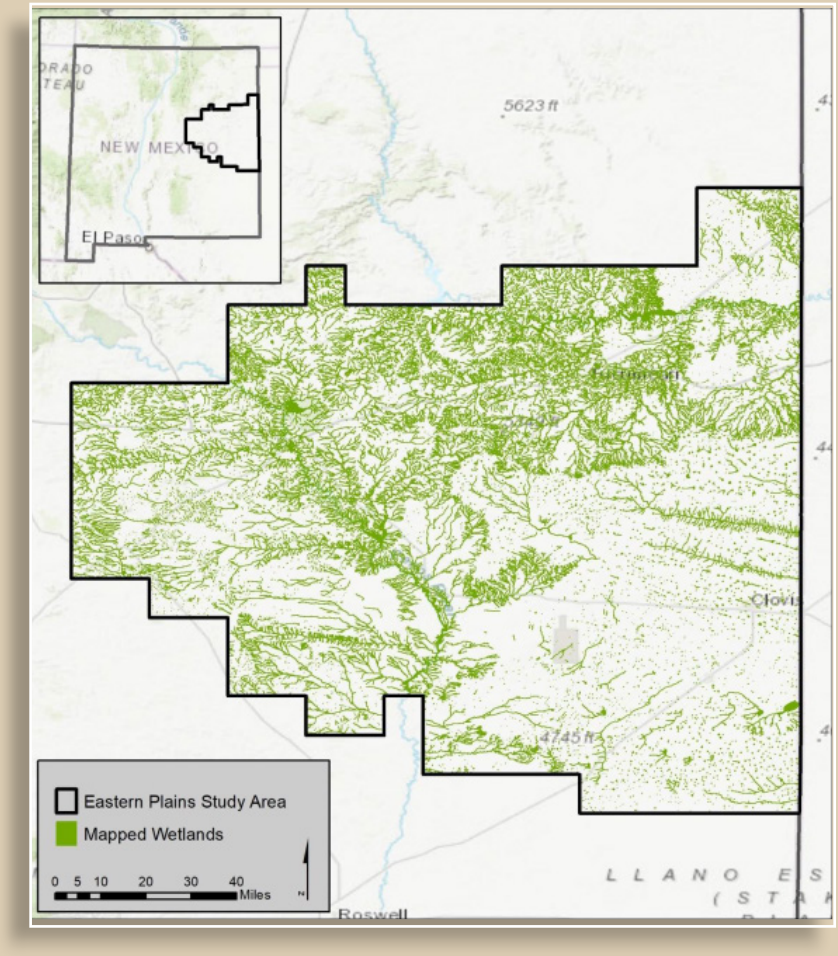


Figure 8. The Eastern Plains Study Area (note that mapped features at this mapping scale look denser due to line width.)

The goal of this project was to map and classify wetlands in the Eastern Plains (east central region) of New Mexico. The Eastern Plains of New Mexico project area includes the Pecos River Valley, portions of the Southern High Plains, and the Llano Estacado. In these areas, wetlands are associated with the perennial Pecos River, are found along intermittent and ephemeral creeks, are represented as playas, groundwater-fed depressions, fringes along reservoirs, spring-fed meadows (i.e. ciénega) and excavated impoundments. In the easternmost portion of New Mexico, the Llano Estacado is characterized by extremely flat terrain with scarce draws carrying flowing water during storm events. Most water and wetland resources are contained within thousands of playas surrounded by their own watersheds. These playas are also the main pathway to recharge of the underlying freshwater Ogallala Aquifer which supplies most of the freshwater in the Llano Estacado area. Mapping was performed in accordance with the NWI protocols, using the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979) and *System for Classification of Riparian Areas in the Western United States* (USFWS 2009). Wetlands were also coded in accordance with the landscape position, landform, waterflow path, and waterbody types (LLWW) mapping classification (Tiner 2014) and Regional LLWW Keys for the Western U.S. (GeoSpatial Services 2018). Mapping ratio was at 1:12,000 or better with a minimum mapping resolution to 1/2 half acre and in compliance with the National Wetland Mapping Standard of the Federal Geospatial Data Committee. A Technical Advisory Committee was established to provide expertise and local knowledge, to help review the wetland function correlation table, and to ensure proper application of LLWW to the project area. The LLWW provides information to help assign wetlands to HGM subclasses for New Mexico Rapid Assessment Method (NMRAM) development. This project included remapping and more accurately mapping wetlands in the Eastern Plains project area, the identification and assignment of wetland functions that can be interpreted as designated uses for wetlands narrative water quality standards, and the assignment of classified segments for developing assessment units for monitoring. This project included a workshop on playa monitoring and restoration techniques held near Causey, NM,

and the development of a StoryMap entitled; *Playa Enhancement, Monitoring and Stability Assessment, Ephemeral Wetlands on the Plains. What these playas can do for us, and what we can do for them*.



Cover page of the StoryMap, *Playa Enhancement, Monitoring and Stability Assessment*, produced by Natural Channel Design Engineering Inc.

Wetlands Action Plans

A WAP is a guide for the planning and implementation of projects and activities essential to the understanding, conservation, protection, restoration and management of wetlands in a planning area. WAPs can be designed to focus on wetlands in a specific watershed, region, or can be designed to target a wetland type though out New Mexico. A WAP can also be an addition to a WBP so that all surface water resources are considered within the watershed. In 2024/2025 four new WAPs were completed.

City of Albuquerque Open Space Division Wetlands Action Plan

(Written contribution by Rio Grande Return; Karen Menetrey and Cameron Weber)

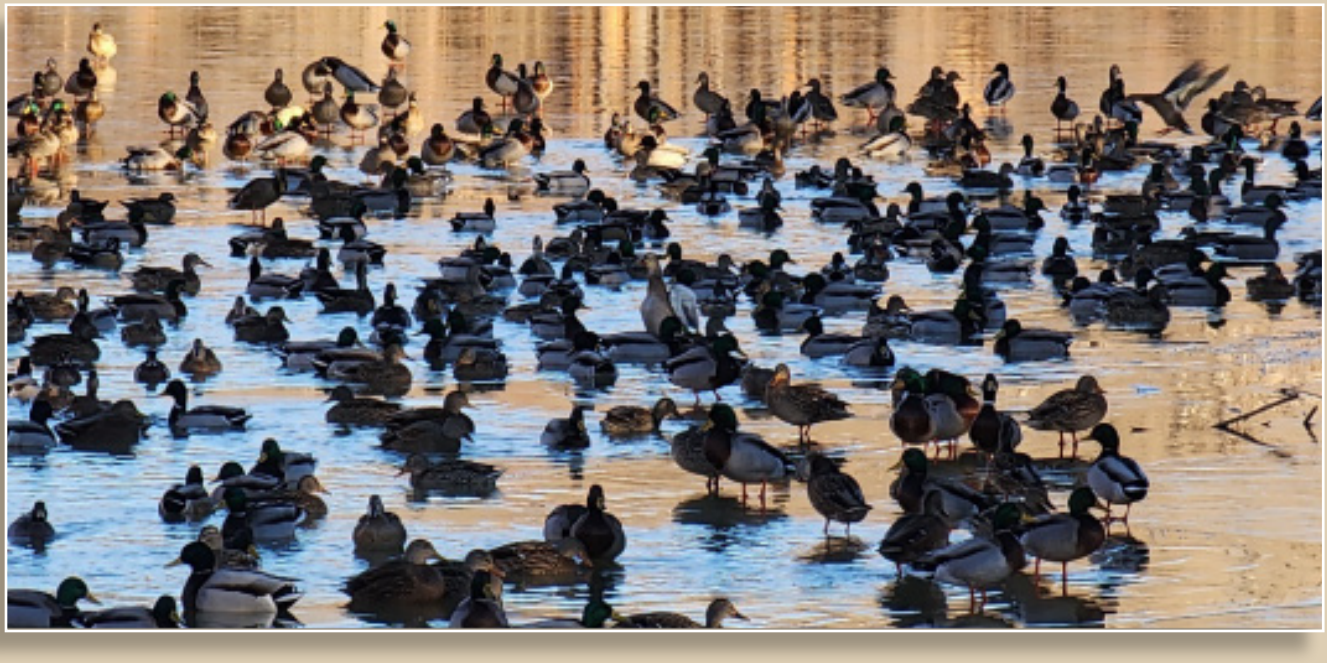
This WAP covers five wetland properties along the Rio Grande that are owned and managed by City of Albuquerque Open Space Division; Alameda Wetland, Open Space Visitor Center Wetland, San Antonio Oxbow Wetlands, Candelaria Nature Preserve Wetlands, and Tingley Wetlands. To varying degrees these wetlands are all constructed and maintained by humans rather than being natural. Collectively, the wetlands represent ponds, marshes, wet meadows and ephemeral marshes that were once more common along the Rio Grande and are now rare because the river is constrained by flood control and agricultural irrigation infrastructure. The wetlands are important to wildlife and as well as socially and culturally for recreation and education.

The wetlands are experiencing many threats and impairments including: drought and concerns about ongoing water availability, incursion of non-native plants, beaver activity that impedes flow and promotes a monoculture of cattails (*Typha spp.*), water quality issues, threat of wildfire, lack of funding for

infrastructure improvements, and insufficient staffing for maintenance and monitoring. However, with planning and collaboration with partners who jointly manage the properties and have common interests, actions can be taken that improve the functioning and value of the wetlands. Several stakeholder organizations participated in the development of this WAP and are identified herein, as are current and potential funding sources. Opportunities to improve management, scientific research and data collection, and environmental education are also identified. WAP recommendations include wetland protection, restoration and management activities that cover multiple sites, and also recommendations for each site. General recommendations include: 1) incorporating ecological disturbance into management mechanically or by pulsed flow to mimic riverine processes, 2) reviewing and clarifying water rights declarations, 3) installing beaver coexistence structures, 4) installing and monitoring flow measurement devices, and 5) implementing a water quality monitoring program.

Recommended actions for the individual sites cover the following topics.

- Alameda Wetland: water availability, drying and flow management, stagnation, nonnative vegetation, management plan, city staffing, pond liner, environmental education.
- Open Space Visitor Center Wetland: water availability, drying, management plan, water infrastructure, habitat management, city staffing, water metering, non-native vegetation, recreation, environmental education, data.
- San Antonio Oxbow Wetlands: drying and flow management, beaver activity, diversity of habitat, pollutant, research, advisory committee, recreation, non-native vegetation, flow management.
- Candelaria Nature Preserve Wetlands: funding for infrastructure, water availability, site specific (soils).
- Tingley Wetlands: beaver activity, non-native vegetation, flow management, research/data, recreational trampling, wetland expansion, environmental education.



Ducks at Alameda Wetland. Photo credit: Jacob White, for City of Albuquerque Open Space Division WAP.

Cruces Basin Wetlands Action Plan and Wilderness Restoration Road Map

(Written contribution by Shannon Romeling, Peter Watson and Karen Menetrey)

The Cruces Basin Wilderness consists of 18,876 acres at elevations of approximately 8,500- 10,700 feet in the Carson NF in northern New Mexico. It is the smallest wilderness area in the Carson NF, and is located northwest of Tres Piedras, New Mexico, in the southern San Juan Mountains just south of the Colorado Border. According to the 2022 Land Management Plan, Carson NF Plan Revision, the Cruces Basin Wilderness is the least visited wilderness in the Carson NF and is also the most difficult to access because it is along 15 miles of dirt road that receives little maintenance. Unlike the Carson NF's other wilderness areas, the Cruces Basin Wilderness is situated around a single watershed rather than a mountain range or region containing multiple watersheds, and has no designated trails (U.S. Forest Service, 2022).



Cruces Basin 2016. Photo credit: Jim O'Donnell

Water resources in the basin include headwater slope wetlands and riverine wetlands along four creeks: Beaver, Cruces, Diablo, and Escondido. The Cruces Basin Wilderness is a roadless protected area under the federal 1964 Wilderness Act, and all wetlands therein are designated by the State of New Mexico as ONRWs, which provides further protection against development and water quality degradation. However, the area is used for recreation, cattle grazing, and is also subject to browsing by wildlife, elk and deer. According to the U.S. Forest Service's Watershed Condition Framework system, Beaver Creek Watershed is identified as Functioning At Risk, with Aquatic Biota Condition listed as Poor, and Riparian Wetland Condition listed as Fair (U.S. Forest Service, 2011). Beaver Creek is identified as impaired for temperature by the NMED SWQB (NMED, SWQB, 2024). The Cruces Basin WAP recommends nine priority restoration projects in the Cruces Basin Wilderness Area. Arresting head cuts and slowing gully formation is the primary restoration need to preserve wetland acreage. The headwater reaches of all the streams in the Cruces Basin Wilderness provide opportunities to preserve wetland acreage by stopping numerous head cuts that are under three feet deep. Wetland Assessment data can be visualized in an ArcGIS StoryMap.

The tools recommended to accomplish this work are; BDAs, and assisted log structure complexes with high structure density, log flow splitters, worm ditches, log step falls, Zuni bowls, one-rock dams, rock rundowns, and/or log mattresses. Types of materials needed will be logs, branches, rocks, gravel, and sod harvested onsite.

Lower Rio Embudo Watershed Wetlands Action Plan

(Written contribution by Adrienne Rosenberg and Jan-Willem Jansens)

This 2024 WAP for the Lower Rio Embudo Watershed was prepared in partnership with the NMED's SWQB NPS Program and the NMSLO. The WAP was part of grant objectives of a EPA CWA Section 319 Sub-Grant with NMED-SWQB (Agreement No. 667-22319SQ-1B), as part of the project "*Restoring Springs and Wetlands on State Trust Lands in the Lower Embudo Valley*.

The WAP for the Lower Rio Embudo Watershed aims to describe past and current conditions, explain stressors, outline priorities, and recommend specific actions for the conservation and restoration of the springs and wetlands. The plan also furthers the goals and objectives laid out by the 2019 WBP for the Lower Rio Embudo Watershed. Overall, the WAP's goals are to help community members protect and restore the conditions for natural functions of the area's wetlands and springs and to support the integrity of the surrounding landscape and the wellbeing of downstream communities. To do this, the WAP suggests tackling the indirect effects of wetland degradation rather than geophysical or human induced causes. As a note, the Lower Rio Embudo Watershed is within the Embudo Valley area.



A v-notch weir installed in a small spring in southern New Mexico. A data logger in the stilling well to the left collects continuous water level data which is used to calculate spring discharge. Photo from: *A Wetlands Action Plan for the Lower Rio Embudo Watershed*.

The WAP planning area comprises approximately 40 sub-watersheds that flow into the Rio Embudo from the south across an area of 8,141 acres in the far western part of the Lower Rio Embudo Watershed between the confluence of the Cañada de Ojo Sarco (a.k.a. Cañada del Oso) with the Rio Embudo and the confluence of the Rio Embudo with the Rio Grande. These springs and wetlands are spread out between State Trust Lands, Bureau of Land Management (BLM) lands, and private properties south of the Rio Embudo. Specific objectives to curb wetland and spring deterioration should mostly address indirect effects, and select human impacts, as they are within an achievable scale. Such objectives include: (a) reducing sediment loads and erosion from drainages and slopes; (b) halting head cuts and channel degradation and successfully raising channel elevations to improve wetland functions; (c) restoring native streamside and wetland vegetation and its associated aquatic and wildlife habitats; (d) removing invasive species where possible; and (e) protecting riparian areas, seeps, springs, and wetlands from off road vehicle impacts and heavy impacts from ungulates.

To achieve the goal of aiding community members to conserve and revitalize the wetlands, the WAP recommends four strategies: (1) conducting assessments and research; (2) implementing physical protection and restoration activities; (3) conducting educational outreach activities; and (4) developing

capacity building activities. The document does not recommend prohibiting any grazing, off-road vehicles, and foot traffic from the WAP area as more research is needed to clarify the proportional role and impact of each of these factors.

Lordsburg Playa Watershed Wetlands Action Plan, Hidalgo County, New Mexico

(Written contribution by Joneen Cockman and Michael Gaglio)



Lordsburg Playa in 2021. Photo credit: Esha Chiocchio.

The WAP for the Lordsburg Playa Watershed brings together information from studies and restoration work that has been conducted on the playa since 2018 as well as historical data on ground water and surface water resources from the early 1900s through the present. The WAP covers an area of approximately 88,000 acres within the Animas Valley, including portions of eight Hydrologic Unit Code (HUC) 12 watersheds that cover more than 228,000 acres. The question often asked is “Where is the wetland?” The Lordsburg Playa is a collage of many features. It has been mapped as a single Ecological Site, the Saline Bottom, by NRCS. However, recent work by researchers from Jornada Experimental Range and NRCS has focused on the role of playa soil cracking and has led to the development of four new draft Ecological Site Descriptions.

Shallow ground water levels, accompanied by the presence of giant desiccation cracks of unknown depth, put a pause on the classification of the playa as a Mineral Soil Flat; however, that is what we will call it until further studies can be done. To that extent, additional data from piezometer studies will help to inform the question of ground water level. Studies are also needed on the giant desiccation cracks which cover large areas.

The Lordsburg Playa is home to many wildlife species of concern. Though there is no USFWS designation of critical habitat, numerous bird species of concern use the playa, and the Animas Valley is an important corridor for migratory birds and birds of prey. The Monarch butterfly, USFWS proposed candidate

species, was documented at the “duck pond” area in summer 2024 near the intersection of Hwy 338 and Interstate Highway 10; a second butterfly, the Mexican fritillary was observed on the duck pond and is on the watch list for USFWS. The presence of playa clam shrimp was documented, but not fairy shrimp. A lengthy list of insectivores and crustacea were observed and point to the need for a thorough inventory of aquatic species.

