

NEW MEXICO

NONPOINT



SOURCE

MANAGEMENT PROGRAM

**ANNUAL REPORT
2000**



NEW MEXICO NONPOINT SOURCE MANAGEMENT PROGRAM

ANNUAL REPORT FOR 2000



Tularosa Creek at Aragon



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A MESSAGE FROM JAMES H. DAVIS, Ph.D., BUREAU CHIEF, SURFACE WATER QUALITY BUREAU

I am pleased to submit this report summarizing the accomplishments of New Mexico's Nonpoint Source (NPS) Management Program for 2000. New Mexico has, and continues to, aggressively tackle nonpoint sources of water quality impairment through the total maximum daily load program, and implementation through the Clean Water Act, Section 319 (h) grant administration. This report reflects the role of the New Mexico Environment Department in leading and coordinating the nonpoint source program, and highlights how this leadership has brought other state/federal agencies and local groups into the effort to protect water quality.

The New Mexico Nonpoint Source Management Program administered by the Surface Water Quality Bureau (SWQB) outlines a five-year Core Work Plan to address nonpoint source concerns within 21 Category I Watersheds from New Mexico's Unified Watershed Assessment (UWA). Beginning in 1999, each year, approximately four UWA Category I Watersheds are targeted for intensive outreach by SWQB teams. These teams include WPS technical staff representatives. These watersheds have been additionally prioritized based on New Mexico's Total Maximum Daily Load (TMDL) development schedule. Outreach activities are coordinated with the development of TMDLs for impaired stream reaches within each targeted watershed. Following TMDL development, the NPS Management Program utilizes a "request for proposals" approach, which specifically targets these watersheds for § 319(h) grants. Award preference is given to those projects that address appropriate causes of non-support.

After five years, all presently identified Category I watersheds will have been targeted for intensive outreach, monitoring and §319 restoration efforts. Major staffing objectives to support the Core Work Plan include outreach, facilitation, administration and oversight. SWQB will also respond to other situations and opportunities that may arise within other watersheds within the state. The New Mexico NPS Management Program and Assessment Report was approved by EPA on January 6, 2000. New Mexico is now formally recognized as a Nonpoint Source Enhanced Benefits State.

All of us in New Mexico who are cooperatively tackling the state's NPS issues appreciate the support of EPA in this effort and look forward to continuing success and cooperation in protecting our water quality.

Sincerely,

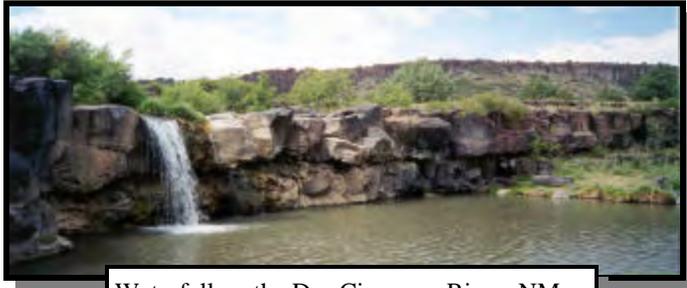
James H. Davis, Ph.D.

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Photo this page; Eagle Nest Lake

Cover photos: Clockwise starting upper left; Viveash Fire Smoke Plume Pecos, NM; White Rock Canyon, White Rock, NM; Cerro Grande Fire, Los Alamos, NM; Los Alamos Reservoir after Cerro Grande Fire.



Waterfall on the Dry Cimarron River, NM

INTRODUCTION

This report was prepared in accordance with [section 319](#) of the Federal Water Pollution Control Act ([Clean Water Act](#) or CWA) and summarizes nonpoint source pollution control efforts and activities within New Mexico for 2000. Section 319 of the amended CWA required states to assess the nature and extent of water quality impairment resulting from nonpoint sources of pollution and develop management programs to control the sources identified.

New Mexico's initial Nonpoint Source (NPS) Assessment Report and Management Program documents were prepared and approved in accordance with the requirements of the CWA. The New Mexico NPS Assessment Report was initially adopted by the New Mexico [Water Quality Control Commission](#) (NMWQCC) on 13 September 1988, revised on 11 April 1989, and approved by the [U.S. Environmental Protection Agency](#) (EPA) on 31 July 1989. Since that time, waterbody tables that outline known impairments, resulting from NPS causes and sources, have been updated on a biannual basis as a part of the New Mexico [Water Quality Report to Congress](#), as prepared and submitted in accordance with [§305\(b\) of the CWA](#). Following preparation and submittal of the assessment report, New Mexico developed the [NPS Management Program](#) that was approved by the NMWQCC on 12 September 1989. EPA approval was granted on 26 September 1989. In 1999, New Mexico updated the 1994 NPS Management Program. The update was designed to provide future direction and goals for the State's program and contained the following elements as required by [§319\(b\)\(2\) of the CWA](#):

- (A) Best Management Practices (BMPs) that will be used to reduce pollutant loading by category and subcategory of pollutant source.
- (B) Identification of programs to achieve implementation of BMPs by category and subcategory.
- (C) A schedule of milestones for implementation of BMPs.

(D) Certification by the Attorney General that the laws of the State of New Mexico provide adequate authority to implement the NPS Management Program.

(E) Sources of Federal funding and other assistance and funding that will be available and utilized for implementation of the NPS Management Program.

(F) Identification of federal programs and federal financial assistance that will be reviewed for consistency with the NPS Management Program.

The New Mexico NPS Management Program describes programs and actions that will reduce pollutants from nonpoint sources entering surface and ground water. As part of the evolution of the program, the interagency task force has an expanded role, which is discussed further on page 6.

Nonpoint sources of water pollution are recognized as contributors to water pollution in New Mexico, as well as the nation. Principal sources of surface water NPS pollution in New Mexico include erosion from rangelands, agricultural activities, construction, silviculture, resource extraction, land disposal, unsurfaced roads, and recreation. Hydromodification may affect attainment of designated uses by diverting water out of stream channels, by impounding waters, and through channelizing and dredge-and-fill activities. Principal known sources of NPS ground water pollution in rural and suburban areas include household septic tanks, cesspools, and agricultural activities.

The New Mexico NPS Management Program describes dynamic programs and progressive actions necessary to reduce pollutants from nonpoint sources entering surface water and ground water. As part of the evolution of the program the task force has an expanded role in prioritization and coordination of NPS management through the [Clean Water Action Plan / Unified Watershed Assessment](#) (CWAP/UWA) process. Task force membership has been expanded and is now known as the NPS Task Force/ UWA Work Group. Results of SWQB NPS monitoring projects, agency management activities, and new NPS concerns will be reported to and discussed with the NPS Task Force/ UWA Work Group. When appropriate, results of these discussions will be referred to the NMWQCC for its review and action. When necessary to provide consistency and to improve the NPS program, the NPS Task Force/ UWA Work Group will help SWQB develop and propose updates to the State's NPS Management Program.

NPS PROGRAM OVERVIEW and DEVELOPMENT

[Nonpoint Source Management Program](#)

In January, 2000 New Mexico's Nonpoint Source Management Program was officially approved by USEPA Region 6. The New Mexico Nonpoint Source (NPS) Management Program describes dynamic programs and progressive actions necessary to reduce pollutants from nonpoint sources entering surface water and ground water. Implementation of this program will help New Mexico succeed in attainment of surface water quality that will fully protect designated uses (described in [the State's water quality standards](#)) and meeting the goals of the Federal Water Pollution Control Act (commonly referred to as the Clean Water Act (CWA)), and ensuring adequate ground water quality for municipal, domestic, and agricultural uses.

The New Mexico Nonpoint Source Management Program outlines a five-year Core Work Plan to address the concerns within the 21 Category I Watersheds. Beginning in 1999, each year, approximately four UWA Category I Wa-

tersheds are being targeted for intensive outreach by SWQB teams including WPS technical staff representatives. These watersheds have been further prioritized based on Total Maximum Daily Load (TMDL) development schedules. Outreach activities are coordinated with the development of TMDLs for impaired stream reaches within each targeted watershed. Following TMDL development, section 319 (h) requests for proposals specifically target these watersheds and award preference is given those projects that address appropriate causes of non-support.