Outside of the Lordsburg Playa berm (shoreline), on-going soil erosion control projects and land treatments are underway to aid in mitigating sources of sedimentation and to increase vegetation on the landscape. Erosion control and habitat restoration/mitigation work have been conducted on the west side of the playa since 2018, and we are learning more about what works and does not work. A complete inventory of surface erosion features is needed to develop a strategic plan for restoration. Within the playa shoreline, a plan is needed to reduce the impact to soil crust. This area requires adjustment in management, such as excluding the area from traffic except for service vehicles, mitigating broken soil crust around livestock waters, and possibly excluding livestock grazing from the playa altogether. The Ecological Site reference condition is a barren landscape topped with hardened soil crust. Because of saline and alkaline conditions, the increase of vegetation on the playa is unlikely. A similar playa landscape is Lake Lucero on White Sands Missile Range which has not had livestock grazing for more than 50 years. The shoreline vegetation looks very much like that of Lordsburg Playa: slender stringers of alkali sacaton and salt-loving half shrubs. Long periods of inundation in pond water drown these species and eolian deposition buries them in a constant cycle of resetting. In the Data Gaps section of the WAP for the Lordsburg Playa Watershed, we identify the need for: piezometer studies to better understand the potential connection between surface water and ground water; penetrometer studies to better map soil erosivity gradients; and phenocam studies to better understand the cycles of soil cracks, ponding, inundation, soil moisture, and eolian erosion. We also identify opportunities for citizen science as well as activities high schools and colleges can engage in to help fill data gaps, especially for wildlife and soil erosion components.

Appendix B – Other Agencies

Additional Management Practices by Non-NMED Agencies

The following land management agencies implemented various projects and best management practices in New Mexico that ultimately contribute to the reduction of NPS pollutants in surface waters. The most common NPS issues being addressed are excessive erosion, sedimentation, encroachment of exotic vegetation, streambank instability, excessive nutrients, and excessive water temperature. The following summaries were submitted by the agencies and included here.

Chaves SWCD

The Chaves SWCD conducted many projects during FY25. One of these projects was to control the noxious weeds in Chaves Cooperative Weed Management Areas. They received a Water Quality and Conservation Grant from the Soil and Water Conservation Commission to conduct this work. During this project, chemicals were applied to salt cedar to prevent regrowth and support successful eradication of the species in the project area. Chaves SWCD also conducted cut-stump treatment of salt cedar along the Pecos River and additional noxious weed management by combating scotch thistle and Russian knapweed through native seeding after removal. This work was possible from a Noxious Weed Management Grant awarded by the New Mexico Department of Agriculture (NMDA). Both projects helped to improve water quality as they removed invasive noxious weeds.

Chaves SWCD also conducted projects during the year to help restore native grasslands through intensive bale grazing, contour plowing, contour plowing with broadcast seeding, and dry manure fertilization. The native grasslands restoration work was funded by the Healthy Soils Program at NMDA. This funding was awarded Chavez SWCD to plant cover crops to assist with wind erosion and land restoration. The final two projects helped with water quality as it protects the soil and helps to prevent excess nutrients from entering the water. Through the National Fish and Wildlife Foundation, the Chaves SWCD was able to conduct riparian restoration and restore habitat with native species within Chaves and Eddy Counties. The pictures below are from the Control of Noxious Weeds in the Chaves Cooperative Weed Management Areas Project.



Pre-project.



Post-project. Photo credits: Chaves SWCD

New Mexico Department of Game and Fish

Overall, the NMDGF works to support nonpoint source pollution prevention for the benefit of fish and wildlife species, and for the people of New Mexico, through habitat restoration. The NMDGF's Habitat Stamp Program (HSP), uses funds from the Public Land User Stamp (New Mexico Administrative Code (NMAC) 19.34.6) to fund habitat restoration projects on BLM and U.S. Forest Service managed lands that benefit fish and wildlife populations. Many of the HSP restoration projects have added environmental benefits to reduce nonpoint source pollution and improving water quality. Separate from the HSP, the NMDGF's Fisheries Management Division also conducts many habitat restoration projects that serve to improve fish habitat.

Rio Bonito Habitat Improvements

The NMDGF has partnered with the BLM Roswell Field Office on implementing instream habitat structures to improve the Rio Bonito near Lincoln, NM. The project continues habitat improvement efforts completed along the lower Rio Bonito in 2018. The project involved channel shaping to reduce width-to-depth ratios, adding woody debris and rock structures to increase habitat complexity, and excavating pools to increase resting areas for trout. All these modifications will help to address temperature impairments in Rio Bonito. Project activities will improve habitat conditions for resident brown trout, Rio Grande chub, Rio Grande sucker, and stocked rainbow trout.



Rio Bonito as is flows through lands managed by the BLM. Photo credit: NMDGF

Whitewater Creek Instream Restoration

In partnership with the Gila NF, the NMDGF has constructed instream restoration work in Whitewater Creek in the Catwalk Recreation Area. The project included instream habitat improvements such as excavated pools to improve fish habitat and water quality for Gila trout and other native species, which will reduce nonpoint source pollution.



Whitewater Creek as it flows through the Gila NF. Photo credit: NMDGF

El Rito Campground Instream Restoration

The El Rito campground on the Carson NF is a heavily used recreation area, leading to nonpoint source pollution in the form of sedimentation, channel widening, and increased temperature. The NMDGF, in partnership with Trout Unlimited, plans to harden these areas to withstand heavy use by the public while improving the health and water quality of the stream. The major goals include the restructuring of two low water crossings that currently contribute

excess sediment to the creek, reduce peak summer stream temperatures, harden stream crossings and improve stream complexity and aquatic habitat for trout. This will be done by using channel shaping, rip rap, rock cross vane weirs, rock/log vanes, boulder clusters, root wads, toe rocks and more. Planning is complete and construction is expected to begin in late fall of 2025.



The River Ranch Pond on the NMDGF's River Ranch Wildlife Management Area. Photo credit: J. Marchetti



The Main Diamond Creek as it flows through the Gila NF. Photo credit: C. Webster

River Ranch Pond Fencing

The NMDGF has begun planning efforts to install a fence around the River Ranch Wildlife Management Area pond. Trespass cattle frequently use the pond throughout the year, causing water quality impairments such as increased sedimentation, nutrient, and *E. coli* levels as well as algal blooms. The goal of this project is to improve the pond's water quality and habitat conditions for stocked Chihuahua chub. Planning is ongoing, and construction is expected to begin in December of 2025.

Main and South Diamond Habitat Improvement Planning

In 2022, the Black Fire burned a large area of the Aldo Leopold Wilderness including much of the headwaters of the Main Diamond Creek and South Diamond Creek. These creeks once held two of the five creeks with genetically pure Gila trout but are now severely degraded from post-fire flooding and no longer hold trout. The goal of this project is to restore aquatic habitat and improve water quality by increasing channel stability, constructing instream habitat structures, implementing erosion control structures, and planting native riparian vegetation. These efforts will help to address the nonpoint source pollutants that come with post-fire flooding and are critical in allowing NMDGF achieve its ultimate goal of Gila trout reintroduction.

Fawn Lakes Habitat Restoration Planning

The NMDGF has partnered with the Carson NF to begin planning a riparian and instream habitat improvement project at the Fawn Lakes campground near Red River. The goal of this project is to install instream structures such as large woody debris, excavated pools, and rock structures to improve habitat conditions for stocked rainbow trout, and to improve riparian and wetland habitat through planting vegetation and process-based structures to connect the floodplain to the Red River channel. The riparian and wetland areas will help address nonpoint source pollution by filtering water and allowing sediment to settle out during overbank flows.

Mimbres River Habitat Restoration Planning

The NMDGF completed instream habitat improvements on three properties along the Mimbres River (the NMDGF's Mimbres Wildlife Management Area and two properties managed by The Nature Conservancy) in 2016-17 for the benefit of the Chihuahua chub (*Gila nigrescens*). Since then, two fires have burned in the Mimbres basin (the Black Fire in 2022 and the Trout Fire in 2025), leading to devastating post-fire flooding and sedimentation which have compromised the function and existence of several habitat improvements and increased the turbidity of the river. The goal of this project is to install new instream habitat structures, and repair existing ones, to be able to better withstand the flooding within the Mimbres River while also creating suitable habitat conditions for the Chihuahua chub (e.g., pools and woody debris). This project will also help to mitigate nonpoint source pollution by dissipating flood energy in the upstream reach through facilitating overbank flows to allow sediment to settle out and reduce sedimentation downstream. The NMDGF has partnered with Natural Channel Design Engineering Inc. to create engineering designs with the goal of completing planning by the spring of 2026.



The Mimbres River south of the Mimbres Wildlife Management Area. Photo credit: J. Marchetti

Edward Sargent Wildlife Management Area

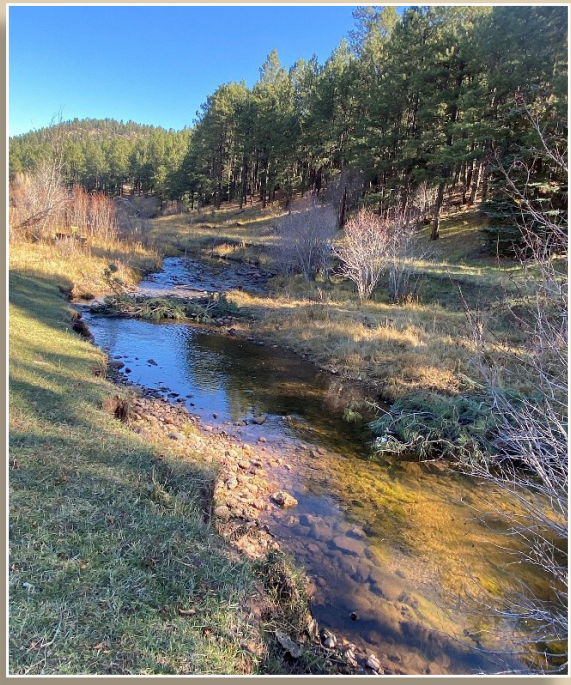


Excavated lead-out channel and pool habitat in the Edward Sargent Wildlife Management Area. Photo credit: C. Parris

The NMDGF continued with the implementation of the Edward Sargent Wildlife Management Area Watershed Restoration Assessment and Concept Plan (Watershed Artisans, November 2021). In 2025, restoration activities continued on Sargent Wildlife Management Area specifically on Sixto Creek, a tributary to Rio Chamita. As part of this year's projects, dozens of constructed log jams, constructed riffles, earthen channel plugs, sod plugs, and excavated lead out channels were constructed to increase wetted area and water storage in this important tributary to the Rio Chamita. These actions will improve water quality by restoring wetlands in headwater systems.

Rio de las Vacas Restoration – Planning

Rio de las Vacas is an important watershed at the headwaters of the Rio Puerco. The valley bottom contains several miles of wet meadow and wetland habitats. These wetlands provide water and habitat



Nearby tree harvest supports instream structures that work to divert water and create pools.

for a variety of wildlife including elk, mule deer, and wild turkey. The watershed has been negatively impacted by drought, historic livestock grazing practices, and other management issues, resulting in an incised and poorly functioning wetland system. This project is the first step of a multi-year restoration project on the Rio de las Vacas that is slated to begin in the summer of 2025. Objectives of the restoration project focused on reconnecting the channel with the historic floodplain, improving wetland function, and increasing water levels in the Rio de las Vacas, all of which will reduce nonpoint source pollution. In FY25 planning for this project expanded to include approximately 2 miles of pipe rail fencing around 68 wetland acres including the stream corridor. This work began in the Fall of 2025.

Black Mesa Habitat Restoration Project

The Black Mesa area of the Cibola NF sits between the Ignacio Chavez grant of the Rio Puerco BLM to the north, and the newly acquired LBar Wildlife Management Area of the NMDGF to the south. The Rio Puerco BLM and the Cibola NF have partnered with the NMDGF in restoration efforts throughout this landscape. Thousands of acres of ponderosa pine forest have been collaboratively thinned in an effort to reduce the risk of catastrophic wildfire which can contribute to nonpoint source pollution, restore wildlife habitat, and allow for prescribed fire (Rx) use as a management tool. 650 acres of forest were thinned using HSP funds during this project cycle. A project to thin an additional 700 acres of forest was prioritized for HSP funding. This project was delayed to a fall 2025 implementation as the project scope was further developed to include 850 additional acres of meadow. This project has significantly improved the wildlife habitat on Black Mesa and has facilitated the ability for the Mt. Taylor Ranger district to move closer towards managing this landscape with optimally planned intervals of broadcast Rx.



Ponderosa pine forest stand in the Cibola NF. Photo credit: NMDGF

Rio Bonito Habitat Improvements - Planning

NMDGF has partnered with the BLM Roswell Field Office on developing plans to improve the Rio Bonito near Lincoln, NM. This project continues habitat improvement efforts completed along the lower Rio Bonito in 2018. The project involved channel shaping to reduce width-to-depth ratios, adding woody

debris and rock structures to increase habitat complexity, and excavating pools to increase resting areas for trout. Project activities will improve habitat conditions for resident brown trout, Rio Grande Chub, Rio Grande Sucker, and stocked rainbow trout. This project was completed in May 2025.



Rio Puerco crossing under US 550. The Rio Puerco carries large sediment loads so restoration work will be aimed at slowing flows in targeted areas.



Restoration structure installed in Rio Bonito in Spring 2025.

Senorito Canyon/ Rio Puerco – Planning

NMDGF is developing plans with the Rio Puerco BLM, NMSLO, and Rio Grande Return to address restoration issues in the Upper Rio Puerco area. Both the Senorito and Rio Puerco are semi-perennial with the Rio Puerco responsible for transporting significant sediment loads into the Rio Grande. Efforts will be focused on finding ways to slow water and sediment flow in this system and support native riparian vegetation restoration. Restoration goals include inducing meandering to reconnect the current floodplain and encourage sedimentation, increase the diversity of native riparian plants, and improve habitat for a diverse suite of wildlife during migration. This project area surrounds the U.S. 550 corridor and wildlife crossing area south of Cuba.

New Mexico Forestry Division

New Mexico's forests are at high risk of wildfire due to overgrown conditions, drought, and intense weather events, requiring significant forest thinning and watershed restoration treatments to reduce these hazards and protect communities, source waters, and ecosystems. Through careful resource management, community engagement, and productive collaborations, the EMNRD New Mexico Forestry Division (Forestry Division) promotes healthy forests and sustainable watersheds. The primary activities undertaken by the Forestry Division to achieve these goals are watershed restoration projects, forest thinning, prescribed burning, and permitting of commercial timber sales. In FY25, the Forestry Division accomplished 3,751 acres of watershed restoration projects in Priority Watersheds reported in Table 9 below.

Using BMPs to address NPS pollution

Forestry Division resource management programs involve the application of both regulatory and voluntary silvicultural best management practices on state and private forest lands in New Mexico. Through the federally supported Cooperative Forestry Assistance Program, the Forestry Division provides technical forest resource management assistance to landowners and recommends application of NPS pollution BMPs in all silvicultural activities.

Types of technical assistance include:

1. Community wildfire protection planning and hazardous fuels treatments
2. Post-fire soil stabilization
3. Reforestation practices
4. Management of forest disease, insects, and invasive plants
5. Issuing permits and inspecting private timber harvests according to New Mexico Forest Practices Guidelines

This assistance is designed to meet a wide range of landowner management objectives. In conjunction with these programs, the Forestry Division has technical responsibility for application of forestry practices in through the federally funded Forest Health Improvement Program, a landowner cost-share program which specifically addresses forest health issues and forest management planning, as well as various thinning programs that address wildfire threats to communities and watersheds.

The Forestry Division provides technical assistance to partner agencies and organizations on matters related to forestry, wildland fire and watershed health. Some partnerships are formalized through legal agreements. Agreements with the BLM and the Southwestern Region of the U.S. Forest Service enable the Forestry Division and BLM and U.S. Forest Service to collaboratively develop cross-jurisdictional, landscape scale forest and woodland restoration treatments for improving forest health and resilience and decreasing wildland fire threat to forests, woodlands and watersheds. In other cases, partnerships are formed to implement grant-funded activities that promote watershed health and water quality. The Forestry Division also partners with other state agencies to support common state objectives, such as managing the New Mexico Forest and Watershed Management Coordinating Group and documenting accomplishments in the New Mexico Shared Stewardship Portal (NMSSP.org).

Forest and Watershed Health Coordinating Group

In 2008, the Forestry Division created the Forest and Watershed Health Coordinating Group, an advisory body of partners engaged in restoration and management of forests and watersheds statewide. The FWHCG has now been meeting quarterly for over 16 years and plays a critical role in maintaining the New Mexico Forest Action Plan.

In 2024, the Forest and Watershed Health Coordinating Group convened to discuss progress made in the first five years of the 2020 New Mexico Forest Action Plan. The group identified successes and challenges across ten Forest Action Plan strategies, including significant progress toward the overall goal of treating 300,000 acres per year between all public and private organizations and across all land ownerships. Figure 9 presents data for all known treatments in the state between 2020 and 2024.

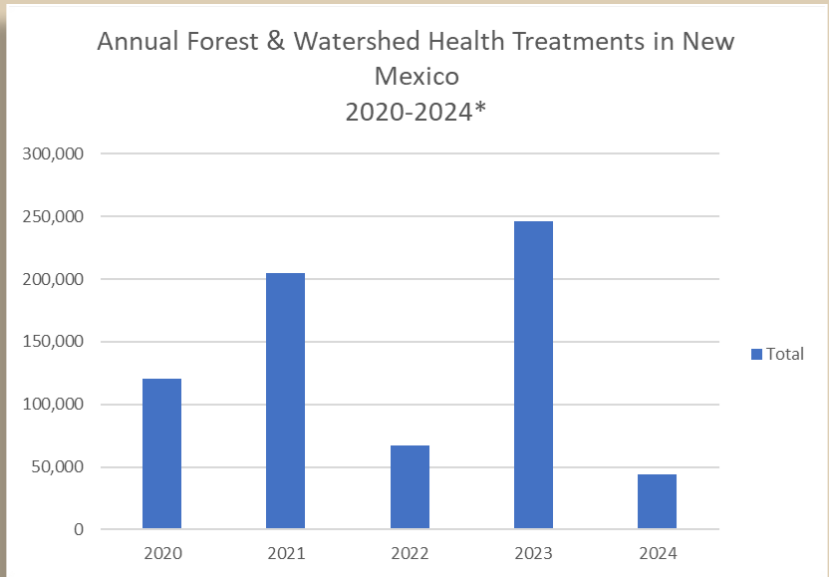


Figure 9. ** Not all data has been reported for 2024.*

The Forestry Division continues to engage in recovery efforts related to the unprecedented wildfire disasters in 2022 the HPCC Fire and in 2024 the South Fork and Salt Fire. This includes the removal of hundreds of acres of hazardous trees on Forest Service land in the HPCC burn scar area and initiating a $6M effort to remove hazard trees on private lands threatening roads and powerlines. In fall 2024, the Forestry Division developed a plan for implementing $10M in appropriated funds to EMNRD to support wildfire recovery in the South Fork and Salt Fire area, with the majority of funds going to hazard tree and soil erosion mitigation on private lands in and around Ruidoso.

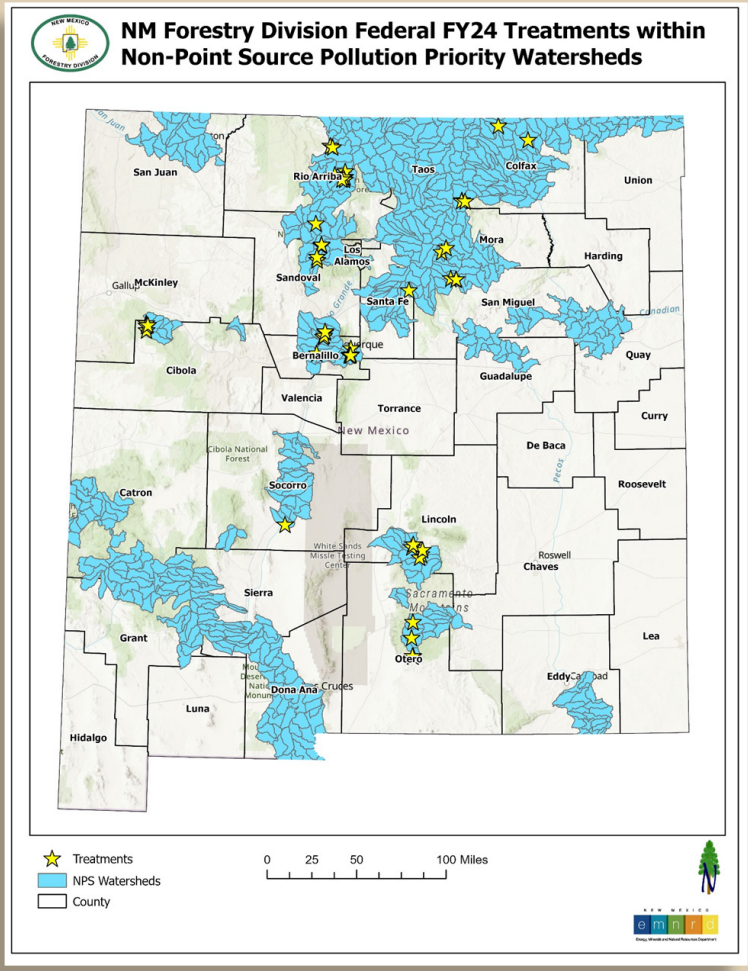


Figure 10. Forestry Division map of Priority Watersheds.

Forest and Watershed Restoration Act

The Forest and Watershed Restoration Act was created by House Bill 266 and signed into law by Governor Michelle Lujan Grisham on March 15, 2019. The Forest and Watershed Restoration Act allocates $2 million annually to the EMNRD, Forestry Division with the purpose of restoring forests and watersheds in the state of New Mexico and establishes a Forest and Watershed Advisory Board to evaluate and recommend projects. The objectives of the Forest and Watershed Restoration Act are to prioritize and fund large-scale forest and watershed restoration projects on any lands in the state that:

- increase the adaptability and resilience to recurring drought and extreme weather events of the State's forests and watersheds;
- protect above and below ground water sources;
- reduce the risk of wildfire, including plans for watershed conservation;
- restore burned areas and thin forests;
- include related economic or workforce development projects or a wildlife conservation or a habitat improvement project.

Table 9. EMNRD Forestry Division Treatments in Priority NPS Watersheds.

Project Name	Location	Completed Acres	Watersheds	Treatment
Canjilon Watershed Improvement	SE of Cebolla	629	Montoya Canyon-Canjilon Creek	Thinning/Fuelwood
Canjilon/Cebolla NFL	SE of Cebolla	37	Montoya Canyon-Canjilon Creek	Mastication

Canjilon/Cebolla NFL	SE of Cebolla	19	Montoya Canyon-Canjilon Creek	Fuel Break
CWMA 2023-2024	NE of EL Vado	114	Rio Brazos-Rio Chama	Thinning/Fuelwood
Elkridge FAWRA	SE of Angel Fire	13	Upper Coyote Creek	Thinning/Fuelwood
HPCC Recovery	NW of Las Vegas	176	Arroyo Pecos-Gallinas River	Mastication
HPCC Recovery	NW of Las Vegas	539	Arroyo Pecos-Gallinas River	Cut, Skid and Deck
Los Vigiles HPCC Recovery	E of El Porvenir	92	Arroyo Pecos-Gallinas River	Cut, Skid and Deck
Los Vigiles Land Grant HPCC Hazard Tree Project	NW of Las Vegas	36	Arroyo Pecos-Gallinas River	Cut, Skid and Deck
Morphy Lake State Park HPCC Recovery	NW of Ledoux	20	Santiago Creek	Cut, Skid and Deck
N6S - Middle Rio Grande Albuquerque Stwrdshp Reach	E of ABQ Bio Park	195	West Mesa Airport-Rio Grande	Cut and Stump Herbicide
N6S - Sandia Pueblo Prescribed Grazing (Goats)	W of Sandia Pueblo	34	Sandia Wash-Rio Grande	Prescribed Grazing
N6S- Bernalillo Jemez Mountains	NE of Seven Springs	171	Outlet San Antonio Creek	Cut, Skid and Deck
N6S- Bernalillo Jemez Mountains	NE of Seven Springs	80	Outlet San Antonio Creek	Thinning/Fuelwood
N6S_3698_ZG5067_10_04_23_COP_3698_01_18152	SE of Page	138	Headwaters-Cottonwood Creek	Thinning/Fuelwood
N6S-East Mountain All Lands	SE of Tijeras	63	Upper Tijeras Arroyo	Mastication
N6S-East Mountain All Lands	SE of Tijeras	195	Upper Tijeras Arroyo	Thinning/Fuelwood
Nogal WUI	S of Nogal	20	Nogal Creek	Mastication
PA_SONS_2023_18259	SE of Angel Fire	8	Upper Coyote Creek	Thinning/Fuelwood
Pease_GPS_20433	S of Nogal	7	Nogal Creek	Thinning/Fuelwood
Rio Bonito WUI	SE of Angus	54	Middle Rio Bonita	Mastication
South_555_redraw_20579	S of Penitente Canyon	116	Headwaters Caliente Canyon	Thinning/Fuelwood
Southern Sacramento Restoration Project	Chippeway Park	9	Cox Canyon	Mastication
Tiffany Fire Rehabilitation	SE of San Marcial	100	Tiffany Canyon-Rio Grande	Mastication
Timberon BLM Planning	Timberon	136	Arkansas Canyon-Sacramento River	Mastication
Wakfield_Unit_only_22852	N of Glorieta	24	Glorieta Creek	Thinning/Fuelwood
WillowCreek_NRA_Inspected_20566	SW of Clifton Hills	13	Willow Canyon	Thinning/Fuelwood
Zuni Mountains CFLRP	SE of Page	665	Headwaters-Cottonwood Creek	Cut, Skid and Deck

The Forestry Division accomplished 3,751 acres of watershed restoration projects in Priority Watersheds.

Natural Resources Conservation Service

The purpose of National Water Quality Initiative is to work with producers and landowners to implement voluntary conservation practices as part of areawide efforts to improve water quality in high priority areas. National Water Quality Initiative is designed to help agricultural producers take actions to reduce the runoff of sediment, nutrients, and pathogens into surface waters where water quality is a critical concern.

For FY25, New Mexico NRCS accepted Environmental Quality Incentives Program (EQIP) - National Water Quality Initiative implementation applications in the following 12-digit HUC Watersheds:

- Tucker Canyon- Animas River (HUC 140801041003)
- Estes Arroyo- Animas River (HUC 14080104100)
- Flora Vista- Animas River (HUC 140801041005)

Based on available applications and funding, one EQIP contract was funded in the Flora Vista watershed for $113,587. Although no implementation has been completed at this time the planned practices of Nutrient Management (Practice Code 590), Irrigation Pipeline (Practice Code 430), Pumping Plant (Practice Code 533), Structures for Water Control (Practice Code 587), Sprinkler System (Practice Code 442), Cover Crop (Practice Code 340), and Irrigation Water Management (Practice Code 449) will address nutrients transported to surface water and inefficient irrigation water use. The project location is adjacent to an internment stream and the Halford Independent Ditch that flows to the Animas River. The Animas River is currently impaired by nutrients and *E.coli*.

For FY25, New Mexico NRCS was approved to begin the watershed planning for two new National Water Quality Initiative areas. These areas are:

- Picacho Drain- Rio Grande (HUC 130301020608)
- Vado Arroyo- Rio Grande (HUC 130301020803)

Once the watershed plans are completed, approved funds will be allocated to begin advertising for new EQIP-National Water Quality Initiative implementation applications.

U.S. Department of Agriculture U.S. Forest Service

Carson National Forest

During FY25, the Carson NF implemented projects that made progress towards meeting and maintaining state water quality standards as well as activities that contributed to NPS management.

Rio San Antonio-Lagunitas Creek Restoration Project

Canada Tio Grande-Rio San Antonio (130100050301)

In cooperation with Trout Unlimited and Watershed Artisans, restoration of stream and streamside wetland areas of Upper Rio San Antonio and headwater tributary, Lagunitas Creek, was implemented in October. Photo point monitoring of FY23's restoration project upstream of this year's work was also completed

Greater Cruces Basin Travel Management Implementation

Toltec Creek-Rio de Los Pinos (130100050203), Lola Creek-Rio de los Pinos (130100050204), Cañada los Ranchos-Rio San Antonio (130100050302), Cañada Tio Grande-Rio San Antonio (130100050301)

In cooperation with NMDGF and Wildlands Network, signage was installed on user created routes to discourage continued illegal use.

El Rito Creek Campground Reach – Restoration and Recreation Impact Mitigation Project

Headwaters El Rito (130201021102)

This project will restore in-stream habitat for Rio Grande cutthroat trout, provide better angling opportunities and mitigate impacts of heavy recreational use along El Rito Creek. Project will be timed and phased to reduce impacts to recreational use. It may begin implementation fall/winter 2025 and is expected to be completed in 2027.

El Rito Creek Middle Reach – Restoration and Beaver Habitat Enhancement Project

Headwaters El Rito (130201021102)

Just upstream of the campgrounds, the Middle Reach is in design phase. Implementation is expected summer of 2026 or 2027.

Canjilon Creek Restoration Project

Montoya Canyon-Canjilon Creek (130201020901)

Phase 1 of this project was implemented in cooperation with New Mexico State University's Water Resources Research Instituteand Keystone Restoration Ecology with funding through NMED SWQB's River Stewardship Program. Keystone Restoration Ecology is looking for funding for a second phase of implementation.

Canjilon Creek Tributary – Illegal Dump Site Clean-up



Canjilon Creek Tributary – Illegal Dump Site Clean-up.

The Rio Chama Collaborative Forest Landscape Restoration was able to partner with Rio Arriba County and bring an Ancestral Lands youth corps to clean up an illegal dump site in a tributary arroyo to Canjilon Creek.

Midnight Meadows Wetland Stabilization/Bitter Creek Channel Reinstatement Project

Upper Red River (130201010301)

In cooperation with Amigos Bravos a volunteer work weekend was held to continue restoration of the Midnight Meadows wetlands area of upper Bitter Creek. This work is part of a Participating Agreement between Amigos Bravos and the U.S. Forest Service, Carson NF. Work was also completed at the fen in Anderson Park. Archeological survey and National Historic Preservation Act compliance activities were initiated for the Bitter Creek Channel Reinstatement Project that will see implementation funded by the RSP in the summer of 2026.

Lower McCrystal Creek Restoration Project

Headwaters North Ponil (110800020203)

First year of low-tech process-based restoration implementation by the Philmont Scout Ranch along the lower reach of McCrystal Creek. McCrystal Creek is an ONRW that is 303(d) listed for temperature and turbidity. This project is a collaboration between the Carson National Forest, Trout Unlimited, Cimarron Watershed Alliance and the Philmont Scout Ranch. Initial structures included valley bottom width beaver dam analogs that have substantially reconnected the channel to its wetland floodplain. The project reach is approximately 2 miles, and implementation will take several years to complete.



Low-tech process-based restoration implementation by the Philmont Scout Ranch.

BMP Monitoring

Due to staffing and leadership priorities, no Forest Service national BMP monitoring was conducted this year.

Cibola National Forest and National Grasslands

The Cibola NF and National Grasslands implemented several projects within New Mexico that improved factors related to nonpoint source pollution during 2025. These projects included riparian restoration, vegetation treatments such as prescribed burning and thinning, and continued work to control salt cedar and promote native revegetation along the Canadian River in Mills Canyon. Additionally, the Cibola NF has continued to implement standards and guidelines from the recent Cibola NF Plan Revision, leading to improved watershed management. Photos from these areas, along with images from other projects completed over the years on the Cibola NF and National Grasslands, are available at, flickr.com/photos/cibola_nfg/. Due to the recent federal government shutdown, this information is draft and may not reflect all the work completed in FY25 that benefits watershed improvements.





Fence contrast and placed rock at stream below Shush Kin Fen

Riparian Restoration: Shush Kin Fen

Subwatershed: Agua Medio – Bluewater Creek (HUC 130202070201)

In FY 25, NMED and Cibola NF and National Grasslands continued work to improve conditions in the watershed with several partners. In 2025, this included improvement to the fence around the fen, instream structures to improve stability in the

downstream areas (0.25 Miles), and work on a pasture fence to improve livestock grazing patterns. This reduces concentrated flow patterns, rebuilds the soil, improves water holding capacity, reduces stream temperatures. Restoration treatments include structures such as one-rock dams.

Table 10. Summary of Projects on the Cibola NF and National Grasslands that reduce NPS Pollution.

District	Type of Project	Amount	Affected 5th code Watersheds
Mount Taylor (D2)	Prescribed Fire	2118 acres	Upper Rio Nutria (HUC 150200040201)
	Riparian Restoration	0.25 miles	Bluewater Creek (HUC 130202070201)
Magdalena (D3)	Thinning	321 acres	Outlet Arroyo Gato (HUC 130202090605)
Mountainair (D4)	Thinning	57 acres	Upper Arroyo de Manzano (HUC 130300011002)
	Prescribed Fire	528 acres	Arroyo del Cuervo (HUC 130500011101)
Sandia (D5)	Thinning	4 acres	Upper Tijeras Arroyo (HUC 130202030201)
	Prescribed Fire	184 acres	Upper Tijeras Arroyo (HUC 130202030201)
	Riparian Restoration	7.2 acres	Upper Tijeras Arroyo (HUC 130202030201)
	Invasive Plant Control	5.8 acres	Upper Tijeras Arroyo (HUC 130202030201)
Kiowa Rita Blanca Grassland (D7)	Prescribed Fire	1297 acres	Alamos Creek Seneca Creek (HUC 111001010206)

Vegetation treatments such as prescribed fire and thinning occurred across the Cibola NF and National Grasslands in FY25 as restoration activities continue to be planned and implemented. In areas where tree densities are out of the range of variability, these treatments reduce the risk of uncharacteristic fire with high intensity effects. High intensity fire effects include high sedimentation rates, turbidity, erosion, and streambank erosion. Vegetation treatments reduce the potential for these effects and improves overall watershed condition. In addition, prescribed fire was implemented to improve watershed condition, increase resiliency to wildfire, and improve ground cover. These benefits are expected to lead to improvements in water quality by reducing sediment inputs over the long term and improving riparian condition. Watershed condition in affected watersheds is assessed using the Watershed Condition Framework, a method used by the U.S. Forest Service (arcg.is/1LKDWv).



Prescribed Fire in the Tablazon Area on the Cibola NF.

Gila National Forest

The Gila NF's watershed program had another successful year in FY25. Several miles of stream and aquatic habitat restoration were accomplished, all of which benefit riparian habitat and water quality. Several other watershed improvement projects include motorized and non-motorized trail improvements, vegetation treatments, erosion control structures, riparian fencing, and noxious weed control, to name a few. Partnerships were a critical element to our success this year, as the agency underwent a number of changes. Bat Conservation International, National Forest Foundation, Wild Arizona, Trout Unlimited, Keystone Restoration Ecology, Gila Resources Information Project, Amigos Bravos, Upper Gila Watershed Alliance, JEB Outfitters, Conservation Corps of New Mexico, NMDGF, and USFWS linked arms with us to accomplish these watershed projects. Some of the major sources of funding include NMED RSP, Disaster Recovery, Inflation Reduction Act, and Bipartisan Infrastructure Law.