After five years, all presently identified Category I watersheds will have been targeted for intensive outreach, monitoring and section 319 restoration efforts. Major staffing objectives to support the Core Work Plan include outreach, facilitation, administration and oversight and enforcement. SWQB will also respond to other situations and opportunities that may arise within other watersheds within the State.



A volunteer spreads straw mulch to assist in protecting water quality after the Cerro Grande Fire.

WATERSHED PROTECTION

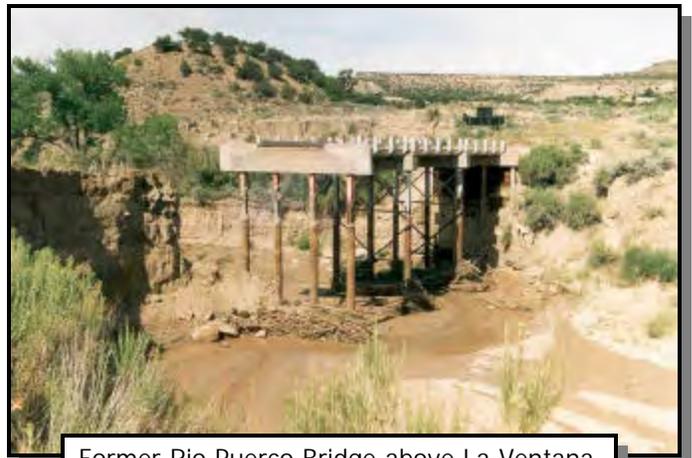


[EPA, Region VI, 5th Annual NPS Conference, Angel Fire NM:](#) Over 225 people gathered during the week of May 22 through 25 at Angel Fire, New Mexico, to attend the 5th Annual USEPA Region 6 Nonpoint Source (NPS) Watershed Conference. This conference gave New Mexicans as well as others, a chance to network with new partners, attend workshops and field trips, and focus on water-related topics - ranging from nonpoint source pollution, wetlands and surface water quality issues, to the watershed approach for improving water resources.

Workshops included an all-day Wetlands Forum, and half-day workshops on the Clean Water State Revolving Fund, Stakeholder Involvement Techniques and the Geomorphic Approach to Understanding Natural Channels. Conference speaker's sessions included involving new partners, watershed practitioner's tricks of the trade, implementing NPS Total Maximum Daily Loads, fluvial geomorphology, and presentations on mining, rangeland, forestry and urban development NPS issues. Conference topics were pulled together by Tom Davenport of USEPA Region 5 through his evaluation of the process of identifying NPS problems, implementing and monitoring restoration and documenting changes in the environment as a result of these activities.

[Rio Puerco Watershed:](#) The Rio Puerco Mining Impacts Project was completed during 2000. A Summary Report on project activities and results was submitted to EPA Region 6. Following their review and approval, the report was widely distributed to cooperating agencies and various parties interested in the approach taken to characterize mining impacts in the region, and in particular, to mitigate offsite transport of mine wastes from the abandoned Nacimiento Copper Mine, on State and Forest Service lands, in Sandoval County.

The SWQB-WPS remains an active participant in the Rio Puerco Management Committee (RPMC), with staff members contributing time and effort into three especially notable efforts during the past year. The Highway 44/550 project continues, with the WPS steadily progressing on a trilogy of 319(h) projects (including FY95-K, 99-1, and a final construction workplan being developed at the present time) that are instrumental in advancing stream restoration efforts in this seriously impacted reach of the upper Rio Puerco. Stream segment mapping and morphology fieldwork has assessed the hydraulic geometry of 20,200 feet of stream channel, including the present channelized reach above and below the project, and the meandering channel segment into which flow and habitat will be restored. The construction of two new bridges over the river is more than half completed, and the Bureau of Reclamation is being enlisted to provide engineering design and specifications for the upcoming stream diversion and restoration project. The scope of these projects has expanded as the BLM is planning the establishment of a Two Bridges Riparian Enclosure Area. The project will be designed to transform the 800+ acre subwatershed surrounding the restoration project into a virtual outdoor laboratory with erosion control, riparian habitat, uplands management, and sagebrush and piñon-juniper management techniques being implemented and demonstrated for the public.



Former Rio Puerco Bridge above La Ventana

A comprehensive environmental data acquisition, analysis and review exercise by the RPMC has resulted in the prioritization of two headwaters-area subwatersheds (Upper Main Stem and Torreon Wash) within the >4.5

million acre Rio Puerco Watershed for future project implementation. Following identification of the priority areas and determination of the causes of local impact by the stakeholders and Committee members, a series of "Listening Meetings" have been held at sites within those prioritized areas to share technical findings with local residents and learn their perceptions regarding the most important environmental problems are in their sector. Follow-up meetings and on-the-ground project efforts are planned for the future.



Tributary to the Rio Puerco

A Watershed Restoration Action Strategy (WRAS) is being developed by the RPMC. The document is being formulated by a Subcommittee and will be reviewed and adopted by the full RPMC in early 2001 for direct use in 319 Grant project applications. The living document can also be presented to the Congress in support of the RPMC's annual reporting commitment, and is also expected to be a very useful attachment to grant and funding proposals submitted to a variety of private foundations.

This watershed continues to benefit from the 319 program's involvement with environmental advocacy groups. The [Forest Guardians](#) are nearing completion of a riparian restoration demonstration project on the Rio Puerco's Upper Main Stem with their final project tasks, planting of additional riparian vegetation or the creation of a wetland zone within the incised channel floodplain of the Rio Puerco, to be completed in Spring 2001. The [Quivira Coalition](#) is proceeding with a watershed planning and training program following completion of their second season of intensive animal impact remediation (*Poop & Stomp*) on mine wastes situated on private lands immediately adjacent to the Nacimiento Mine. Quivira received additional funding support from the

BLM and TEVA Corp. to complete a second year of work at the site. The vegetative response of the treated lands is undergoing strict monitoring.

[Children's Water Festival 2000 Highlights:](#) The Children's Water Festival 2000 (CWF) was held at the Albuquerque Convention Center on November 2nd and 3rd 2000. The Festival included 20 activities, 13 of which were related to non-point source pollution. 920 children were accompanied by over 100 teachers and parents, and 62 volunteers and members of the steering committee participated directly in the festival by guiding the classes and assisting presenters with their activities. Twelve public agencies, three schools, two non-governmental organizations, and two private companies contributed presenters. The students learned a great deal about water characteristics, water-related issues, and water conservation that they did not know before the Festival. They also acquired new terminology, learned that water is important to humankind's survival and health, and they learned that water is a finite resource. SWQB contributed with oversight of the section 319(h) program that partially funded the event and by teaching an activity on watershed delineation.



Students examining watershed maps at CWF 2000

[Stormwater Management Pilot Project for Nonpoint Source Pollution Reduction in Santa Fe:](#) The Santa Fe Stormwater Project began last fall with the formation of the Santa Fe Drainage Task Force and initiation of a watershed assessment for the Arroyo de los Pinos, an urban sub-watershed of the Santa Fe River. The project will demonstrate how appropriate stormwater management techniques can allow more water to soak in where it falls, reduce flood flows and erosion in the arroyo, keep unwanted sediment out of the Santa Fe River, and

save city taxpayers money in maintenance expenses. The project includes three major components: 1) development of a draft stormwater management ordinance for consideration by the Santa Fe City Council, 2) public outreach and education, 3) on-the-ground demonstration of stormwater management within the Arroyo de los Pinos watershed. The three components are intended to complement each other. For example, the on-the-ground component is intended to demonstrate the proposed ordinance put into practice. The outreach is intended to increase awareness of stormwater management issues and build support for public efforts to reduce the volume of stormwater runoff in Santa Fe's arroyos and the Santa Fe River. The ordinance is currently being drafted with input from stakeholders, public outreach is underway with a series of neighborhood meetings, and on-the-ground work will start in April 2001.

[Angel Fire Ski Area Project:](#) During 2000, two miles of ski runs were addressed using the "Poop & Stomp" techniques. Revegetation of these areas was critical due their steep slopes and location near watercourses. Photo monitoring is showing positive results with organic material cover on and incorporated in the soil and a greater plant uniformity and density. Public outreach included a conference field trip to the site, an article in a national ski magazine, and articles in local papers.

[Terrero Mine Reclamation Project:](#) SWQB continues to provide oversight of the Terrero Mine reclamation project north of Pecos. This twenty-million dollar Superfund-like cleanup involves removal of mine wastes beneath the Willow Creek valley and subsequent reconstruction of a new stream channel, which includes a gabion structure fish barrier to allow for establishment of a population of native, endangered Rio Grande Cutthroat trout in Willow Creek.

[Ruidoso Watershed Restoration Project :](#) The Ruidoso River Association (RRA) has been working diligently with Lincoln National Forest Personnel and the Mescalero Apache Tribe to design and implement BMPs at Ski Apache to mitigate sediment discharge from the parking lot, slopes, and sediment detention basins. The Project will be extended an additional fourteen months to get this work completed. The Grindstone Dam initiatives have proven to be a great success. The Grindstone Dam leakage was pumped back into the lake, the upstream gauging station was on line and recording, and the minimum flow agreement with the village came into effect in 2000.

The RRA continues to publish their monthly newsletter, "Notes from the Noisy Water," and has completed the production of a short, delightful and powerful videotape of their progress entitled "Saving the Noisy Water: The Ruidoso River Association Story." They will use this

video to help their fund-raising efforts and to share with other nascent watershed groups. This year, they have increased their membership by 250 for a total of over 950 members. Dick Wisner, president of the RRA, was elected "Citizen of the Year" by the Ruidoso Chamber of Commerce for significant contributions that make Ruidoso a better place to live. This award was for his work with the RRA.



A typical large turnout for one of the Ruidoso River Association river cleanup days.

Furthermore, the Ruidoso River Association has been instrumental in organizing a broader-based watershed association, "the Upper Hondo Watershed Coalition." This group has been formed to develop Watershed Restoration Action Strategies for the Upper Rio Hondo watershed of which the Rio Ruidoso is a part. This initiative has also spawned several other watershed groups in the Hondo Valley. The Ruidoso River Association World Wide Web page and associated links can be accessed at www.ruidosoriver.com. Signs have been installed on all river crossways identifying the watershed and asking citizens to keep it clean. Ruidoso middle and high schools are developing watershed curricula. In partnership with NMED, USFS and the Mescalero Apache tribe, the RRA has initiated the design, engineering and implementation of BMPs at Ski Apache, a primary source for sedimentation in the Rio Ruidoso. And they've only just begun! The Ruidoso River Association is truly the "voice of the river."

[The "Gila Monster" Watershed Group:](#) Much progress has been made in redefining the scopes and objectives of the group. The group has split into two focus groups, with the San Carlos/Stafford/Duncan group accomplishing projects in Arizona while the New Mexico group has focused on the development of a sustainable dialogue group. Still very much locally led, the stakeholders are in the process of redefining needs within the watersheds, and within the States the group serves.

[Valle Grande Grass Bank Water Quality Improvement Projects: A Composite Of Projects Within the Valle Grande Grass Bank Program:](#) The Santa Fe and Carson National Forests are conducting several coordinated range restoration projects on Forest Service land utilizing the Valle Grande Grass Bank, which The Conservation Fund operates. The Grass Bank is an alternative allotment for cattle to graze while home allotments are actively restored (in some cases with mechanical thinning of trees) and rested sufficiently to permit fuel accumulation to support prescribed fire.

[Upper Santa Fe Watershed Restoration Project:](#) The Santa Fe National Forest and City of Santa Fe propose to thin and burn 1100 acres of piñon/juniper and ponderosa forest in the upper Santa Fe River watershed. The upper watershed contributes 40% of Santa Fe's municipal water supply, and 70 years of fire suppression have resulted in very high fuel loading levels that increase the chances of a large intense wildfire that would reduce the quality or quantity of this water supply.

[Rio Embudo Water Quality Improvement Project:](#) The Carson National Forest is restoring ponderosa pine forest on the Santa Barbara Allotment near Peñasco. To date, 323 acres (of 455 planned) have been thinned, 88 acres (of 455) have been burned under prescription, and drainage on nine miles of trails has been improved. The cattle of the Santa Barbara Grazing Association were transferred to the Valle Grande Grass Bank during the summer grazing seasons of 1999 and 2000. Despite a dry summer in 2000, the understory response has thus far been significant.



Rio Embudo after prescribed burn

[Rito Penas Negras Watershed Project:](#) During 2000 this area was closed due to drought conditions and severe fire danger. Photo documentation for verification of baseline riparian conditions was completed. Meetings were held with local grazing permittees and the District

Ranger on the status of the project's BMP implementations, including rotational grazing practices, fencing for grazing management, construction of check dams for soil retention, and rehabilitation of spring sites.

[Caja del Rio Sagebrush Flats Prescribed Burn:](#) The Conservation Trust is encouraging vegetative diversity and erosion control through the use of prescribed fire on a monoculture stand of brush. A burn completed in the early spring of 2000 was somewhat spotty, but it did achieve desired result where the fire could be sustained. The density of sagebrush cover was significantly reduced, with favorable development of grasses and forbs resulting. As an outreach follow up to these project efforts, the Trust has submitted several technical articles to journals and conferences to acclaim the merits of fire to promote healthy ecosystems and diverse vegetation.



Prescribed burn on Sage Brush Flats

[Naschitti Range Management Unit Project:](#) During the past year all planned fencing has been installed and is aiming towards completion of the project during 2001. Vegetative growth in previously fenced areas demonstrates moderately improved grass cover, even though the last 2 to 3 years has been dominated by drought conditions. The project is being presented as an outdoor classroom demonstration for the benefit of local residents.

[Jarosa/Rio Puerco Riparian- Rangeland Improvement Project:](#) During the spring of 2000 the project operators coordinated the introduction of livestock into the Jarosa allotment with the local grazing permittees. They held meetings to explain the best management practices being implemented. Wildlife and livestock pond construction was also accomplished during this time period. Severe drought, dry conditions and danger of wildfires limited activities on this project during the remainder of 2000.

[The Rio Vallecitos Watershed Project:](#) A BMP for this project experimented with introduction of grazing live-stock into the allotment in the spring and removal of the cattle in the fall. The Permittees were active in fencing and spring development projects, aimed toward improvement of the local water quality. Additional meetings were held with the Allotment permittees to plan completion of BMP structures described in the project workplan. The NEPA process was completed for 2 of 4 allotments within project. WPS and F.S. District staff are working on a wish list of additional BMP implementations to be installed within the four allotments. Both the Santa Fe and Carson National Forests were closed to all activities during the majority of 2000 due to severe drought and fire conditions. No on-the-ground activities were permitted, however additional meetings were held to develop plans to return to the project area when improved ground conditions return during 2001.

[Gallinas Watershed Riparian Enhancement Project:](#) This project focuses on the headwaters of the Gallinas River and its major tributaries within the Pecos and Las Vegas Ranger District Forest boundaries. Work has been completed at E.V. Long Campground to protect riparian growth and stream banks, and minimize impacts from the road. Campsites on the stream bank have been removed and parking spaces too close to the banks have been closed using native materials and a cable barrier. This project will also address the risk of wildfire on the steep, densely vegetated slopes of the upper canyon via implementation of prescribed burning and thinning practices to improve the health of the watershed.



Gallinas River

[Santa Fe River Restoration Project:](#) The Forest Guardians and the City of Santa Fe are working on the Santa Fe River below the Waste Water Treatment Plant. The restoration of the river's riparian corridor and flood plain, by increasing woody riparian vegetation, is aimed at improving pH and dissolved oxygen impacts, in an

attempt to comply with the Total Maximum Daily Load (TMDL) written for this segment of the Santa Fe River. A brochure documenting the project is slated for production in early 2001.

[Abo Arroyo Watershed Project:](#) This project involves the thinning and removal of monoculture brush on private land to reduce erosion. Forty-five acres in this watershed have received brush management implementation to date. Plans were developed to accomplish further work on another canyon area in June 2001. The local Soil and Water Conservation District has developed an outreach program to the local community with "Conservation Days" and a watershed tour of areas where brush treatment has occurred. A Memorandum of Understanding has been signed between this SWCD and the Forest Service to continue to work on additional erosion problems in the upper watershed.