In addition to the many projects across the Gila NF, there were several wildfires that occurred this summer. At just under 50,000 acres, the Trout Fire was the most prominent incident this year. Next year's plans are to continue watershed restoration efforts through partnerships and agreements on priority watersheds.

Black Fire Landscape Restoration – Black Range, Wilderness, Silver City Ranger Districts

In August 2023, the Forest partnered with Bat Conservation International through two Challenge Cost Share Agreements totaling $8,849,000 to conduct watershed restoration work on areas impacted by the 2022 Black Fire. In February of 2024, the Gila NF added an additional $1,917,625 to one of the agreements to assist in road restoration work in watershed sensitive areas. In June of 2025, the Gila NF started a new agreement with Bat Conservation International, funded with $803,050, to assist with recreation restoration of Black Canyon Campground, Monument Cabin Day Use Area and Forestwide road maintenance work. This brings our partnership total with Bat Conservation International for watershed restoration work to $11,569,675. Since the agreements were signed, work has been powering forward, full steam. Work completed in 2025 include:

- Multiple waters repaired and/or surveyed for range and wildlife use
- NEPA in progress on two trail reroutes to access the Aldo Leopold Wilderness
- Palomas Creek Cave restoration categorical exclusions initiated
- Black Canyon Creek (next to campground) design and contract awarded
- 74 Draw riparian restoration categorical exclusions initiated
    - 30% and pre-final designs reviewed and accepted
- More than 50.2 miles of stream assessments completed
    - Black Canyon – 14.4 miles
    - 74 Draw - 0.62 miles
    - Mimbres River – 16 miles
    - McKnight Canyon – 15.28
    - Holden Prong – 3.9 miles
    - 202 photo points, 19 wet meadows, 10 head cuts assessed
- 300 new cottonwoods and hundreds of willows grown and planted
- Bell Canyon Pit opened and operational to assist with road maintenance work

- 11.2 miles of FSR 226 repaired and reopened
- FSR 150 repair at Wall Lake completed
- Gila NF Cave Management Plan Initiated
- Palomas Cave assessment completed
- FSR 150 at South Diamond permitting completed and work initiated
- NFSR 500a road restoration in progress
- Public and Partner Dashboard built, Gila NF
- Black Fire Recovery web page operational,
- Black Fire Recovery NEPA initiated
- Two public outreach meetings executed
- USFWS consultation coordination initiated,
- Activity Cards finalized
- BMPs for projects being developed
- Biological assessment started

Bat Conservation International Project Highlight

Wall Lake Road improvement and maintenance

- HUC 12 Watershed - Taylor Creek
- WRAP Essential Project - #6, Road maintenance.
- Bat Conservation International or Contractor – Contractor. DOLA Rock, Deming, NM.
- Project Fiscal Year – Initiated FY25, completed FY 26.
- Project Cost: $110,671.

Project Summary: The Wall Lake road improvement project completed much-needed upgrades to a 0.5 mile of FSR 150 adjacent to Wall Lake. Initial design plans were completed in October 2022 by a U.S. Forest Service retired engineer following the Black Fire. Attempts to complete the work in-house at the Gila NF proved difficult and Bat Conservation Internationalwas asked to contract the work.In April 2025, Bat Conservation International worked with same engineer to revisit the existing plans and make necessary changes to update the drawings to reflect current conditions. Bat Conservation International then solicited vendors through an RFP process and selected DOLA Rock to complete the work.



NFSR 150 Pre-construction April 2025 (above) and Post-construction October 2025 (below).



Work performed on Wall Lake included: removing one cattle guard that was not to Federal Highways standard, removing an undersized and plugged culvert, installing 5 new culverts, raising the road elevation to prevent inundation during high flows, installing one vehicle turn-out, widening the road to FSR Level 3 standard, and surfacing the road with 1" crushed aggregate to improve durability and drivability.

Post-Fire Restoration of Gila Trout & Riparian Habitat on Black Canyon Creek – Phase II – Wilderness Ranger District

In March of 2022, Bat Conservation International was awarded a two-year RSP $207,255 grant to restore a four-mile reach of Black Canyon Creek in the Aldo Leopold Wilderness on the Wilderness Ranger District of the Gila NF. The project was completed in 2024. More recently, Phase II of the project was funded by another RSP grant for $330,385 in 2025. Due to both wildfire and flooding impacts in 2022, the initial restoration design could not be implemented. Bat Conservation International adapted to the new watershed condition and focused on stabilizing channel beds and banks and planting thousands of willows on the denuded floodplain. Work proceeded more slowly than planned due to significant impacts to the post-fire, post-flood watershed. Phase II will continue the work proceeding downstream and complete the initial goal of 3.5 miles of stream restoration and habitat enhancement. This year, Bat Conservation International was able to plant over 300 willow cuttings in the project reach. They also conducted monitoring and maintenance on Phase I's work to ensure that all structures previously constructed were still functioning and continued with stream assessment to determine additional needs.



Reach of Black Canyon prior to willow planting (2023).



Same reach of Black Canyon post-willow planting (2025).

Stone Creek – Quemado Ranger District

Restoration activities continued in 2025 for Stone Creek, an important tributary of the San Francisco River on the Quemado Ranger District of the Gila NF. Bat Conservation International restoration crew, with assistance from Amphibian and Reptile Conservancy, planted 1,495 blue stem (*Salix irrota*) willows along the restoration reach in locations that would complement installed stream structures and maximize bank stability and stream shading. Bat Conservation International sawyers felled and bucked 35 12-inch diameter ponderosa pines, marked by the Quemado Ranger District, for use in erosion control and stream restoration structures.

Restoration specialist, Steve Carson, owner of Rangeland Hands, and Bat Conservation International used an excavator and hand tools to treat more than half of the steepest eroding banks by constructing seven bankfull benches along Stone Creek. Outflow, from the spring above Stone Creek, created a ditch in the access road that they repaired by creating a porous log and earth mat to abate the erosion and

downcutting that delivered sediment to Stone Creek and dewatered the spring. The incised channel and head cuts caused by overgrazing of the spring's outflow channels were treated with the construction of 2 Zuni bowls, 1 rock run down, and 1 log step fall. Steve Carson also repaired and redirected a blown-out, ephemeral tributary to Stone Creek so that future flows would discharge on to an alluvial fan and reduce sedimentation while recharging the floodplain water table. Bat Conservation International constructed 25 one-rock dams and four rock and log baffles to decrease stream velocity, increase meandering, raise pool levels, and reconnect the stream to the historic floodplain.

To track long-term changes in Stone Creek following restoration, assisted by the Great Old Broads for Wilderness, we selected locations along the restoration reach to monitor annually with photos. This fundamental approach to documenting the effects of resto-ration treatments on Stone Creek will help us adaptively manage this watershed into the future. The Great Old Broads plan to support photo monitoring efforts at Stone Creek in the coming years, and they continue to provide essential riparian monitoring across the Gila NF.

Headwaters Centerfire Creek – Quemado Ranger District

This project was identified as an essential project in the Headwaters Centerfire Creek WRAP, part of the larger Escudilla Landscape WRAP. The project took place on the Quemado Ranger District in Centerfire Creek approximately 10 miles north of Luna. The project was largely funded by a $445,370 RSP grant. Work in the fall of 2024 focused on the improvement of stream stability and riparian habitat by restoring channel dimensions and raising the water table on approximately 2,000 feet of Centerfire Creek. Several instream structures were installed, and the stream was rerouted. Multiple photo points were taken during the construction phase of the project as well as post construction monitoring, which occurred early in 2025.







Top to Bottom: Bankfull bench above the confluence of Stone Creek and San Francisco River in the Gila NF.

Photo Top- Before restoration treatment, Middle - At completion of restoration treatment Bottom - One year after restoration treatment. Photo credits: Bat Conservation International and Great Old Broads for Wilderness.

Dry Blue Creek WRAP Implementation – Quemado Ranger District

The Dry Blue Creek Watershed resides on the Arizona-New Mexico border on the Quemado Ranger District. The Gila NF has partnered with Wild Arizona to implement essential projects from the Dry Blue Creek WRAP. This is the second year of work occurring in this watershed, with focus being on meadow enhancement and stream restoration this year. On their most recent hitches, Wild Arizona's crew removed just over 3,000 conifers from meadows and riparian corridors for the benefit of meadow enhancement. They also worked with Natural Channel Design Engineering Inc. to complete their first stream restoration hitch on Dry Blue Creek this Fall. Funds were provided for this project through the Collaborative Aquatic Landscape Restoration program totalling $450,000 in Bipartisan Infrastructure Law monies.



Before and After of meadow enhancement efforts in Dry Blue Creek. Credit: Sage Bradford, Wild Arizona.

NFF Regional Agreement – Quemado Ranger District

The Gila NF has partnered with National Forest Foundation to construct a pipe rail fence in the Dry Blue Creek watershed, replacing an old, barbed wire fence. While this exclosure is currently not grazed, this fence provides protection of the creek from unauthorized livestock use and limits motorized access. $67,501 has been provided in a Regional Challenge Cost Share Agreement with Inflation Reduction Act funds. A contract has been awarded for this project and will be implemented in the Winter of 2025.

Tularosa AOP – Reserve Ranger District

Forest Road 233 on the Reserve Ranger District is a critical access road for fire operations on the north end of the Gila NF and is the only access to the Eagle Peak Lookout. A low water crossing exists along this road that was replaced in 2023 to facilitate aquatic organism passage on the Tularosa River. In addition to the construction of the new crossing, a new channel with glides and riffles and the restoration of adjacent wetland areas along the Tularosa River were implemented. Due to changes in the site conditions that had occurred post-design, insufficient fill material was available to fill two depressions on the floodplain. Both

depressions have filled with water. To complete the overall restoration of this project, the two ponded areas were drained, filled with a mixture of soil/rock, and revegetated at the beginning of 2025 by Dola Rock and Construction.

Gilita/Indian Creek Restoration – Reserve Ranger District

Gilita Creek/Indian Creek Stream Restoration is another project identified in the Gilita WRAP. Located in the Gilita Watershed, Gilita and Indian creeks are the upper tributary sources of water into the Middle Fork of the Gila River. With work well on its way in Little Turkey Creek, completed work in Willow Creek, Gilita Creek saw implementation in 2025. In partnership with Trout Unlimited, they have contracted out the design, contracted out the implementation and now have completed two stints of work in Gilita Creek. About 75 structures have been built within the creek, these include BDAs and PALS. Simulating a beaver like habitat along the creek will encourage riparian vegetation growth, increase in surface water, decrease in water temperatures, and help mitigate downstream sedimentation from runoff events.

Snow Tank Restoration – Reserve Ranger District

Snow Tank Wetland Restoration is located north of Snow Lake in Snow Canyon on Reserve Ranger District. Snow Tank is a project that is identified in the Gilita WRAP that was signed in 2024. Historical use of grazing has damaged the wetland that persisted in Snow Canyon. A berm was constructed on top of the



Photo Above - Pond 1 looking East, filled in with native materials - January 2025.
Photo Below - Pond 2 looking East, filled in and re-wetted from adjacent Kimball Spring - January 2025





Snow Tank spillway hardening and construction to new channel. August 25, 2025. Photo credits: Sage Bradford, Wild Arizona.

wetland and served as a water tank for livestock and wildlife. The berm does hold water, but recent wildfire runoff has sedimented in the tank and has created erosion downstream from the spillway of the dam to the wetland downstream of the berm. Runoff events cut in a new channel and dried up a majority of the wetland. This project aimed to harden the spillway to prevent further downcutting and sedimentation from the tank, shift the channel through the wetland to a more historical location, fill in and plug newly carved channel that will no longer be in use, creating wetland features such as pocket pools, erosion control one rock dams, and revegetation of willows. To further protect the wetland a riparian exclosure fence will be constructed. Right now, the spillway, new channel and dirt work are all completed, the fence will be constructed beginning of 2026. This fence is a pipe rail fence to exclude further damage to the wetland.

Little Turkey Creek Stream Restoration – Phase II – Glenwood Ranger District

Little Turkey Creek is a located on the Glenwood Ranger District of the Gila NF. The drainage suffered heavy damage from fire and post fire flooding events after the 2012 Whitewater-Baldy fire. Phase I was funded by a RSP grant to the Gila/Rio Grande Chapter of Trout Unlimited, to continue work for Phase 2, JEB Outfitters LLC applied for RSP grant and received those funds to begin Phase 2 of the stream restoration and watershed restoration.

In 2025, efforts continue in Little Turkey. Work consists of construction of one-rock dams, bank restoration, pool habitat enhancement, and the planting of thousands of willows to narrow the stream, protect the banks, create pool habitat, and provide shade over the steam so that habitat conditions will support the threatened Gila trout Trout Unlimited keystone agreement coordinated Rocky Mountain Youth Corp stints to specifically work in Little Turkey creek. The Gila/Rio Grande Chapter of Trout Unlimited and volunteer groups from New Mexico State University completed four stints this year in Little Turkey. Crews completed all this work by hand with no motorized equipment.



Flagged structures on Little Turkey Creek.

80 Structures were built over roughly two miles of stream channel.

Structure Type	# Built
One Rock Dam	19
Boulder	11
Boulder Cluster	14
Rock Fill	3
Toe Rock	2
Large Woody Debris	3
Log Vane	4
Root Wad	5
Willow Bundles	13
Willow Vane	2
Cross Log	4
Total	80



Flagged structures on Little Turkey Creek. Photo credits: Eric Head with Trout Unlimited.

Bloodgood Springs – Black Range Ranger District

Bloodgood Spring, a hillslope spring on the eastern flanks of the Black Range, supports a 3,737-foot perennial reach of an unnamed tributary to Middle Percha Creek. This spring is in an Important Plant Area of New Mexico, and it is recovering from pre-2008 cattle grazing and from the 2013 Silver Fire. In 2025, in partnership with the Upper Gila Watershed Alliance, the Gila NF replaced the worn exclosure fencing with 1,700 linear feet of wildlife-friendly pipe and cable fencing that will continue to foster passive regeneration of the spring-dependent ecological system, while providing safe passage for wildlife. To this exclosure, we also installed 2 polypipe, water gap fences. With this secure and sturdy livestock exclosure in place, we expect that native plant diversity and populations will increase and improve habitat for wildlife.



New pipe and cable fence surrounding Bloodgood Spring, Gila NF. Photo credit: Dylan Duverge, Upper Gila Watershed Alliance.

A water gap fence installed at Bloodgood Spring, Gila NF. Photo credit: Dylan Duverge, Upper Gila Watershed Alliance.



Lincoln National Forest

The Lincoln NF implemented several non-point source specific projects in FY25 to improve watershed quality across the forest. These projects included riparian restoration, in-stream and aquatic habitat improvements, vegetative planting, prescribed burning and thinning, post-fire rehabilitation, and educational outreach. The Lincoln NF has also worked extensively through partnerships and interagency collaboration to mitigate and restore quality and health of watersheds affected by the recent Blue 2, Salt, and South Fork Fires that burned 33,038 acres of forest on Mescalero Apache, City of Ruidoso, City of Alamogordo, and Lincoln NF lands.

Watershed Planning

In FY25, watershed planning on the Lincoln NF focused on post-wildfire recovery and restoration after the Blue 2, South Fork, and Salt Fires in Perk Canyon, Brady Canyon, Cedar Creek, Eagle Creek, and Rio Bonito within the Devils Canyon (HUC 130600080105), Upper Rio Bonita (HUC 130600080201), and Upper Rio Ruidoso (HUC 130600080103) watersheds.

Planned activities include the installation of structural elements in the stream channels of Perk Canyon,

Brady Canyon, and Cedar Creek to aggrade sediment and mitigate post-fire flooding. Low-tech process-based restoration techniques and road stream crossing improvements are proposed North Fork Eagle Creek and Upper Rio Bonito.

Riparian and Wetland Restoration

Watersheds: Devils Canyon (HUC 130600080105), Upper Rio Bonita (HUC 130600080201), Nogal Creek (HUC 130500030502), Carrizo Creek (HUC 130600080101), Silver Springs Canyon (HUC 130600100101)

1. Completed riparian planting of forbs, shrubs, and trees within Phillips, Nogal, and South Fork riparian enclosures: Phillips Planting (19.00 acres), Nogal Planting (15.25 acres), South Fork Planting (9.00 acres).

Riparian vegetative planting continued within riparian enclosures of Phillips Canyon (Devils Canyon watershed), Nogal Canyon (Nogal Creek watershed), and South Fork (Upper Rio Bonita watershed). The project areas are adjacent to the White Mountains of the Smokey Bear Ranger District. Planting within the riparian enclosures is part of a process to restore water quality and quantity to the localized canyons and drainages within each watershed. The riparian vegetation will play a crucial role in reducing streambank erosion, while improving wildlife habitat, nutrient cycling, and water quality.



Riparian Planting on the Smokey Bear Ranger District.

2. Completed riparian vegetation planting along Silver Springs Creek.

Planting of Cutleaf Coneflower (*Rudbeckia laciniata*) was completed along 0.75 miles of Silver Springs Creek on the Sacramento Ranger District. This was completed in partnership with the Institute for Applied Ecology. The forb planting along Silver Springs will have multiple benefits to the wet-meadows and wildlife habitat along the riparian corridor: increasing flora diversity and soil stability and enhancing habitat for two federally endangered species (New Mexico Meadow Jumping Mouse, *Zapus hudsonius luteus*, and Sacramento Mountains Checkerspot Butterfly, *Euphydryas anicia cloudcrofti*).