[Nonpoint Source Pollution Project on the Santa Fe River:](#) The State Land Office, in partnership with the City of Santa Fe and the Santa Fe Watershed Association, has begun work to restore a seriously degraded section of the Santa Fe River. Unique channel design and vegetation plans have been developed in this ephemeral section of the stream reduce erosion impacts during flashy storm events and promote streambank stabilization. The design includes the formation of meanders in the channel, combined with strategic placement of root wads and boulders.

[Caja del Rio/Santa Fe River Watershed:](#) Grazing Permittees on the Espanola Ranger District have completed installation of a pipeline to water cattle using effluent water from the City of Santa Fe. This will reduce the cattle's impact on Rio Grande and Santa Fe River riparian areas. The Project also incorporates prescribed burn and thinning management practices to improve the health of the allotment and reduce erosion. The project has partnered with the Conservation Trust in use of their grassbanks.



Caja del Rio pipeline

TMDL Status in New Mexico

Since 1999 thirty-one TMDLs have been developed in New Mexico. The majority of the TMDL documents were written for nonpoint source pollution sources. Implementation of CWA section 319 projects, now and in future years, in watersheds with TMDL-listed waters will be pivotal in achieving the goals of the TMDLs. These include the following reaches and associated parameters:

[Santa Fe River from the Cochiti Pueblo to the Santa Fe WWTP](#) URG1-10300 (Rio Grande 2110) 12.7 miles for chlorine and stream bottom deposits submitted Jan 2000 approved Mar 2000.

[Rio Grande from Northern Border of Isleta Pueblo to the southern border of the Santa Ana Pueblo](#) (Rio Grande, 2105, 2105.1) (MRG3-30000) , 34.7 miles for fecal coliform, drafted September of 2000 still draft. Formal approval of this TMDL is expected in October of 2001.

[Santa Fe River from the Cochiti Pueblo to the Santa Fe WWTP](#) URG1-10300 (Rio Grande 2110) 12.7 miles for dissolved oxygen and pH submitted Dec. 2000 approval Jan 2001.

[Cieneguilla Creek from the inflow to Eagle Nest Lake to the headwaters](#) CR2-50000 (Canadian River Basin 2306) 13.6 miles for metals (chronic aluminum) submitted Dec 2000, approval Feb 2001.

[Rayado Creek from the mouth on the Cimarron River to Miami Lake diversion](#) (CR2-10100) 16.5 miles for stream bottom deposits submitted Dec 2000 approval Feb 2001.

[Cimarron River from the mouth on the Canadian River to Turkey Creek](#) (CR2-10000) 35.5 miles for metals (chronic aluminum) submitted Dec 2000 approval Feb 2001.

New Mexico TMDL Schedule										
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Lower Pecos River										
Lower Rio Grande										
Domestic Water Supply										
Santa Fe River										
Middle Rio Grande										
Gila Watershed										
San Francisco River										
San Juan River										
Rio Puerco										

Watershed Groups Working in New Mexico

The SWQB conducted a survey of watershed groups working in New Mexico. We have ongoing NPS projects with a number of these organizations and plan to develop future projects with others.

[Acequia Madre de San Antonio Community Ditch Association](#): Maintains a working ancient acequia (organized prior to 1851). Protects riparian area and the contributing watershed area. Opposes a proposed subdivision that would impact riparian area and watershed. Community activism by increasing awareness of resources.

[Amigos Bravos--Friends of Wild Rivers](#): To return the Rio Grande watershed and New Mexico's rivers to drinkable quality wherever possible, and to contact quality everywhere else; to see that natural flows are maintained and where those flows have been disrupted by human intervention, to see that they are regulated to protect and reclaim the river ecosystem by approximating natural flows.

[Bosque Hydrology Group](#): To acquire, compile, and synthesize hydro-biological data concerning the understanding and restoration of the Rio Grande Bosque. Flood modeling, salinity and vegetation data, restoration techniques, salt cedar removal, bosque mapping, GIS synthesis.

[Bosque Preparatory School](#): Educate students in basic science while they gain a sense of place related to their home watershed. Monitor a dozen physical, chemical, and biological parameters monthly. Linked with NM Game and Fish Watershed Watch and Bosque Ecosystem Monitoring Program. Participate in watershed restoration projects.

[Caballo Soil and Water Conservation District](#): Work with land owners with natural resource concerns, such as flooding, sediment control and erosion, and maintain 19 watershed structures.

[Carrizo Valley Watershed Group](#): Education and awareness of degraded condition of watersheds due to invasion of water hungry plants that cause erosion and aquifer depletion. 30 years of watershed rehabilitation on Carrizo Valley Ranch and adjoining ranches and national forest.

[Cedar Hill Clean Water Coalition](#): Collecting and disseminating information about impacts from Animas-La Plata Project, land farms, oil/gas, and other industry.

[Chaves County Flood Commission](#): To drain flood water through the county to prevent property damage and loss of life. Pecos River Riverine Habitat and channel capacity study. Rio Hondo stream channel maintenance.

[City of Albuquerque, Open Space Division](#): To protect natural and cultural resources while providing public amenities. Other open space that does not contain watersheds are also preserved and protected.

[Committee to Save the Rio Hondo](#): Monitor and watchdog the US Forest Service. Litigation against Forest Service and Taos Ski Valley for cumulative effects of summer lifts.

[Culebra Coalition](#): Preserve, protect, and network to save remaining watershed. 40 year effort with Taylor Ranch, Sangre de Cristo Land Grant.

[Galisteo Watershed Restoration Project](#): To establish a citizen's group dedicated to restoring and sustaining the Galisteo Watershed (and its forests, grasslands, soils, riparian areas, fisheries, fauna and flora) and serving as a model for similar watershed restoration efforts in the Southwest.

[Forest Guardians](#): To protect and restore the native biological diversity and watersheds of the American southwest and northern Mexico. We strive to: educate and enlist citizens to support protection of the forests, rivers, deserts, and grasslands of this arid region, advocate principles of conservation biology in plans to restore degraded ecosystems and watersheds, enforce and strengthen environmental laws, support communities to protect their land.

[Middle Rio Grande Conservation District](#): Irrigation, drainage, flood control, protection of riparian forest, sustainable agriculture, farmland preservation.

[The Nature Conservancy of New Mexico](#): Watershed protection in the Gila and Mimbres River Watersheds.

[New Mexico Riparian Council](#): To promote continual survival, maintenance, and enhancement of riparian ecosystems in New Mexico for the benefit of present and future generations.

[New Mexico Water Dialogue](#): Preserve and protect water resources for the future through community-based, open, inclusive water planning.

[Open Space Alliance](#): To support the Open Space Division in its goals and mission. Currently working on concrete/asphalt removal in the State Park and on March for Parks.

[Rio Grande Restoration](#): To foster the return of the Rio Grande to health by supplying an improved flow regime of high quality water.

[The Rio Puerco Management Committee](#): Erosion and sediment reduction, riparian and riparian recovery, collaborative watershed restoration goals and projects, development of Best Management Practices, community partnerships and environmental education.

[Ruidoso River Association](#): To preserve and protect a healthy and free-flowing Rio Ruidoso. Our group is working to improve both the quality and quantity of water in the Rio Ruidoso and restore a high quality cold water fishery designation.

[San Juan Water Users Association](#): To keep the membership abreast of water issues affecting them and their water rights, and lobby on their behalf.

[Santa Fe Watershed Association](#): Collecting and disseminating information about issues and health of watershed.

[Southwest Environmental Center](#): To restore and protect the Southwest's natural heritage. For the Rio Grande, we focus on advocacy, public education, restoration planning and hands-on projects, such as tree plantings.

[Sierra Soil and Water Conservation District](#): Work with land owners with natural resource concerns such as flooding, sediment control and erosion.

[Taos Pueblo Environmental Office](#): To protect and preserve the lands and waterways of our traditional Northern New Mexico homelands. Comprised of four tribal members, we're primarily interested in water quality, and specifically concentrate our efforts in biological monitoring.

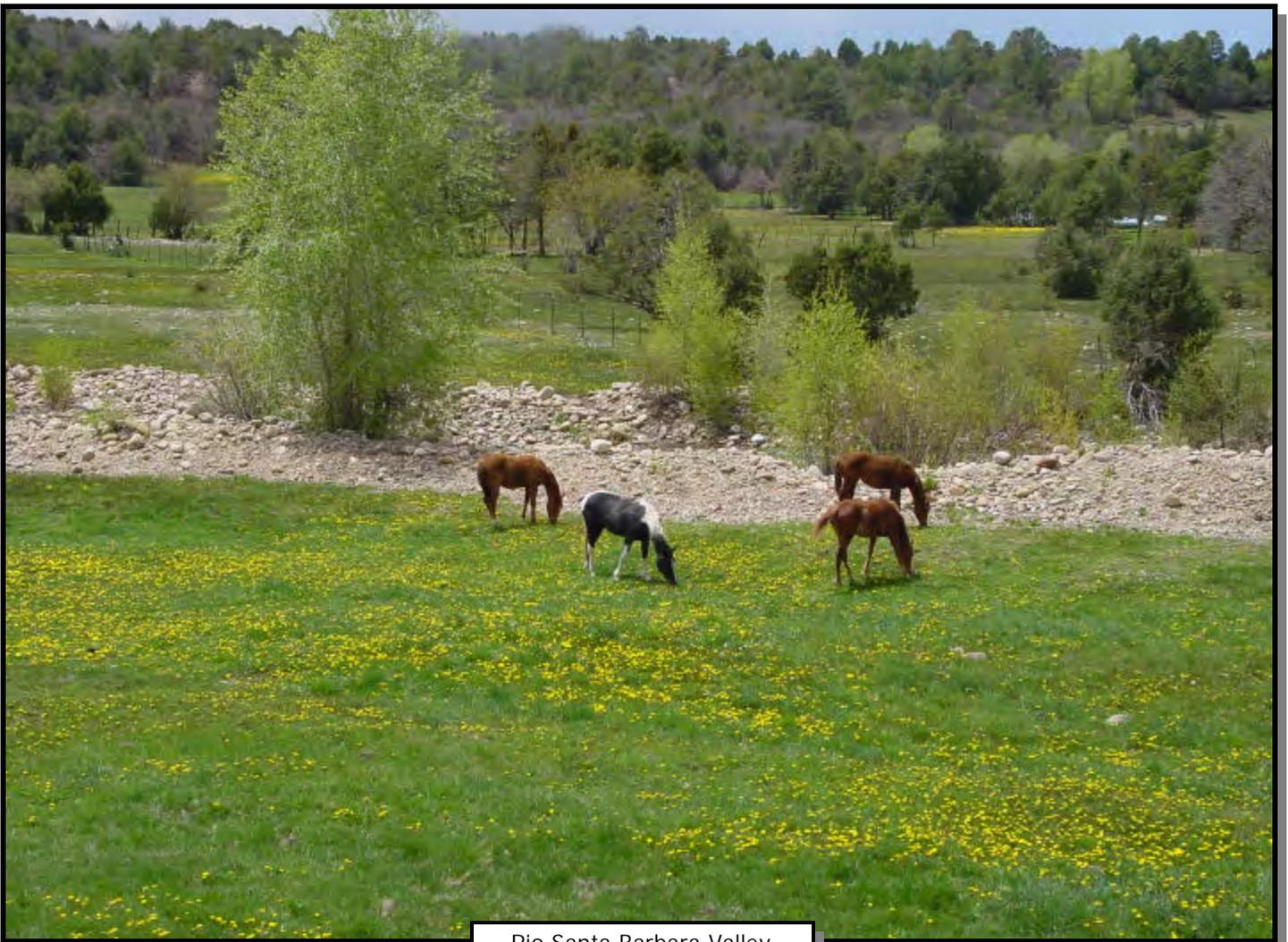
[Tierra Y Montes Soil and Water Conservation District](#): Conservation projects in the Las Vegas, NM region.

[Pecos Watershed Association](#): To take available technical, financial, and educational resources, whatever their source, and focus or coordinate them so that they meet the needs of the local land user for conservation of soil, water, and related resources.

[Tularosa Basin Water Resources Committee](#): Watershed restoration activities related to water quality and quantity. Also forest health issues.

[Upper Gila Watershed Alliance](#): Gila River watershed activities.

[Watershed Watch](#): Monthly water quality monitoring in over 16 watersheds, watershed education for middle and high school students, mapping watersheds, sharing data with watershed residents and resource professionals.



Rio Santa Barbara Valley

NM Highway & Transportation Department

New vigor has been injected into the NMSHTD/NMED Task Force in 2000. The highlight was the New Mexico State Highway and Transportation Department (NMSHTD) and New Mexico Environment Department (NMED) participation in a facilitated roundtable discussion for one day in September, 2000. Over 60 participants frankly identified challenges and proposed innovative, win-win solutions to improve cooperation between the two agencies and improve management of environmental resources. This roundtable, called the National Quality Initiative (NQI), was initiated in response to the need to update [the 1994 Memorandum of Understanding](#) (MOU) between the two State agencies. The MOU states "it is the mutual desire of NMSHTD and NMED to work in harmony for the common purpose of protection the State's environment and managing the State's highways for the best interests of the people of New Mexico." New partnership efforts are focusing on protection of natural resources including surface water, ground water and air quality protected by State and Federal regulations such as the Clean Water Act and the Clean Air Act. Topics and highlights from that meeting and for the year include:

- Revision of the NMED/NMSHTD Memorandum of Understanding – The revised and updated MOU will be completed in 2001.
- NMED/NMSHTD Task Force Meetings - NMED/NMSHTD Task Force Meetings continue to be held quarterly. Each Department selected Coordinators who also act as the liaisons with regard to the NMED/NMSHTD MOU. A Core Work Group has been selected and attends all quarterly meetings, and a group of contact persons has also been developed that will attend meetings for specific issues. Each of the Departments brings to the Task Force meetings recent issues and challenges to discuss and resolve, and progress reports on issues identified at the National Quality Initiative Roundtable. Since September, the two agencies have been meeting regularly to begin implementing the ideas and solutions generated during the NQI .
- The New Highway District Environmental Oversight Contract -This NMSHTD contract will make environmental specialists more available for maintenance and construction activities of the NMSHTD and its construction contractors. Increased continuity for attention to environmental issues and appropriate and rapid response for unforeseen environmental problems

will be gained through the availability of a qualified environmentalist within each Highway Department District through this Contract. Task force members from NMED will be included in the debriefing of the environmental specialists hired through this Contract.

- The Joint NMED/NMSHTD Staff Position –A new position funded jointly by NMSHTD and NMED and housed at the Surface Water Quality Bureau of NMED has been agreed upon by both Departments. The staff position has been created to work exclusively on NMSHTD highway projects. Duties of the Water Position employee shall focus primarily on regulatory functions of surface water quality, including the following areas: [Section 401 certifications](#) under the Clean Water Act, [storm water inspections](#) and plans, and [National Pollutant Discharge Elimination System permits](#).
- Total Maximum Daily Loads and Its Impact on NMSHTD Construction Projects - Increased attention to water quality issues will be the challenge faced by road drainage design and bridge replacement projects as the implementation of Total Maximum Daily Loads (TMDLs) of surface water pollutants goes into effect.



Willows and cottonwoods protect streambank.

NM Forestry Division, Silviculture Milestones



[NM Forestry Division](#) promotes the ongoing BMP clauses in resource management plans and timber sale contracts through the application of technical forest resource management assistance to private landowners.

The Division has participated in over 108 forest management plans that include forest stewardship, revised forest stewardship plans, practice plans, and forest management plans other than stewardship for a total of over 31,577 acres. Included in this numbers are 21 stewardship plans covering 15,714 acres in Level 1 watersheds.

NM Forestry Division monitors the application of BMPs during the harvesting of forest products on private lands with a final assessment performed at the completion of sale. This is an ongoing assessment on each harvesting unit. A total of 60 harvesting permits were issued for 22,714 acres. Of the total permits issued 8 were fire salvage permits for 2,483 acres. One on the Cerro Grande fire and seven on the Viveash fire in the Cow Creek area of the Santa Fe National Forest.