3. Installed and completed maintenance on BDAs and PALS along Big Bear Creek and adjacent riparian corridors.

Big Bear Creek is a major tributary and headwaters to the Rio Bonito (stream) and Upper Rio Bonita watershed. The Upper Rio Bonita is a 303d impaired stream and a non-point source priority stream within the Smokey Bear District. The Lincoln NF has a five-year agreement with Rio Grande Return to complete watershed restoration in Big Bear Creek, Anan Creek, and Philadelphia Canyon. In August 2025, Rio Grande Return constructed 45 BDAs and PALS along 0.75 miles of Big Bear Creek and will complete the last 0.75 miles of the initial treatment in November 2025. Treatments include conifer thinning. The BDAs and PALS benefit the creek and watershed by increasing stream complexity and providing recharge to the alluvial aquifer in the area. Restoration will continue into FY26 with Rio Grande Return along Big Bear Creek and adjoining tributaries.



BDA installed on Big Bear Creek in 2025.

4. Maintained, repaired, and replaced riparian and wildlife protection fences along non-point source priority streams and tributaries.

In FY25, the Lincoln NF continued maintenance, repair, and replacement of riparian protection fencing within the Smokey Bear and Sacramento Ranger Districts in partnership with AmeriCorps and New Mexico Youth Conservation Corps. Crews maintained and repaired a total of 485 acres of area along and adjacent to non-point source priority streams of the Agua Chiquita, Rio Peñasco, and Sacramento River in the Sacramento Ranger District. Additionally, four acres along Nogal Creek and Big Bear Creek were repaired on the Smokey Bear Ranger District. The riparian and wildlife fencing has contributed to restoration of sensitive riparian, wet-meadow, and spring systems across the forest. Watersheds covered in these enclosures include Arkansas Canyon-Sacramento River (HUC 130500040101), Headwaters Rio Peñasco (HUC 130600100302), Bear Creek-Rio Peñasco (HUC 130600100304), and Upper Agua Chiquita Creek (HUC 130600100201), Upper Rio Bonita (HUC 130600080201), and Nogal Creek (HUC 130500030502).



Fish surveys in Rio Bonito drainage.

Aquatic Habitat Improvement

Eastern Brook Trout Removal & YY-Stocking.

The Lincoln NF assisted NMDGF with eastern brook trout removal from 3.39 miles of stream along the Rio Bonito within the Rio Bonita watershed (HUC 130600080201). Eastern brook trout removal was followed by stocking the stretch of stream with YY-male brook trout. Stocking with YY-males reduces future trout reproduction, ultimately leading to eradication. Eradication of the invasive eastern brook trout from the Rio Bonito and neighboring streams within the Smokey Bear District allows for native species to thrive, specifically the Rio Grande cutthroat trout (*Oncorhynchus virginalis virginalis*), recovering the ecosystem and leading to improved water quality and stream habitat.

Prescribed Fire and Thinning (Vegetative Treatments)

- Prescribed Fire: Lewis Piles Rx (90 ac.) / Headwaters Bluewater Creek (HUC 130600100402)
- Thinning: 16 Springs (184 ac.) / Sixteen Springs Canyon (HUC 130600100103)

- Thinning/Piling: Lewis Piles (120 ac.) / Perk Canyon (HUC 130600100401)
- Thinning/Piling: McBride (243 ac.) / Upper Rio Ruidoso (HUC 130600080103)
- Thinning/Piling: Ruidoso Lookout (9 ac.) / Upper Rio Ruidoso (HUC 130600080103)
- Thinning/Piling: Smokey Bear Admin Site (67 ac.) / Upper Rio Ruidoso (HUC 130600080103)
- Thinning/Piling: Sacramento Admin Site (32 ac.) / Silver Springs Canyon (HUC 130600100101)
- Thinning/Piling: Beard East (379 ac.) / Silver Springs Canyon (HUC 130600100101)
- Thinning/Piling: Beard West (394 ac.) / Silver Springs Canyon (HUC 130600100101)
- Thinning: Reventon (17 ac.) / Upper Reventon Draw (HUC 130600050101)
- Thinning: Ski Apache Thinning (718 ac.) / Upper Rio Ruidoso (HUC 130600080103)

Vegetative treatments such as Rx, piling, and thinning were carried out across the Lincoln NF, continuing restoration treatments to improve watershed and forest health. Vegetative thinning was implemented in areas where future Rx is planned or in areas of wildland/urban interface where Rx use is not feasible or desired. Prescribed fire was applied to 90 acres in FY25 in areas where vegetative densities exceeded the range of natural variation and the risk of uncharacteristic wildfire was high. The Rx, piling, and thinning treatments reduce the potential of high intensity fire moving across the landscape and improve the watershed condition by improving groundcover, reducing vegetative strains on the groundwater system, and increasing the forest's resiliency to wildfire. These vegetative treatments improve the watersheds by increasing the water quality and quantity within the riparian and aquifer systems across the Lincoln NF.



Prescribed Pile Burn on the Sacramento Ranger District.



Forest Service National Stream and Aquatic Ecology Center assessing Perk Canyon on the Smokey Bear Ranger District.

Post-Fire Rehabilitation

South Fork, Salt, and Blue 2 Fire Restoration: (33,038 ac.)

The South Fork, Salt, and Blue 2 fires burned a total of 9,387 acres on LNF land and 23,651 acres of neighboring land on Mescalero Apache Tribe, City of Ruidoso, and City of Alamogordo lands. In FY25 planning continued with assessments by



30th Annual Youth Fishing Day at Grindstone Lake, Ruidoso, NM.

the Forest Service National Stream and Aquatic Ecology Center focused on identifying treatments for watershed rehabilitation and restoration.

Educational Outreach

Outreach with the community is an important aspect of educating the public on watershed resilience and caring for habitats within the Lincoln NF. In FY25, Lincoln NF hosted the 30th Annual Youth Fishing Day at Grindstone Lake. Children and parents were able to enjoy fishing and learn about aquatic habitats and their importance to ecosystems.

Santa Fe National Forest

In FY25, the Santa Fe NF continued to advance projects aimed at meeting and maintaining state water quality standards, while also supporting nonpoint source management efforts. These initiatives focused on improving water and soil quality, enhancing water availability, restoring riparian areas, and improving aquatic habitats. A selection of these projects is outlined below.

BMP Monitoring

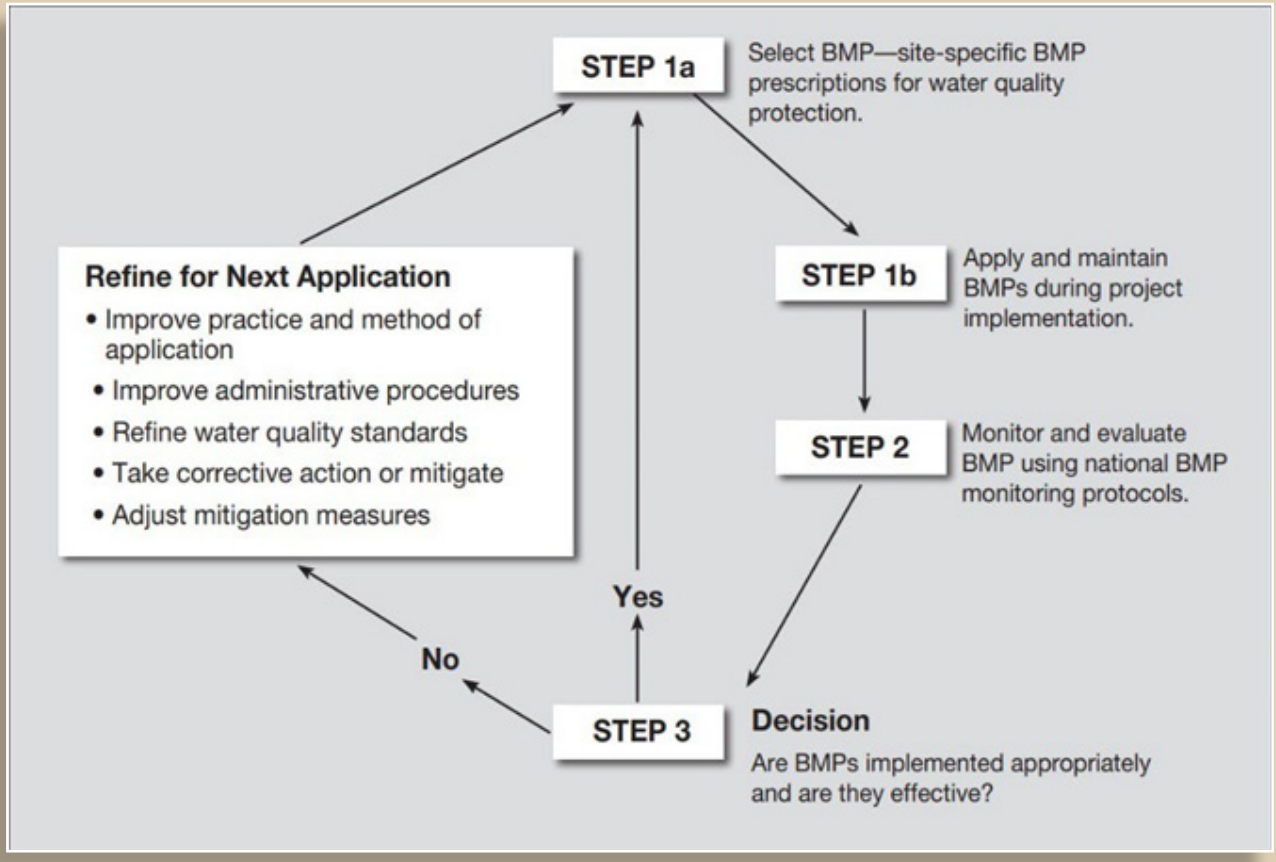


Figure 11. Forest Service Nonpoint Source Strategy.

The U.S. Forest Service employs BMPs to enhance accountability and safeguard water resources on U.S. Forest Service System lands. These BMPs are implemented through an adaptive management strategy, which involves applying, monitoring, and adjusting practices based on monitoring results. The National BMP Program supports the U.S. Forest Service in protecting the chemical, physical, and biological integrity of all water bodies on U.S. Forest Service System lands, aligning its efforts with the CWA and state and tribal water quality programs.

BMPs are evaluated based on their implementation and effectiveness, with composite scores generated from these two categories. Notably, these evaluations are conducted by an Interdisciplinary Team. In FY 25 the Santa Fe NF watershed program monitored BMP application across several operational areas, National Forest System roads, ground-based skidding and harvesting, Rx use, and aquatic ecosystems.



Figure 2- BMP monitoring on National Forest System Road 376Q.

One road (376Q) was randomly selected from the Santa Fe NF system roads and has an Operational Maintenance Levels of 2. Road 376Q composite score was “No Plan”, because it lacked BMP implementation. Many roads in the Santa Fe NF were constructed before modern engineering standards or BMP application, causing them to have a “No Plan” score.

One ground-based skidding and harvesting operations fit monitoring criteria and was evaluated in FY 25. Forest thinning projects, such as this, are critical for restoring ecosystem structure and function while increasing resilience to large-scale disturbances like severe wildfires and insect outbreaks. The San Antonio Cut Skid Deck Unit 35, located in the Jemez Ranger District, covered 50 acres. Unit 35 received a composite score of “Excellent” for their success in controlling nonpoint source pollution within this mechanical thinning unit.

Rx is an effective tool for restoring fire-adapted ecosystems and reducing the risk of high-severity wildfires. These burns improve forest health, reduce hazardous fuels, enhance wildlife habitat, and protect communities and watersheds. In 2025, Santa Fe NF monitored one prescribed burn. The Juaquin North Broadcast Rx on the Jemez Ranger District treated 1,701 acres and earned a composite score of “Good”.

Aquatic Ecosystems projects require a suite of BMPs designed to avoid, minimize or mitigate adverse effects to soil, water quality, and riparian resources resulting from construction and maintenance activities in both lentic and lotic systems. Properly functioning aquatic ecosystems are essential for maintaining water quality and quantity, supporting riparian habitat, sustaining diverse and healthy aquatic fauna populations, and protecting downstream beneficial uses.



Monitoring of San Antonio Cut Skid Deck.

The Headwaters Rio Cebolla Restoration project was evaluated based on stream channel and shoreline work as well as overall operations in an aquatic ecosystem. The total length of the waterbody and associated floodplain where improvements and disturbances occurred was 1.32 miles. The project received a composite score of "good".

Headwaters Rio Cebolla

The Headwaters Rio Cebolla Riparian Restoration Project, located on the Jemez Ranger District upstream of the Seven Springs State Fish Hatchery, began restoration efforts in 2023. These efforts were implemented by Rio Grande Return and funded by a National Fish and Wildlife Foundation grant, World Wildlife Fund Grant and the Inflation Reduction Act. The project aims to reduce channel erosion and incision, improve aquatic habitat, promote native riparian vegetation, enhance streambank stability, and support healthy wetlands.

Structures used within this project include large woody debris structures, BDAs, and PALS. These structures were built using locally sourced materials, including small diameter trees, conifer limbs, willow cuttings, rocks, duff, mud, and gravel. BDA sites are strategically chosen to achieve multiple objectives: re-wetting abandoned channels, promoting overbank flow, increasing meander length, and enhancing flood attenuation. PALS and large woody debris are placed to aid floodplain reconnection, facilitate meander lengthening and channel aggradation, improve flow complexity, and provide habitat for aquatic species.

To date, Rio Grande Return has constructed eight exclosures in the lower half of the project area to protect plantings and restoration efforts. Two methods were used to build these exclosures, where the bottom two are constructed with four-stand and the other six with high fence (8-foot). These exclosures will help protect roughly 53 acres and approximately 110,000 willows and 1,000 cottonwoods. Additionally, along 5.7 miles of Rio Cebolla, 237 instream structures (i.e. BDAs, PALS, large woody debris) have been implemented.



BDA constructed in Rio Cebolla. Video of building process.



Upland erosion control structures on Rito Peñas Negras Stream Restoration and Erosion Mitigation Project.

Rito Peñas Negras

The Rito Peñas Negras Stream Restoration and Erosion Mitigation Project, located on the Cuba Ranger District, aims to stabilize a degraded stream and meadow system, restore wetland connectivity, and improve riparian functionality. The Project focuses on protecting and reestablishing riparian vegetation to enhance water quality, wildlife habitat and riparian ecosystem health. This is accomplished through the construction of structures like BDAs, PALS, Zuni Bowls, exclosures and plantings to encourage wood accumulation, reconnect the stream to its floodplain, and mimic beaver dams' hydrologic benefits, such as improved water storage, floodplain connectivity and aquatic habitat.

The initial phases of the project began in 2023 through an agreement with Rio Grande Return and funding from National Forest Foundation, National Fish and Wildlife Foundation, Taos Ski Valley Foundation, and the Inflation Reduction Act.

Through the course of the project, Rio Grande Return has constructed five high fence (8-foot) exclosures within the project area to protect newly planted vegetation from grazing pressures and to promote riparian ecosystem recovery. These exclosures protect approximately 43 acres and include around 5,500 willows and 1,000 cottonwoods. Along 13.8 miles of Rito Penas Negras, 464 instream structures (i.e. BDAs, PALS, large woody debris), have been implemented. 23 upland erosion control structures were installed to help improve water quality through headcut stabilization and decreasing sediment deposition to Rito Peñas Negras.

Chihuahueños Creek

The Chihuahueños Creek Headwaters Restoration Project, located on the Coyote Ranger District, began in the late fall of 2024. This multi-phase restoration effort is being implemented by Anabranch Solutions, in partnership with Trout Unlimited, and is expected to continue for several years. The project is funded through the NMED RSP, Rio Chama Collaborative Forest Landscape Restoration Project and the Inflation Reduction Act.

Complexes were identified using advanced inundation modeling completed by Anabranch Solutions, which identified areas most suitable for Low-Tech Process-Based Restoration. The project includes a range of in-stream structures such as BDAs, PALS, and large woody debris, all designed to address multiple environmental concerns along the stream.

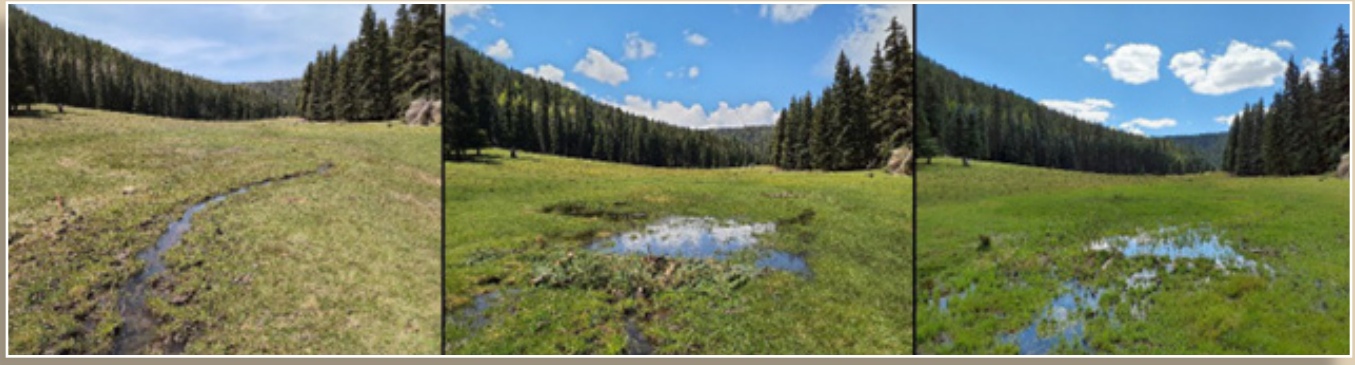
From the fall of 2024 to late summer 2025 Anabranch Solutions installed 218 instream structures along 6.3 miles of Chihuahueños Creek. The primary goals of these structures are to reduce channel erosion and incision, enhance streambank stability, and promote the growth of native riparian vegetation. By

stabilizing the streambanks and improving water quality, the project aims to improve overall aquatic habitat conditions, which are critical for the Rio Grande Cutthroat Trout. Chihuahueños Creek is a vital habitat for a genetically pure strain of Rio Grande Cutthroat Trout, making the restoration work especially important for preserving this species.

At the upper reaches of the project area, efforts will focus on installing two headcut stabilization structures—areas where water flow has eroded the streambed—and applying Assisted Log Structures to spread out channelized water. This work will help reduce degradation of the surrounding fen, a sensitive wetland ecosystem, by improving water inundation, preventing further erosion, and enhancing habitat quality.



Headcut stabilization structure on Chihuahueños Creek.



Before and after installation of a BDA in Chihuahueños Creek. Left to Right: Fall 2024, Spring 2025, Late Summer 2025.

Hermits Peak and Calf Canyon Fire Recovery Project

HPCC fire burned approximately 341,000 acres across four counties, and two forests, the Santa Fe NF and Carson NF, in the summer and fall of 2022. The core area of its impacts was located on the Santa Fe NF's Pecos/Las Vegas Ranger district and surrounding private lands in the southern Sangre de Cristo Mountains of New Mexico. The recovery project encompasses approximately 167,000 acres on U.S. Forest Service lands.

Currently the Santa Fe NF is implementing a vast array of projects on the landscape to help aid in the HPCC fire recovery. This work will continue for the foreseeable future through the expected completion of the HPCC Fire Recovery Environmental Assessment. This planning document outlines many project activities, some of which will assist in mitigating potential nonpoint source pollution from the burned area. In conjunction with this EA the Santa Fe National Forest has identified multiple subwatersheds for rapid watershed assessments and WRAP development to improve watershed condition.

During FY25, the Santa Fe NF implemented a series of contracts and agreements to improve livestock management and restore infrastructure within and around the HPCC burn area. These efforts included the installation of 11 virtual fence communication towers and 300 active collars, the clearing and replacement of 37.5 miles of allotment boundary fence, the awarding of two additional allotment fence contracts, and the assessment of 15 springs for potential reestablishment and protection.

To maintain access to U.S. Forest Service lands by the public and forest service employees, 66 miles of road maintenance and improvements were completed. For recreation, range, and administrative access, 11 miles of trails have been reopened and repaired with an additional 21.6 miles evaluated for further maintenance. Reforestation efforts on Johnson Mesa were implemented on approximately 1,100 acres of burned forest through targeted planting.



Reforestation efforts on Johnson Mesa.

Bureau of Land Management

Carlsbad Field Office

The BLM Carlsbad Field Office conducted multiple activities that reduce nonpoint source pollution in fiscal year 2025 including resource management for range, fire, wildlife, botany, recreation, and water.

Improving Implementation of Erosion Control Mitigations

Over the past year, BLM Carlsbad Field Office Hydrologists Brandon Carico and Margeaux Carter have worked with oil and gas operators to reduce sedimentation and impacts to water quality by incorporating erosion control into their project submissions. On February 26, 2025, Margeaux Carter presented at New Mexico Oil and Gas Association Southeast Public Lands Meeting on *Sustainable Hydrology in Construction Activities*. Since then, New Mexico Oil and Gas Association has formed a subcommittee on erosion control to identify region-specific BMPs for oil and gas projects and to improve communications between BLM and operators. By the end of fiscal year 20205, the subcommittee has met several times and is in the process of drafting a white paper on project planning and BMPs for southeastern New Mexico.

Regional Water Quality and Quantity Monitoring

BLM Carlsbad Field Office has continued working with Sandia National Laboratory to collect groundwater level observations and monitor groundwater quality at the regional level for semi-annual reporting. BLM Carlsbad Field Office is also working with the U.S. Geological Survey to conducted a study of regional water quantity and quality in the Permian Basin, as well as an in-depth study of the Black River, including a geophysical assessment of hydrologic connectivity and analysis of hydrogeochemistry. Additionally, a BLM Carlsbad Field Office interdisciplinary team conducted annual Properly Functioning Condition Assessments on the Black River on September 22, 2025 and on the Delaware River on September 26, 2025. Both reaches have conditions trending upward following a regional decrease in drought severity.



On September 26, 2025 an interdisciplinary team of Carlsbad Field Office resource specialists (pictured: Hydrologist Brandon Carico and AmeriCorp Intern through Conservation Corps New Mexico Bailey Boyd) conducted a Properly Functioning Condition assessment on the Delaware River near the state line. The Delaware River was dry along this reach at this time in 2024.

Vegetation Management

Carlsbad Field Office conducts regular vegetation treatments for fuel management and to reduce mesquite encroachment and promote restoration of native grasslands. In the Upper Pecos-Black watershed, four mechanical brush treatments were performed in FY25 through the Carlsbad Field Office Fire and Fuel Management program. The Carlsbad Field Office Range program also performed aerial and hand spray chemical treatments in upland areas across the field office, through collaboration with NRCS, Carlsbad SWCD, and Center for Excellence for Hazardous Materials Management.

Table 11. Carlsbad Field Office vegetation treatments for fuel management.

HUC 8 Watershed	Description	Area (acres)
Upper Pecos-Black	Mechanical treatment for fuel management in Jurnigan Draw, Middle Cass Draw, West Dagger Draw, and near Rocky Arroyo	516.36
	Aerial application of Tebuthiuron for Creosote and Catclaw	7188.50
	Mesquite Treatment with Remedy	1284.22
	Mastication followed by hand-spray	423.48
Mustang Draw	Mesquite Treatment with Remedy, Tordon 32oz	597.42
Lower Pecos-Red Bluff Reservoir	Mesquite Treatment with Remedy	1396.98
	Mastication followed by hand-spray	9.61
Landreth-Monument Draws	Mesquite Treatment with Remedy	2257.46
	Mastication followed by hand-spray	84.52
Monument-Seminole Draws	Mesquite Treatment with Remedy	2874.33
Upper Pecos-Long Arroyo	Mesquite Treatment with Remedy	548.05
	Mastication followed by hand-spray	3.79

Six Mile Dam Recreation Area

BLM is continuing to work with Center for Excellence for Hazardous Materials Management and the City of Carlsbad to maintain and improve Six Mile Dam Recreation Area, a site along the Pecos River which is used for hiking, kayaking, fishing, picnicking, and birding. In December 2024, Center for Excellence for Hazardous Materials Management began constructing a flashflood-resistant kayak launch which will reduce erosion along riverbanks at existing unmanaged kayak launch locations and make water recreation activities safer and more accessible. As of the end of fiscal year 2025, the kayak launch has been installed, a cement path leading from the parking area to the launch point has been constructed, and gabion baskets have been placed around the river access point to reduce erosion and protect the riverbank. Continued improvements are planned, including installing a fence around the parking area adjacent to the kayak launch. In the winter of 2024-25, BLM and the City of Carlsbad conducted a 101.43-acre vegetation treatment to promote growth of native grasses including mesquite mastication, followed by a hand-spray treatment in (acres included in vegetation treatment summaries above).

Black River Recreation Area

Carlsbad Field Office Botanist Renae Flynn-Cox worked with the Institute for Applied Ecology to implement a soil stabilization project within areas of the Black River Recreation Area impacted by wildfire in spring of 2021. In early October of 2024, a variety of native seedlings were planted by Carlsbad



BLM Carlsbad Field Office staff and volunteers gathered to plant seedlings for soil stabilization and habitat restoration by the Black River near Cottonwood Day Use Area.

Field Office staff and volunteers along banks and in the drainage area for the Black River north of Cottonwood Day Use Area. A total of 1,500 seedlings were planted, including 1,000 Milkweed, 250 Baccharis, and 250 Globe Mallow. Aside from soil stabilization, the project focused on providing pollinator-friendly seedlings to provide habitat along the Monarch butterfly migration path.

Delaware River Restoration Project

Since a flood event along the Delaware River in 2014 caused significant damage to riparian habitat and restoration efforts on the New Mexico portion of the river, Carlsbad Field Office has been working to collaborate across state lines to manage the Delaware River Watershed as a whole. This has resulted in the creation of an interstate partnership funded by ConocoPhillips and coordinated by Texan by Nature including BLM New Mexico, Borderlands Research Institute, Texas Parks and Wildlife Department, and Rio Grande Joint Venture. The Delaware River Restoration Project kicked off last year and by end of FY25, a watershed pre-restoration assessment of the Delaware River has been conducted to identify areas in need of restoration and prioritize Low-Tech Process-Based Restoration structures and treatments based on potential impacts and access.

Delaware River West Water Gap Fence

In the Delaware River West Rangeland Allotment, a water gap fence crossing the Delaware River maintains water access for rangeland cattle while minimizing trampling along riparian areas. The barbed wire fence has been in place for more than a decade but needs nearly annual replacement due to damage following high-flow events, reducing the effectiveness of the erosion mitigation. Carlsbad Field Office Wildlife Biologist Kelly Reid worked with Carlsbad Field Office Range Specialists to install a floating barrel fence in October 2024. This update should dynamically respond to flood flows and maintain the fence line, requiring less frequent repairs and allowing the fence to function as intended.

Southeast New Mexico Illegal Dumping Partnership Programs

The Southeast New Mexico Illegal Dumping Partnership was formed in 2020 with 15 local, county, state, and federal agencies to address the growing illegal dumping problems in southeast New Mexico. The Southeast New Mexico Illegal Dumping Partnership currently include:

- City of Artesia
- City of Carlsbad
- Lea County
- Eddy County

- Center for Excellence for Hazardous Materials Management (non-profit)
- NMSLO
- New Mexico Oil Conservation Division
- NMDGF
- DOE, Waste Isolation Pilot Plant
- USFWS
- BLM
- New Mexico Association of Counties (non-profit)
- National Park Service
- U.S. Forest Service
- Bureau of Reclamation

Due to its broad partnership support, the partnership addresses regional litter and illegal dumping issues across jurisdictional boundaries and coordinates public messaging and outreach to reach and impact a wider cross-jurisdictional audience. The Southeast New Mexico Illegal Dumping Partnership pools the resources and forces of its Partners to achieve three major goals:

- Remove litter and illegally dumped materials from public lands and waterways
- Produce public education and outreach materials to raise awareness about the impacts of litter/illegal dumping and to decrease litter and illegal dumping throughout southeast New Mexico
- Protect the lands and waters of southeast New Mexico for future generations



The Southeast New Mexico Illegal Dumping Partnership logo and partner organizations (left) and photo of roadside litter found in Carlsbad Field Office management area (right).

Litter and Illegal Dump Cleanup Projects

Annually the Southeast New Mexico Illegal Dumping Partnership partners participate in the spring Pecos River Blitz cleanup, the fall Public Lands Day cleanup events, and the Lea County Community Cleanup Events. These events receive strong public, private industry, business, and community support as well as significant volunteer turnout. Specific to the NMED NPS report: over 9 tons of litter and waste were

removed from the Pecos River corridor, wetlands, and banks from various cleanup projects in 2025.

Throughout the year, multiple Partners hold cleanup events to remove litter and illegal dumps from the landscape in southeast New Mexico, including but not limited to Youth Corps Cleanups, Household Hazardous Waste Days, Lea County Community Cleanup Events, Eddy County DUI Grants for Roadway Cleanups in Eddy County, and Multiple neighborhood and volunteer cleanup events.



Litter on the Pecos River, prior to clean-up event organized by Southeast New Mexico Illegal Dumping Partnership.

Public Outreach and Education

The Southeast New Mexico Illegal Dumping Partnership hosts an illegal dumping hotline for the public to report illegal dumping. The Hotline is featured in media outreach and educational projects.

In 2024 and 2025, the Southeast New Mexico Illegal Dumping Partnership produced and distributed a wide range of public outreach and education materials. Outreach and anti-littering educational materials included: billboards in Eddy and Lea counties; Southeast New Mexico Illegal Dumping Partnership Instagram and Facebook Page; Radio public service announcements (aired on KCCC, KSVP, Carlsbad Radio, MTD Radio, 1 Radio Square); bumper stickers; rack cards (for hotel and chamber of commerce lobbies); other social media outreach materials; Southeast New Mexico Illegal Dumping Partnership webpage; illegal dumping educational brochures; 2024 Carlsbad Christmas parade float; and other published educational materials.

Educational programs were produced and delivered in meetings and conferences, at fairs and public events, and some are publicly available on the Southeast New Mexico Illegal Dumping Partnership website (Southeast New Mexico Illegal Dumping Partnership). Education materials are also available for fourth grade students in public schools in southeast New Mexico. In 2025, the Southeast New Mexico Illegal Dumping Partnership website was translated and made available in Spanish.

Roswell Field Office

HUC 8 Watershed	Project Description	Water Quality Benefits
Rio Hondo 13060008	 Constructed four erosion control riprap rock check dam structures on headcuts and gullies on the Fort Stanton Snowy River Cave National Conservation Area and the Rio Bonito Acquired Lands. Constructed four riprap rock aprons on two culverts in an arroyo on the Fort Stanton Snowy River National Conservation Area.	Decrease erosion and decrease sediment load to the Rio Bonito River.

Rio Hondo 13060008	 Roswell Field Office fuels and fire staff burned 964 acres of Pinon/Juniper piles for hazardous fuels reduction and restore native grassland.	Decrease erosion and decrease sediment load to the Rio Bonito River.
Arroyo Del Macho 13060005	Chemical treatment was performed on 3,177 acres of invasive saltcedar by Roswell Field Office fuels and fire staff and the staff of the Chaves Soil Water Conservation District staff through an assistance agreement to restore native grassland.	Decrease erosion and decrease sediment load to rivers and streams.
Upper Pecos-Long Arroyo 13060007	 Aerial chemical treatment of 14,149 acres of invasive mesquite to restore native grassland.	Decrease erosion and decrease sediment load to the Pecos River.
Upper Pecos 13060003	Aerial chemical treatment of 6,765 acres of mesquite to restore native grassland.	Decrease erosion and decrease sediment load to the Pecos River.

Farmington Field Office

Total Treatment Acres Completed: 8,235

Projects: San Juan Wildland Urban Interface (WUI), La Jara Hazardous Fuels Reduction and Big Game Wildlife Habitat Improvement, Largo/Carrizo/Cutter Canyon Russian Olive Removal, Crow Mesa Hazardous Fuels Reduction and Big Game Wildlife Habitat Improvement, Cedar Hill WUI Pile Rx, West Navajo WUI Pile Rx, Largo RCPP Mastication (Non Fire/Fuels).



San Juan WUI Mastication.

Projects are a combination of hazardous fuels reductions, invasive species/ fuels reduction, wildlife habitat/fuels reductions. Work accomplished with saw crews, masticators and fire staff. Projects included thinning of pinyon juniper stands, Russian olive and Salt cedar removals and herbicide treatments and seeding of native species to include pole planting of willows and cottonwoods in riparian areas. Much of the work done through financial assistance agreements with partnership from the San Juan SWCD and New Mexico Association of Counties. Partnerships also included City of Farmington for urban areas fuels reduction.



San Juan WUI Mastication.



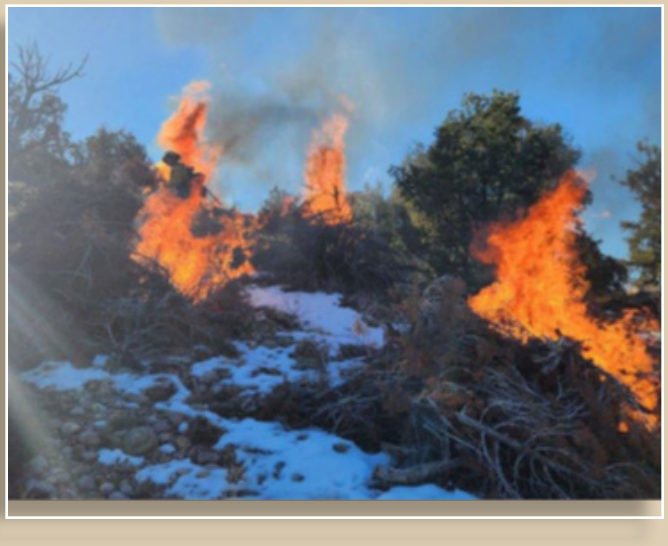
La Jara Hazardous Fuels Removal and Big Game Habitat Improvement.



Cedar Hill WUI Pile Rx Photo 1.



Cedar Hill WUI Pile Rx Photo 2.



West Navajo Fuels Reduction Pile Prescribed Burn Photo 1.



West Navajo Fuels Reduction Pile Prescribed Burn Photo 2.



Largo/Carrizo/Cutter Canyon Invasive Removal Mastication Photo 1.



Largo/Carrizo/Cutter Canyon Invasive Removal Mastication Photo 2.

Colorado River Basin Salinity Control 2025 – Farmington Field Office Program

In 2024, the Farmington Field Office identified approximately 20 water/sediment catchments that needed repair and/or cleaning, and cleaned and repaired 10 pond structures. In 2025, the Farmington Field Office cleaned and repaired 8 structures. More structures were identified for cleaning, however heavy spring rains and subsequent heavy rain in August prevented getting equipment into all the catchments. These structures slow and retain water and sediment into the San Juan River and Colorado River. Work was done through a partnership and financial assistance agreement with the San Juan SWCD.



Ensenada Catchment 1.



Huerfano Catchment 1.



Ensenada Catchment 2.