- Number of landowners provided technical assistance 490.
- Workshops provided 1,348 person days in forest resource management.
- Number of 208's completed 60. A timber sale will be inspected and documented numerous times before a final closure inspection is made. A 208 incorporates all of the inspection reports, and is done when the sale or unit is completed.
- Number of legal actions taken against violators 1
- Harvesting of woody products: 30,730 MBF saw timber harvest, 1,000 cords and 8,000 tons of round wood were harvested off 13,353 acres.
- Forest stand improvement includes 184 miles of roads water bared and 229 acres of landings, skid trails and roads were re-seeded,
- Forest improvement and protection: 14,680 acres, natural regeneration: 16,400 acres in wood fiber production, 13,200 acres in wildlife enhancement, and 10,807 acres in Category I watershed. In addition 19,500 acres of slash were treated for fire.

The 2000 fire season was one of the worst in the past 50 years in New Mexico. The larger fires were re-seeded, trees fell contour to the hillside and wattles installed by hand to help stabilize and reduce erosion. It prevented some erosion but the soils were so hydrophobic that the moisture could not penetrate the crust. This was very noticeable in the Cow Creek and Pecos watersheds where flooding caused stream erosion and fish kills.

Forestry Division is in the process of conducting an extensive review of our current forest harvesting regulations and laws. The Division has conducted internal reviews with field foresters as well as external reviews including research of all the western states forest harvesting programs and laws. The State Forester also commissioned a committee made up of representatives from government, industry, environmental groups, and interested citizens to review the current regulations and laws and provide recommendations for improvements. Based on all of these inputs the Division is drafting potential changes to forest harvesting regulations that would strengthen administrative and enforcement aspects of harvest permitting and provide more guidance on best management practices for water quality protection. Public hearings are scheduled for spring 2001.



Viveash Fire smoke plume above Santa Fe

FEDERAL AGENCIES

US Forest Service

Bureau of Land Management

Natural Resources Conservation Service



USFS NPS Activities

During 2000, a large part of the USFS activities in New Mexico were centered on the control, rehabilitation and prevention of wildfires. Over 200,000 acres of Forest Service lands were burned in New Mexico during 2000 and these fires included large and destructive fires such as the Viveash Fire in the Pecos National Forest and the

Cerro Grande Fire in the Santa Fe National Forest that impacted the town of Los Alamos and the Los Alamos National Laboratories. The fires were the result of drought conditions and dense overgrown forests resulting from the fire suppression policies of the last century that have created unhealthy forests and watersheds that are susceptible to catastrophic fires. In addition to the fire suppression efforts that USFS staff were assigned to in New Mexico and throughout the west, a priority of the USFS in New Mexico was post-fire rehabilitation to prevent the excessive runoff and erosion that otherwise could have severely impacted watersheds, riparian areas, water quality. These catastrophic fires have proven that our forests and watersheds are in poor condition and prone to unnaturally destructive fires. As a result, several large sources of funding have been and will be made available to the USFS for fire prevention activities.

Other activities that the USFS has been addressing include noxious weed control, road closures and road relocations, rangeland improvements by removal of pinion, juniper, and sage to allow for better groundcover and watershed health, grade control structures, riparian fencing, and changes in recreation management to improve riparian areas, wet meadows, and water quality.

As part of the CWAP, the USFS has developed assessment protocols which include watershed prioritization. These prioritization schemes should go hand in hand with UWA Category I watersheds and TMDL development.

In 2000, the Federal government, through the Land and Water Conservation Fund, purchased the 95,000 acre Valles Caldera located adjacent to the Santa Fe National Forest. It has been renamed the Valles Caldera National Trust (VCNT) and is now managed by a board of trustees. The Trust encompasses many of the headwaters of the Category I Jemez watershed which have never been monitored by the SWQB. The Santa Fe National Forest has performed monitoring in the Trust and the trustees have agreed to allow the SWQB to perform additional intensive water quality monitoring for the next few years to assist in gathering data on existing conditions in order to determine appropriate uses of the area by the public.



Pecos River erosion after Viveash Fire



BLM NPS Activities

NPS Pollution from Oil and Gas Development & Mining:

The Farmington Field Office is performing a Poly-Aromatic Hydrocarbons (PAH) study that focuses on the contribution of these pollutants from oil and gas development and production activities to the habitat of two species of endangered fishes, the Colorado River pike minnow and the razorback sucker. Sampling of whole (unfiltered) runoff (water, sediment, organic matter) was conducted during storm water events in several ephemeral tributaries of the San Juan, Animas and La Plata Rivers. Several storm water runoff samples were collected in 2000. Sample collection and lab analysis is continuing into 2001.

One orphan well was plugged on public lands under the jurisdiction of the Farmington Field Office within the San Juan Basin. Leaking wells generally exhibit subsurface and surface water and/or hydrocarbon flows. The successful plugging of this well provided additional protection to surface and groundwater resources from hydrocarbon contamination.

Efforts in pit remediation and closure continued with approximately 3,000 individual pit closure submittals received from various operators throughout the San Juan Basin. These pits were remediated and meet BLM and State guidelines for total petroleum hydrocarbons or have had an evaluation of risk performed. The BLM will continue to implement standards related to federal oil and gas development through efforts such as pit closure guidance, the Orphan Well Plugging Program, bradenhead flow control, leasing and permitting oversight.

Road surfacing was completed on approximately 9 miles of road on public lands in the Farmington Field Office jurisdiction. A total of 21 miles of road and trails throughout San Juan Basin. Closure consisted of ripping and re-vegetation with drought resistant grasses and forbs for species diversity and wildlife utilization. These efforts are conducted in an effort to apply comprehensive transportation planning to approving or retiring road networks in accordance with the BLM New Mexico Strategic plan, and will help to minimize sedimentation and salinity contributions to the Colorado

River Basin System.

In the Carlsbad area, water quality was tested in the Black River to detect presence/absence of contamination from nearby natural gas re-injection and storage field.

The Las Cruces Field Office conducted an inventory of abandoned mines in the San Simon Watershed. Based on physical observation the potential for mining related impacts to water quality exists down-gradient of mines where there are extensive tailings and dump material present. These materials contain oxide and sulfide minerals. In the Hillsboro mining district 24 mine sites containing 87 mine features were identified. In the Steeple Rock mining district 9 mine sites containing 35 features were identified. Sediment samples were taken for analysis. Field pH levels were recorded in perennial streams. The analyses of the sediment samples will determine the amount of further testing to be conducted.

Grazing Management:

All BLM offices are involved in a multi-year effort to provide NEPA documentation for all grazing authorizations. This effort will also involve identification of NPS water quality concerns and documentation of BMP's needed to address the water quality issues. The Farmington Field Office was involved in many grazing management projects throughout the year. The reauthorization of 27 grazing allotments on BLM managed lands and 42 grazing allotments in the Navajo Checkerboard lands was completed. Comprehensive environmental analyses in the Chaco watershed were completed for each grazing allotment. Nine new earthen constructed retention dams were constructed and three existing dams were maintained. Two four hundred barrel water tanks and approximately 1.5 miles of feeder pipeline were installed on an allotment that drains into Largo Canyon, an area that supports important riparian and wildlife values as well as soil erosion concerns. Approximately 300 acres of sagebrush-dominated rangeland were treated under prescribed fire in the Blanco Canyon watershed. Efforts resulted in a mosaic pattern to meet resource objectives of thinning the sagebrush and improving herbaceous components of the vegetation communities. Water quality problems targeted consisted of improving watershed

function in the canyon, which exhibits active gully erosion and sedimentation.

Water samples were collected from three locations in the Black River to detect presence/absence of contamination from coliform due to livestock carcasses in the stream. The Roswell Field Office (RFO) administers livestock grazing allotments along the Pecos River have key management issues, including water quality, riparian health, and threatened or endangered species. Cooperative management plans (CMPs) are being developed for these allotments by the RFO, permittees, and other interested parties. The New Mexico Natural Heritage Program (NMNHP) along with the RFO established monitoring locations on BLM grazing allotments along the Pecos River to survey riparian vegetation. The work provides data, photos, and maps that can be used to detect trends and grazing management effects on riparian vegetation. The monitoring locations are tied to surveyed channel cross sections so channel geometry and vegetation survey data may be correlated. Each site established represents a position within the Pecos River floodplain perpendicular to the river and within the bounds of a potential channel cross section.