Glade Run Recreation Area- Colorado River Basin Salinity Control Program



Trail closure post and cable fences Glade Run Salinity Project.

In FY25 and continuing into FY26, the Farmington Field Office is closing and rehabilitating illegal trails in the Glade Run Recreation Area. A Travel and Transportation plan was completed in 2015 and over the years, as funding allows, the BLM has been closing, improving, re-routing and designating recreation trails for motorized and non-motorized single-track trails, off-highway vehicle trails and Jeep trails. Throughout the year, the Farmington Field Office identified, closed and is in the process of rehabilitating 9.5 miles of trails. These trails were identified mostly as user created trails that were built poorly in a manner that they are not sustainable, and they are causing erosion issues. To close the trails, the Farmington Field Office installed 4.8 miles of post and cable fencing and well as natural rock barriers and signage. The trails are being disced, harrowed and seeded with a native seed mix to restore ground cover and prevent further erosion. Approximately 2 miles have been reseeded during FY25 and the remaining 7.5 miles will be seeded during the winter and spring of FY26. Approximately 1,750 pounds of seed was purchased for this project and includes sagebrush, Indian ricegrass, sand dropseed, western wheatgrass, blue grama, sideoats grama, purple three-awn, prairie junegrass, winterfat, galleta grass, spiny hopsage, shadscale, four-wing saltbush, Lewis flax, and Rocky Mountain beeplant.

Rio Puerco Field Office

HUC 8 Watershed	Project Description	Water Quality Benefits
Jemez River 13020202	Constructed BDAs on the Rio Cebolla while working with U.S. Forest Service and Rio Grande Return. (4 structures)	Improve riparian and wetland habitat Reduce channelization and maintain floodplain connectivity. Induce meandering of the channel to restore the original configuration of the stream system. Improve habitat for beavers.

North Plains 13020206	   Engaged in active planning with the Albuquerque Wildlife Federation to construct/maintain check dams within Cebolla Creek (8 structures) and seed the area around the check dams and within the Cebolla Spring exclosure with native plants. The work was completed by Albuquerque Wildlife Federation volunteers during the month of October. Since this was an annual event held by the Albuquerque Wildlife Federation, the organization received prior authorization to work in case of a government shutdown.	Encourage floodplain connectivity and development. Prevent reinitiation of downcutting. Improve riparian functioning and wildlife habitat. Protect underlying soil from the erosive actions of runoff and raindrop impacts.
Arroyo Chico 13020205 Rio Puerco 13020204 Jemez 13020202 Rio San Jose 13020207 North Plains 13020206 Rio Grande-Santa Fe 13020201 Zuni 15020004 Blanco Canyon 14080103 Rio Salado 13020209	Conducting assessment of earthen dams and gully formation through a combination of on-the-ground inspections and remote sensing. Purpose is to determine which structures are in need of repair or decommissioning, and to find gullies that are in need of immediate rehabilitation	Maximize rangeland and watershed health. Prevent headcut initiation and growth. Improve spacing of cattle herds to minimize damage to vegetation and soils. Prevent damage to riparian ecosystems by excessive sediment deposition
Rio Grande-Santa Fe 13020201	Participated in a public event on Cochiti Lake in partnership with USACE and Wilderness Inquiry to educate local school children on watersheds and how excessive erosion degrades them. BLM New Mexico partners with Wilderness Inquiry for Canoemobile event.	Encourages school children and the wider community to become engaged in water quality protection and to have a greater appreciation for where their water comes from.

Rio San Jose 13020207	Constructed erosion control structures, conducted trail maintenance, and undertook willow removal in Bluewater Canyon areas of critical environmental concern.	Decreased sediment load to Bluewater Creek Improve riparian habitat.
Rio Puerco 13020204	Constructed, repaired, and maintained exclosure fences within the Wilson Canyon, Senorito Canyon, Twin Bridges, and Coal Creek reaches of the Rio Puerco.	Prevent overgrazing of vegetative cover by cattle. Improve riparian and wetland habitat Protect underlying soil from runoff and raindrop impacts.

Las Cruces District Office

Public Water Education and Stewardship – Las Cruces Water Festival 2025



BLM employee demonstrates how a water catchment system collects and stores rainwater for use.

The BLM Las Cruces District participated in the 2025 Las Cruces Water Festival, an annual educational event hosted by the Water Conservation Program for over 1,400 fourth-grade students. This year's theme, "The Wonder of Water," featured hands-on exhibits and interactive presentations focused on hydrology, water conservation, and environmental stewardship. BLM's booth highlighted how wildlife drinkers are used to provide water for animals in arid desert watersheds with limited precipitation. These systems help distribute water access across the landscape, reducing pressure on natural riparian areas and minimizing erosion and habitat degradation caused by concentrated animal use.

The festival provided an opportunity to engage young students in understanding the importance of water in desert ecosystems and how land management practices can protect water quality and support wildlife. Through interactive demonstrations, students learned how water infrastructure supports both animal populations and watershed health.

Chiricahua Leopard Frog Monitoring and Chytrid Testing – Cuchillo Creek & Bluewater Creek

The Chiricahua leopard frog (*Lithobates chiricahuensis*), a federally listed threatened species, depends on clean, perennial aquatic habitats that are vulnerable to nonpoint source pollution from sedimentation, livestock impacts, and altered hydrology. In addition to habitat degradation, the spread of chytrid fungus (*Batrachochytrium dendrobatidis*) poses a significant threat to amphibian populations and is often associated with poor water quality and environmental stress.

To support species recovery and assess aquatic ecosystem health, the BLM Las Cruces District conducts annual surveys on Percha Creek, Adam's Creek, Cuchillo Creek and Bluewater Creek in collaboration with the Turner Endangered Species Fund. These surveys monitor frog populations and test for chytrid fungus, providing critical data on species presence, habitat conditions, and disease prevalence. The information gathered informs adaptive management strategies, including riparian fencing and water source improvements, to reduce livestock impacts and protect sensitive aquatic habitats.

This work contributes to the broader Chiricahua Leopard Frog Recovery Program and supports long-term conservation goals by identifying habitat stressors and guiding restoration efforts. The project also serves as a biological indicator of watershed health in these semi-arid systems.



Chiricahua Leopard Frog observed at Cuchillo Creek.

Managing Watershed Runoff into the Mesilla Valley – Butler/Cothern Sub-basins

The Butler and Cothern sub-basins on the West Mesa near Las Cruces, NM are highly susceptible to erosion and sediment transport due to steep arroyo slopes, vegetation loss, and intense, flashy stormwater flows. These flows mobilize sediment and contaminants, including *E. coli*, which are transported downstream into agricultural infrastructure and ultimately the Rio Grande. The area upstream of Leasburg Dam is particularly impacted by storm-related runoff, contributing to water quality impairments.



One-rock dam installed in the Butler/Cothern watershed to slow runoff, reduce erosion, and trap sediment during storm events.

To address these issues, the Doña Ana County Flood Commission and NM Water Resources Research Institute secured a CWA 319 Grant administered by NMED. Using GIS-based watershed analysis, 116 small scale erosion control structures, such as one rock dams, water spreaders, and wire checks were installed in partnership with High Desert Native Plants LLC and Stream Dynamics. These structures are designed to dissipate energy flow, reduce sediment loads, and lower *E. coli* concentrations.

Riparian Fence Repair to Reduce Livestock Impacts – Percha Creek, Hillsboro, NM

BLM Las Cruces District completed a riparian fence repair project along Percha Creek near Hillsboro, NM. The fence, which had been down for an extended period, had allowed cattle to access sensitive riparian areas, leading to trampling, vegetation loss, and increased erosion conditions that contribute to nonpoint source pollution, including sediment and nutrient loading into the creek.

The repaired fence now restricts livestock access, helping to protect stream banks, promote native vegetation recovery, and reduce runoff-related impacts to water quality. Although a standalone effort,



Downed black plastic swing panel fence replaced with wire fencing to restore riparian protection.

this project aligns with best management practices for rangeland and riparian health and supports broader watershed protection goals by preventing further degradation of aquatic habitat.



Metal swing panels rehung to reestablish livestock exclusion along Percha Creek.

Launch of Water Quality Monitoring Program Las Cruces District Office

In 2025, the BLM Las Cruces District Office initiated its first formal water quality monitoring program to support watershed health assessments and inform land management decisions. The program includes regular monitoring at four key sites, Bear Creek, Tularosa Creek, Percha Creek, and the Gila River, and annual sampling at Blue Creek and Cuchillo Creek during Chiricahua leopard frog surveys. A new site at Dripping Springs, located within the Organ Mountains Desert Peaks National Monument, is also being added to expand coverage.

At each site, a suite of water quality parameters are collected, including pH, oxidation-reduction potential, percent and parts-per-million dissolved oxygen, conductivity, absolute conductivity, resistivity, total dissolved solids, salinity, temperature, and pressure. These measurements help identify trends in water chemistry, detect potential impairments, and support habitat assessments for aquatic species.

This program marks a significant step in the district's ability to track nonpoint source pollution impacts and contributes valuable data to support watershed-based planning and restoration efforts across southern New Mexico.

Rangeland Infrastructure Maintenance for Water Quality Protection in Hidalgo County

In 2025, the BLM Las Cruces District Office Rangeland Management program completed a series of infrastructure improvements in Hidalgo County to support watershed health and reduce nonpoint source pollution. These efforts focused on improving livestock distribution, maintaining water infrastructure, and minimizing land disturbance in upland areas.

A total of 7 miles of fence were constructed on the Steins Allotment (Owen Washburn) to improve pasture management and reduce overgrazing in sensitive upland zones. Additionally, seven dirt tank cleanouts were completed, one each on Rockhouse and Bass Draw, and five on Jose P., to restore water-holding capacity in tanks that had become silted in. These tanks provide critical water sources for both livestock

and wildlife, helping to distribute grazing pressure more evenly across the landscape and reduce the likelihood of erosion and soil compaction near natural water sources.

To address recurring issues with gates being left open by recreational users, four self-latching gates were installed to maintain pasture boundaries and prevent unintended livestock movement. These improvements support best management practices for rangeland health and contribute to broader efforts to reduce sedimentation and nonpoint source pollution in arid landscapes.



Dirt tank clean out in the Pyramid Mountains.

Gila River Lower Box Fence Maintenance to Reduce Livestock Impacts to Riparian and Aquatic Threatened and Endangered Species and Habitats

BLM Las Cruces District Office Aquatic staff continuously monitored and repaired Gila River gap fences at two locations at the upper and lower ends of the Gila Lower Box areas of critical environmental concern (approx. 10 miles apart). These fences function to exclude livestock from the areas of critical environmental concern which contains critical habitat for eight federally listed Threatened and Endangered Species species. Livestock exclusion since the late 1990's has revealed massive restoration of not only instream aquatic habitats and hydrologic function, but too riparian habitats including native tree and shrub species such as cottonwoods and willows. Outside of the exclosure, these native species are depauperate where livestock continuously forage.

Each fence consists of a standard barbed-wire component and an electrified component. The electric fence includes a 12-volt battery system and fence charger with solar panels. This component is critical for excluding livestock from the areas of critical environmental concern as once cattle are trained to the presence of the shocking mechanism, they do not attempt to push through the fence. This effort included weekly site visits and walking the extent of each fence to determine the status of the fences. If the fences are not functioning, then repairs are instituted. Repairs can be simple such as replacing a section of barbed or electric wire to complete rebuilds of the fence. The former being a single day event while the latter can take up to one to two weeks or more depending on the severity of the damage. Total rebuilds generally occur during summer monsoons when flash floods along the Gila River can completely wash away the fence(s) and require maximum effort to rebuild them.

Taos Field Office

The BLM Taos Field Office conducted multiple activities that reduce nonpoint source pollution in fiscal year 2025 including range, fire, forestry, fisheries and wildlife, botany, weeds, and water resources.

Water Quality

In 2025 the Aquatic Habitat Management program monitored water quality including pH, turbidity, water temperature, conductivity, total dissolved solids, dissolved oxygen, phosphorus, and salinity. Water quality is tested at fourteen sites starting at the Colorado State line to Velarde including six sites along the Rio Grande, two sites on the Rio Embudo, one site on each of the Rio Pueblo de Taos, Rio Hondo,

and Red River and three sites on the Rio Chama. The parameters are important to determine if there are increases in non-point source pollution as well as aquatic ecological health.

Thermographs

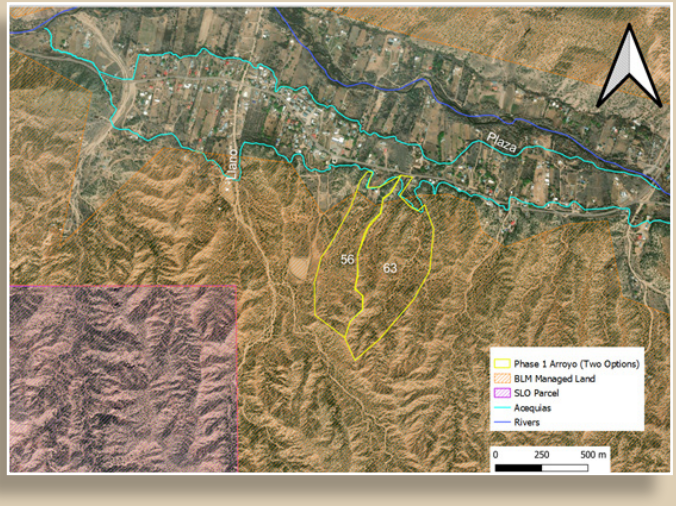
Thermographs are deployed at 32 sites on all tributaries and rivers in the Taos Field Office; including Agua Caliente, Rio San Antonio, Rio de las Trampas, Mora River, Santa Fe River, Santa Cruz River, five sites on the Rio Grande, three sites on the Chama, and two sites on the Rio Embudo. Thermographs are important to monitor for potential non-point source pollution that can contribute to higher temperatures such as erosion, runoff, deforestation and other man-made influences. Previously the thermographs recorded water temperature every hour throughout the year to monitor temperature changes in our waterways.

Proper Functioning Condition Analysis

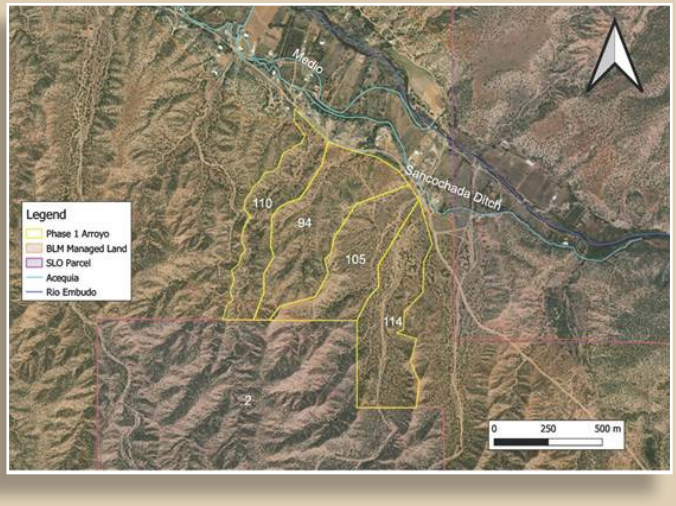
The Taos Field Office Aquatic Resource Management team completed two proper functioning condition surveys that included 4 miles in the Orilla Verde Recreation Area on the Rio Grande and 2 miles of the Arroyo Hondo below the horseshoe. Both were determined to be in Proper Functioning Condition, though Arroyo Hondo will not be surveyed in the future due to its status as ephemeral.

Embudo Valley Erosion Control Project

The Taos Field Office and Ecotone Landscape Planning LLC are partnering to restore arroyos that will reduce the risk and intensity of periodic flash flooding and sedimentation that seriously affects downstream landowners, farmers, and managers of irrigation and road infrastructure. The work would also reduce erosion in drainages, sediment deposition in the Rio Embudo, and restore riparian habitat. Achievement of a project area appropriate contribution to load reductions in the Rio Embudo in support of the improvement of water quality for the listed sedimentation/siltation and turbidity impairment. Accumulation and stabilization of sediment in prime sedimentation areas in target tributaries, such as alluvial fans, terraces, streambanks, wetlands, alluvial stream channels, and 0-order tributaries. Project area is approximately 1,700 acres. Phase 1 of the work will start in FY25 and will continue through FY34 and is funded by NMED RSP.



Phase 1 Arroyo #63 (Arroyo de los Cuates) and Arroyo #56.



Phase 1 Arroyos #110, #94, #105, and #114.

Cyanobacteria Testing

Weekly water testing at one site on Santa Cruz Lake and multiple sites on the Rio Grande from May through October. Results received in 24 hours to enable informed health and safety management decisions.



Brown Trout on the Rio Chama, 2025.

Fish Population Surveys

In 2025 Taos Field Office surveyed a total of 19 miles of river; 5 miles of wadeable rivers and 14 miles of boatable rivers. Rio Grande Cutthroat Trout were present in the Rio Chama and the Orilla Verde section of the Rio Grande. Rio Grande Sucker were present in the Rio Embudo and the Bosque section of the Rio Grande. Rio Grande Chub were present in the Bosque and Racecourse sections of the Rio Grande. Other native species present were Longnose Dace and Flathead Chub. Nonnative species present were White Sucker, Brown Trout, Rainbow Trout, Common Carp, Northern Pike, Smallmouth Bass, Channel Catfish, Walleye, and European Tench.

Rio Chama Macroinvertebrate Sampling

The Taos Field Office conducted its annual macroinvertebrate sampling trip on the Rio Chama. The survey uses the protocol outlined in Monika Hobbs (Hobbs 2020) paper, *The relationships between benthic macroinvertebrates and local water quality and physical habitat characteristics in the Rio Chama, New Mexico*. Ten transects in riffles are surveyed; at these transects macroinvertebrates are collected using a surber sampler, a pebble count is done, turbidity is taken using a quorer, and general water quality parameters are collected. Macroinvertebrates are sent to University of Utah for identification.

Fuels and Weeds Programs



Cerro RX, Fall 2024. Photo credits: Cody Mclean

Cerro WUI RX

This project represents the second phase of treatment following initial thinning and piling operations completed in 2017. The piles were intentionally left to decompose over several years to moderate burn intensity during subsequent treatment. This phase was specifically designed to reduce hazardous fuel loads within 133 acres of the wildland-urban interface adjacent to the community of Cerro, NM ultimately lowering the risk of catastrophic wildfire that could endanger homes, infrastructure, and critical community watersheds.

Mechanical thinning and prescribed burning play a critical role in maintaining soil integrity and ground cover by reducing the likelihood of severe, high-intensity wildfires. Such wildfires can sterilize soils, destroy organic matter, and trigger extensive post-fire erosion, sedimentation, and water pollution. In contrast, low-intensity fires in treated areas typically preserve much of the ground layer, including duff and root structures, which help stabilize the soil and prevent sediment from entering nearby streams and rivers.

Copper Hill Thinning

This project marks the initial phase of a broader effort to reduce hazardous fuel loads in areas adjacent to the communities of Peñasco and Dixon, NM. By proactively managing vegetation, the project aims to lower the risk of catastrophic wildfire that could threaten homes, critical infrastructure, and vital community watersheds. This 520-acre treatment will eventually be followed by jackpot burning to further reduce residual fuels.

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Before and after photos, Summer 2025. Photo credits: Marinha Santos

Orilla Verde Recreation Area and Ojo Sarco Invasive Woody Species Treatment

The Weeds program treated approximately 35 acres of invasive woody species including Saltcedar (*Tamarix spp.*), Russian olive (*Eleagnus angustifolia*), and Siberian elm (*Ulmus pumila*) in two project areas. 30 acres were treated in the Orilla Verde Recreation Area along the Rio Grande from January-February of 2025 with the Aquatics program. 5 acres were treated in Cañada de Ojo Sarco, a tributary of Rio Embudo, in September of 2025.

Woody invasive species removal will allow for native riparian woody species recruitment, improving the filtering of nonpoint source pollutants. Removal of these species improves water quality by decreasing salinity, erosion, and sediment loading while increasing nutrient availability, water infiltration, and hydrologic function.

Cerro de la Olla Cheatgrass Treatment

In addition to treating riparian woody invasive species, the Taos Field Office Weeds program facilitated the treatment of 330 acres of Cheatgrass (*Bromus tectorum*) on Cerro de la Olla in the Rio Grande del Norte National Monument. The treatment area was within the Pot Mountain Fire burn scar. Upland invasive species treatments are important to improve soil quality and hydrologic function. Cheatgrass removal promotes native grass and forb recruitment, which allows the transition from annual to perennial grassland and reduces erosion. Pre-treatment Terrestrial Assessment, Inventory, and Monitoring was completed at two Assessment, Inventory, and Monitoring plots within the treatment area. Parameters included soil stability, species richness, line-point intercept, plot characterization, plot observation, canopy gap, and photo points. Post-treatment Terrestrial Assessment, Inventory, and Monitoring will be conducted to assess treatment effects.

Botany and Ecology Program

Restoration of the Rio Grande del Norte National Monument

The Botany program completed the first phase of a large-scale habitat restoration project to restore habitat, connectivity, forage, and ecological resilience to 2,000 acres of degraded habitat within the Rio Grande del Norte National Monument. Selected restoration sites have historically been subject to continuous grazing and numerous vegetation treatments leading to degraded soil health, decreased species diversity, and increased presence of invasive species and soil erosion. Phase 1 of this project focused on collecting preliminary baseline data for vegetation composition and diversity, creating seed balls, and hand seeding 2,000 acres of terrestrial habitat during the fall of 2025. During Phase 1, approximately 6,000 seed balls and 1,000 lbs. of native seed were deployed with the help of local volunteers and volunteer organizations such as the Friends of the Rio Grande del Norte National Monument Group. Phase 2 of this project will be to continue to collect data on vegetation composition and diversity, monitor degraded habitat, and re-seed areas during the spring/fall of 2026 and 2027.



Volunteer event for National Public Lands Day reseeding 2000 acres within the Rio Grande del Norte National Monument.

Institute for Applied Ecology Rivers for Monarchs Partnership

The Aquatics and Botany Teams partnered with the Institute for Applied Ecology on their "Rivers for Monarchs" project to plant native species and conduct pollinator studies within the Monument for a large habitat improvement project. Institute for Applied Ecology's "Rivers for Monarchs" project aims to restore 16 stepping-stone habitats for monarch butterflies. Due to the rapid decline in monarch migratory and breeding ranges, the project seeks to create a continuous corridor for monarch breeding and migration by enhancing pollinator habitats along the Rio Grande riparian zones.

Terrestrial Assessment, Inventory, and Monitoring Strategy

The Assessment, Inventory, and Monitoring Strategy provides a set of standards for assessing natural resource conditions and trends on BLM-managed public lands. The Assessment, Inventory, and Monitoring Strategy provides quantitative data and tools to guide and justify policy actions, land uses and adaptive management decisions. The Taos Field Office Aquatic, Botany, and Range Programs use this data to monitor land health standards and trends in response to treatments, grazing, and climate. In 2025, crews sampled a total of 22 plots within the Taos Field Office to help prioritize habitats in need of restoration activities, maintain and improve habitat conditions, and understand the effectiveness of our management. More information about Terrestrial Assessment, Inventory, and Monitoring Strategy can be found here: Assessment, Inventory, and Monitoring | Bureau of Land Management.



Maintenance Program

- Horsethief Mesa Trail - Installed a 20ft x 24" squash culvert to prevent road erosion.
- Quartzite parking lot- Defined area where water sheds from a large culvert to prevent parking lot erosion into Rio Grande
- Ute Mountain cattleguards- Installed (2) cattleguard assemblies at different locations at Ute Mountain to prevent cattle from accessing Rio Grande.
- Abiquiu Dam cattleguard work- Cleaned (4) cattleguards to prevent cattle from damaging lands and accessing river.

River Program and Recreation Areas

The Taos Field Office recreation river program regularly conducts actions which protect and improve the health, quality and proper functionality of public lands with the Rio Grande corridor. These actions include regular and special maintenance of facilities and infrastructure, litter cleanups (by boat, road, and on foot), hazard removal (including dumpsites, natural strainers, foreign objects transported by rivers and streams).

Cleanups and hazard removal within the riparian corridors is constant and difficult to quantify. At least 650 hours of (river) program time were devoted to these activities in the past year, with at least 200 garbage bags of material collected and properly disposed of. The removal of anthropogenic refuse is performed from river channels all the way into the uplands, with a special focus on developed and popular recreation areas in riparian environments.

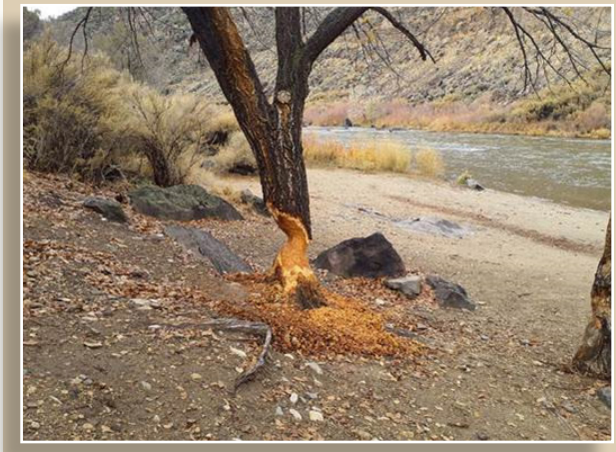
Additionally, our program influences public land users through interpretive contact and education, which often has the end result of discouraging harmful behaviors in a variety of ways. Minimizing the impact of recreational river users through interpretation and education is especially effective, as these users are increasing common and their impact is concentrated at boat access sites.

In FY25 the river program dedicated a significant amount of time and effort to maintaining the beaver exclosures within the Rio Grande corridor from just above the Taos Junction Bridge site to ½ river mile below the County Line site. Maintenance visits to these locations have the additional benefit of allowing for other beneficial actions, such as the redirection of developing social trails from sensitive areas, monitoring of off-road and trail areas, the aforementioned cleanups, mechanical removal of invasive species, etc.

For background/context, the upper Rio Grande has an abundance of active beavers, which prefer cottonwood trees over all other forage. The mature cottonwood trees present are all cultivars which were reintroduced to the riparian corridor within the last 30 years. The fencing exclosures are vital to the survival of any tree within 50 yards of the river. As the trees grow and the landscape regularly changes, the enclosures require regular maintenance. Unmaintained, the exclosures will eventually collar and harm the trees. Trees which grow to a diameter of over 30 inches are large enough to discourage beaver attack and no longer need any intervention. As trees become well established, second growth of cottonwood saplings are protected with new cages when their location is appropriate for a large tree.

In FY25, within this 13+ river miles of the Rio Grande corridor:

- 48 cages were maintained
- 12 cages were removed
- 14 new cages were installed
- 23 cages were replaced
- Over 130 cages were mapped and inspected



Siberian elm tree by beavers. Non-native species are not fenced. Photo: John Dunn Bridge lower beach 11/2025. Photo credit: Nathan Oswald

Trail work Completed

In Wild Rivers Recreation Area 2 miles of trail work was completed.

Range Program

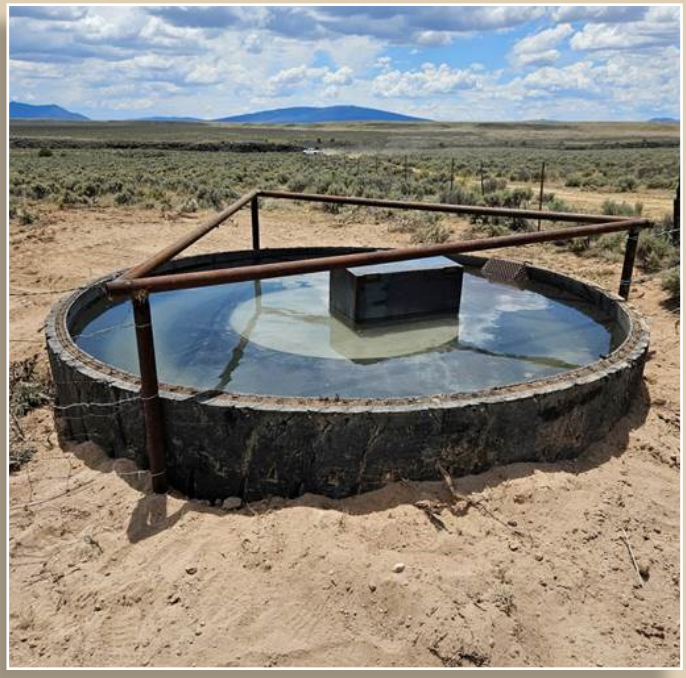
Land Health Assessments/Trend Monitoring

In FY25, the BLM Field Office' Rangeland Management program completed trend monitoring on 10 allotments within the Upper Rio Grande HUC6: 130201 Basin. Trend monitoring consists of various methodologies such as line point intercept, production, utilization, soil stability, and Interpreting Indicators of Rangeland Health. This fiscal year, 8 Land Health Evaluations were completed for allotments monitored in FY24 and FY25. These land health evaluations use a preponderance of evidence from trend

monitoring, BLM's Assessment, Inventory, and Monitoring program, and other data sources to determine if a particular allotment is meeting the New Mexico's Standards for Public Land Health and Guidelines for Livestock Grazing Management. All 8 of the allotments were determined to be meeting the applicable standards.

Range Improvement Projects

In FY25, the BLM Field Office' Rangeland Management program completed construction of the "Ute Mtn Well and Pipeline". This livestock watering facility met the court ordered settlement agreement dated 1991 from the United States Department of the Interior Office of Hearings and Appeals, which allowed watering of the appellants livestock in the Rio Grande Corridor until a sufficient well was drilled to provide offsite water. A 262' well was completed in 2021, and with the current pump produces 21 GPM. A 5,000 gallon storage tank and approximately 1,750 gallon tire trough was installed, which also provides an upland water source to native wildlife.



Socorro Field Office

HUC 8 Watershed	Project Description	Water Quality Benefits
Rio Salado 13020209	To mitigate point source sediment pollution and stabilize actively eroding streambanks along Alamocita Creek, a series of engineered erosion control structures were installed. These structures consisted of permeable spur dikes constructed using 4.5-inch drill stem pipe, v-mesh fencing, and tensioned cable, placed to redirect flow energy away from eroding banks and promote sediment deposition within the channel. This area was experiencing significant bank retreat that undermined mature stands of native cottonwood. These stands are crucial for bank stabilization and riparian habitat. By reducing erosive shear stress, this project helped preserve the remaining cottonwood stands and created ideal conditions for propagation of new cottonwoods In conjunction with structural interventions, two acres of native willow poles were planted along the riparian corridor, within the footprint of the previously constructed erosion control structures that were buried under sediment deposit. Willows were selected for their rapid root establishment and high transpiration rates. The vegetative component of this project enhanced soil cohesion, reduced surface runoff, and provides long-term resilience against bank erosion.	The water quality benefits of this project include reduced sediment loading due to shear stress erosion, improvement to riparian vegetation recovery due to favorable propagation conditions in the freshly deposited sediment behind the structures, and improved riparian ecosystem through bank filtration.

Rio Grande-Albuquerque 13020203	As part of a watershed-scale effort to reduce sediment deposition to the Rio Grande and affected community, 34 earthen dam erosion control structures were constructed within a subbasin that drains through Kelly Canyon. These low-tech, high-impact structures are designed to intercept and impound stormwater runoff, reduce peak flow velocities, and promote sediment deposition before sediment-laden flows reach downstream infrastructure and the Rio Grande. This subbasin drains directly into the Rio Grande, located about 10 miles downstream, and includes a low-water crossing and series of gabion drop structures maintained by the New Mexico Department of Transportation just 3 miles downstream. By reducing sediment transport from upland erosion sources, the project contributes to extending the functional lifespan of these New Mexico Department of Transportation structures, reducing maintenance costs. The earthen dams function as check structures that slow runoff, trap sediment, and encourage localized infiltration.	Water quality benefits include sediment load reducution by trapping sediment in the upper watershed, infrastructure protection, and reducing peak discharge rates that contribute to flooding downstream.
Rio Grande-Albuquerque 13020203	As part of the SunZia Transmission Line Right-of-Way reclamation efforts, overseen by the BLM in coordination with the Compliance Inspection Contractor, erosion control measures were implemented to mitigate sediment transport from newly constructed access roads traversing steep terrain. Following BLM recommendations, SunZia contracted a local firm to re-design, survey, and reconstruct 35 earthen erosion control dams along the ROW. These structures were built with riprap armoring and articulated concrete matting to enhance structural integrity and prevent sheet flow erosion from the bladed road surfaces. The combination of earthen dams and engineered surface treatments was selected to withstand high-intensity runoff events and reduce the risk of gully formation in steep, erosion-prone areas. The project area posed a risk of sediment delivery to lower watershed features including the Rio Grande approximately 8 miles downstream. The erosion control structures serve to intercept and slow overland flow, promote infiltration, and trap sediment before it transports downslope.	Water quality benefits include prevention of sheet and rill erosion through design features that dissipate flow energy, and reduction of sediment transport through sediment retention in the dam impoundments.
Rio Grande-Albuquerque 13020203	120 acres of land within the Socorro Nature Area, located approximately 0.1 miles west of the Rio Grande, were revegetated with native trees, shrubs, and grasses. This effort focused on restoring native plant communities that historically supported the ecology of the Middle Rio Grande riparian corridor. Hundreds of native species were planted and selected for their ability to support wildlife habitat, soil stabilization, and hydrologic function. These species include Rio Grande cottonwood, Narrowleaf cottonwood, Pinyon pine, and Gamble oak.	Water quality benefits include vegetation acting as a natural filter and buffer for surface runoff and pollutants into the Rio Grande, soil stabilization through improved floodplain stability, and groundwater recharge and infiltration through increased soil permeability.

Upper Gila 15040001	The Buck Fire, a 57,750-acre wildfire, burned across a mixed landscape of grassland and woodland ecosystems. While unplanned, the wildfire precipitated prescribed holding burns. Portions of the fire exhibited low-intensity behavior and remained within the burn parameters for that region, resulting in ecologically beneficial outcomes. One significant effect was a reduction of woody vegetation encroachment by over 20% in areas where juniper had displaced native grassland communities. This reduction supports the maintenance of desired grassland states, improving herbaceous cover, reducing competition for water, and enhancing overall watershed function. Post-fire monitoring indicated that native grasses responded positively, with increased foliar quality and quantity following monsoonal rains. This vegetative response contributes to improved ground cover, reduced soil erosion, and enhanced forage availability for wildlife and livestock. The fire also removed hazardous ladder fuels, significantly reducing the risk of future high-intensity wildfires and improving long-term landscape resilience. In conjunction with post-fire recovery efforts, the project included: • Closure and rehabilitation of 2 miles of unauthorized routes, using slash, native revegetation, and water control features to restore hydrologic function and prevent erosion. • Watershed-sensitive management of 1.5 miles of the Continental Divide Trail, including drainage improvements and surface stabilization to reduce sediment transport and trail degradation.	Water quality benefits include erosion and sediment control through increased herbaceous cover and route closures and rehabilitation, fuel load reduction lowering the risk of future high intensity fire, and watershed function through improved infiltration via improved vegetation and trail management.