Rio Santa Barbara Valley looking west.

[Riparian Demonstration Projects and Proper Functioning Condition:](#)

The Farmington Field Office implemented two watershed/riparian projects. Approximately 10 acres of salt cedar was cleared using a bulldozer during frozen ground conditions to shear off the salt cedar and reduce competition for existing desirable native riparian species. Work was done in cooperation with the authorized grazing permittee who donated his bulldozer and time to remove the salt cedar. After resprouting, the salt cedar was sprayed with Arsenal (an herbicide) to control re-sprouting. Goals were to reduce competition for existing native riparian species, encourage reproduction of native riparian species and improve water quality through a reduction of salinity. Approximately 32 miles

of riparian fencing was installed along riparian areas under the jurisdiction of the Farmington Field Office. Several of these fenced areas have often been subject to trespass grazing and unauthorized use. The riparian fencing is in an effort to help maintain or restore 75% of riparian areas on BLM managed lands to proper functioning condition. The fencing effort will help to protect existing riparian vegetation, the stream banks, and reduce stream bottom deposits.

Stream channel and riparian area conditions were assessed by the Las Cruces Field Office to determine if essential functions are being sustained, such as dissipation of energy during high flow events, sediment filtration, and maintenance of potential bank stability. Nineteen reaches were assessed: three were determined to be in Proper Functioning Condition (PFC), seven reaches were functioning at risk (six of these with a downward trend), and nine reaches were rated as being non-functional. A report dated 1/31/00 produced by Chris Massingill presents the details of this work.

The Roswell Field Office manages approximately 25,000 acres at the Fort Stanton Area of Critical Environmental Concern (ACEC). Effective watershed and riparian management are key issues on the ACEC. Salado Creek surveys of channel profile, cross sections, and pools were completed. The RFO measured several cross sections of the Pecos River as well. The surveys included areas expected to be inundated during floods with a 100-year return period. The information will be useful when evaluating management effects on riparian health because entrenchment of the river channel can alter riparian conditions. The New Mexico Natural Heritage Program surveyed 14 springs within the RFO area for vegetation and macro-invertebrates. A quality assessment was made of each spring, and recommendations were made on the need and potential for restoration efforts.

The Rio Bonito watershed is a high priority because it is identified as a Category 1 watershed under the Unified Watershed Assessment, and the Rio Bonito is listed in the New Mexico 305(b) report as not fully supporting its designated uses as a coldwater fishery and for irrigation, and is targeted for development of Total Maximum Daily Loads by the State of New Mexico. Invasive brush species (primarily juniper and salt cedar) were cleared on BLM land along sections of the Rio Bonito. A combination of mechanical thinning, prescribed fire, and herbicide treatments were used. More than 65 acres (2.2 miles) were treated in 2000 at four separate locations, including: (1) 60 acres of juniper removal along the Upper Bonito on Ft. Stanton, (2) 5 acres of juniper removal and prescribed fire near the petroglyph site, (3) salt cedar and juniper treated along 0.3 mile near the Wilson place, and (4) brush removal along 0.5 mile on Tract IV.

Natural Resources Conservation Service

[NRCS and Conservation Partnership Efforts in Nonpoint Source Pollution Control:](#) NRCS assists people, including groups and units of government, through local conservation districts to achieve objectives for sustained use of soil, water, and related resources. This assistance includes: technical advice to landowners and land users with the installation of resource management systems (including soil and water conservation practices); training people to plan, install, maintain, and assess resource management systems; and cost-sharing funds to help install conservation practices and systems.

Each conservation plan addresses soil, water, air, plant, and animal resources. Nutrient, pest, and waste management components, which address proper source, rate, timing and method of application, are developed as part of the plan where applicable. Conservation practices are selected to control or reduce identified and potential nutrient, sediment, animal waste, salt, and pesticide pollution. Emphasis is placed on both on- and off-site effects of the pollution source and control method. Planning assistance is not only provided on a field or farm level but also on a watershed level with the collaboration of all conservation partners. Water quality technical assistance provided to individuals, groups and units of government is based on these plans. The conservation partnership participates actively in developing and implementing the State Nonpoint Source Management Plan. Other collaborative interagency efforts in water quality include tool and technology development and transfer, data sharing and database development, policy development, training, public outreach, and project design, implementation, and evaluation.

[New Mexico State Technical Committee:](#) The 1990 Farm Bill mandated the creation of a State Technical Committee which assists with the implementation of conservation programs. The committee provides information, analyses, and makes recommendations to USDA officials to help determine matters of fact, technical merit or scientific question regarding conservation programs. The committee is made up of federal and state conservation agencies, tribes, agricultural producers, producer organizations, and others who have a demonstrated interest in conservation issues. The New Mexico State Technical Committee advises on the following:

1. Establishing priority areas for the Environmental Quality Incentives Program (EQIP)
2. Establishing the Wildlife Habitat Incentives Program (WHIP)
3. Updating the technical guide for implementation of wetland provisions
4. Establishing new conservation practices
5. Highly Erodible Land/ Wetland Compliance
6. Addressing weed and pest problems on CRP lands

[Environmental Quality Incentives Program \(EQIP\):](#)

EQIP provides technical, educational, and financial assistance to eligible farmers and ranchers to address soil, water, and related natural resource concerns on their lands in an environmentally beneficial and cost effective manner. The program provides assistance to farmers and ranchers in complying with federal, state, and tribal environmental laws, and encourages environmental enhancement. The purposes of the program are achieved through the implementation of a conservation plan that includes structural, vegetative, and land management practices on eligible land. Five to ten-year contracts are made with eligible producers. Cost-share payments may be made to implement one or more eligible structural or vegetative practices, such as animal waste management facilities, terraces, filter strips, tree planting, and permanent wildlife habitat. Incentive payments can be made to implement one or more land management practices such as nutrient management, pest management, and grazing land management. The program is carried out primarily in priority geographic areas (watersheds, regions, or multi-state areas), and for significant state-wide natural resource concerns that are outside of geographic priority areas.

[Geographic Priority Areas \(GPA\)](#)

[Socorro County Irrigated Valley:](#) The Socorro County GPA contains 26,100 acres of irrigated cropland in the Rio Grande River Valley in central New Mexico. The resource concerns identified dealt with water quantity, ground water quality, runoff and wildlife habitat. A total of 28 contracts have been approved with total expenditures of \$316,896. Conservation practices applied include land leveling, nutrient management, and water efficient irrigation improvements.

Rio Hondo Watershed Treatment: The Rio Hondo GPA contains 750,000 acres in Lincoln and Otero Counties. The resource concerns have been identified as excessive soil erosion, invasion of woody vegetation on grazing land, sedimentation, surface water runoff and streambank erosion. To date 14 contracts have been approved with a total expenditure of \$97,608. Conservation practices applied include brush management, prescribed grazing, grade stabilization structures and development of upland watering facilities.

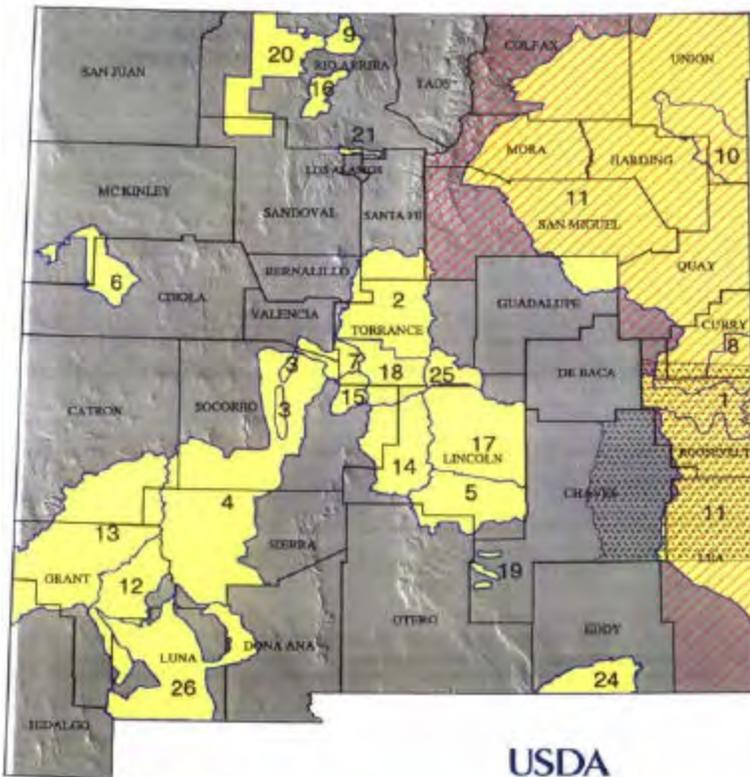
Rio Brazos Watershed: The Rio Brazos GPA contains 138,240 acres in Rio Arriba County. The resource concerns identified are streambank destabilization, excessive soil erosion, loss of riparian vegetation, grazing land plant diversity and insufficient water supply for irrigation. To date 30 contracts have been approved with a total expenditure of \$70,470. Conservation practices applied include forest stand improvement, prescribed grazing, stream channel stabilization, pasture planting and upland wildlife management.

Mimbres River Watershed Restoration: The Mimbres Watershed GPA contains 814,080 acres in Grant and Luna Counties. The resource concerns identified include excessive soil erosion, streambank destabilization and invasion of shrubs and noxious weeds. A total of 17 contracts have been approved to date with a total expenditure of

\$117,184. Conservation practices applied include brush management, prescribed grazing, streambank protection, grade stabilization and the development of upland watering facilities.

Zuni River Watershed: The Zuni River GPA contains 411,522 acres in Cibola and McKinley Counties. The resource concerns were identified as excessive wind and water erosion, grazing land health, invasion of woody vegetation and insufficient water supply for livestock. A total of 20 contracts with private land owners have been approved for a total expenditure \$123,301. Conservation practices applied include brush removal, prescribed grazing, range planting, grade stabilization structures and the development of upland watering facilities.

Tramperos Creek Watershed: This GPA contains 612,000 acres and is located in the high plains of northeast New Mexico. The resource concerns identified by the local workgroup include declining water tables, grazing land health, invasion of woody shrubs, loss of riparian vegetation and wildlife habitat quality. To date 35 contracts with private land owners have been approved totaling expenditures of \$162,599. Conservation practices applied include brush removal, prescribed grazing, prescribed burning, range planting, riparian forest buffers and upland wildlife habitat improvements.



New Mexico 2001 EQIP Geographic Priority Areas

- Geographic Priority Areas
- 1 Irrigated Cropland, Curry and Roosevelt Counties
- 2 Estancia Closed Underground Water Basin
- 3 Socorro County Irrigated Valley
- 4 Lower Rio Grande Watershed
- 5 Rio Hondo Watershed Treatment
- 6 Zuni River Watershed
- 7 Abo Arroyo Watershed
- 8 Dry Cropland, Curry and Roosevelt Counties
- 9 Rio Brazos Watershed
- 10 Tramperos Creek Watershed
- 11 Five State Grazing Emphasis
- 12 Mimbres River Watershed Restoration
- 13 Gila River Watershed Restoration
- 14 Upper Tularosa Basin Watershed Treatment
- 15 Chupadera Wash Watershed
- 16 Rio Cebolla Watershed
- 17 Macho-Gallo Watershed Treatment
- 18 Central Closed Basin/Estancia Basin
- 19 Pecos River Tributaries Watershed
- 20 Jicarilla Apache Reservation
- 21 Santa Clara Pueblo Irrigated Lands
- 24 Black River-Delaware River
- 25 Cougar-Torrance Watershed
- 26 Irrigated Cropland of the Southwest Closed Basins
- ▨ Lesser Prairie Chicken (22)
- ▨ Eastern NM Conservation Buffer Initiative (23)



Thematic Source: NRCS Field Personnel
 Map Produced by NRCS NMSO Geospatial Group,
 Resource Inventories and Assessments
 February 2001

Soil and Water Conservation Districts

[Soil and Water Conservation Districts](#) (SWCD) are independent, legal subdivisions of state government, funded by state, local, and private contributions. SWCDs are governed by multi-member boards that establish and implement programs to protect and conserve soil, water, prime and unique farmland, rangeland, woodland, wildlife, energy, and other renewable resources on local lands. There are 47 SWCDs in New Mexico.

New Mexico Water Quality and Conservation Projects
The New Mexico Legislature through the New Mexico Department of Agriculture, Soil and Water Conservation Commission made \$150,000 available for FY2000 for the purpose of conducting water quality and conservation projects. The Soil and Water Conservation Commission requested project proposals with the following 5 project were funded.

[Rio Puerco Grade Stabilization and Stream Bank Protection \(Cuba SWCD\)](#)

The grade stabilization structure in the Rio Puerco is intended to reduce downstream sedimentation and stream banks stabilized with riparian vegetation plantings. Partners involved with this project include: Cuba SWCD, NRCS, and private land owners.

[Ticolote Arroyo Watershed \(Lava SWCD\)](#)

This project is implementing smaller erosion control structures or rock and brush dams on the Ticolote Arroyo watershed area to reduce the sediment load which has cost the county considerable tax payer dollars for clean up. Groups cooperating with project include: Cubero Land Grant, Lava SWCD, NRCS Rio San Jose Flood Control District, Rio Puerco Watershed Lower Working Group and the Rio Puerco Management Committee.

[Los Chavez Drain Pilot Project \(Valencia SWCD\)](#)

This project will demonstrate the improved management of drainage canals. The goals are to reduce soil erosion, control noxious weeds, improve wildlife habitat, establish vegetative buffers, and enhance native vegetation. To date partners involved include: Valencia SWCD, NRCS, NM Game and Fish, NMSU Extension Service, NM State Forestry, and NRCS Plant Materials Center.

[Gallegos Canyon Watershed Enhancement Project \(Edgewood SWCD\)](#)

The objectives of this project will develop a comprehensive watershed plan to address resource concerns, dem-

onstrate key conservation treatments, establish monitoring, collect baseline data, and provide outreach. Partners involved include: Edgewood SWCD, Ciudad SWCD, East Torrance SWCD, NRCS, Forest Service, Estancia Basin Water Planning Committee, and UNM Graduate Studies Department

[Pecos River Restoration Project \(Carlsbad SWCD\)](#)

This project is addressing water quality and quantity issues along the Pecos River. The objectives are to reduce salt cedar and other undesirable shrubs, plant desirable species in the riparian area and stream banks, reduce sediment load to the river from stream banks and small arroyos. Partners include: Carlsbad SWCD, NRCS, NRCS Plant Materials Center, City of Carlsbad, and Carlsbad Irrigation District and private landowners.

[Gallinas River Watershed, Tierra Y Montes \(SWCD\)](#)

- * Construction of two solar kilns and installation of two planers, an edger and a sander has been made available for producers to finish and dry lumber.
- * Developed Pajarito Arroyo Wetlands as an outdoor classroom site available to teachers as an alternative teaching tool. Students really enjoy the outdoor experience and various classrooms regularly visit the site.
- * Continued education for youth and adults with the Rolling River Trailer.
- * Educational programs in three school districts and headstart. Outdoor classroom annual event with various agencies providing presentations was provided to 5th and 6th grade students. Classroom presentations by staff on various natural resource conservation issues are continuously provided.
- * Reclamation of 6 playa lakes on Rowe Mesa were performed and a pipeline to another playa lake for wildlife was completed.
- * Various tree plantings took place. Xeriscape tree planting at the City of Las Vegas Recreation Center was completed. An Earth Day tree planting at the Armand Hammer United World College was completed. Beautification tree planting took place at the City of Las Vegas Public Housing. Re-Leaf windbreak planting at the Union Elementary School was completed and 5 – 3' caliper cottonwood trees along the Gallinas River, south of Bridge Street were completed.
- * Fire reclamation and restoration on the Manuelitas Creek (from the Manuelitas Fire) and the Cow Creek (from the Vive ash Fire) was provided.