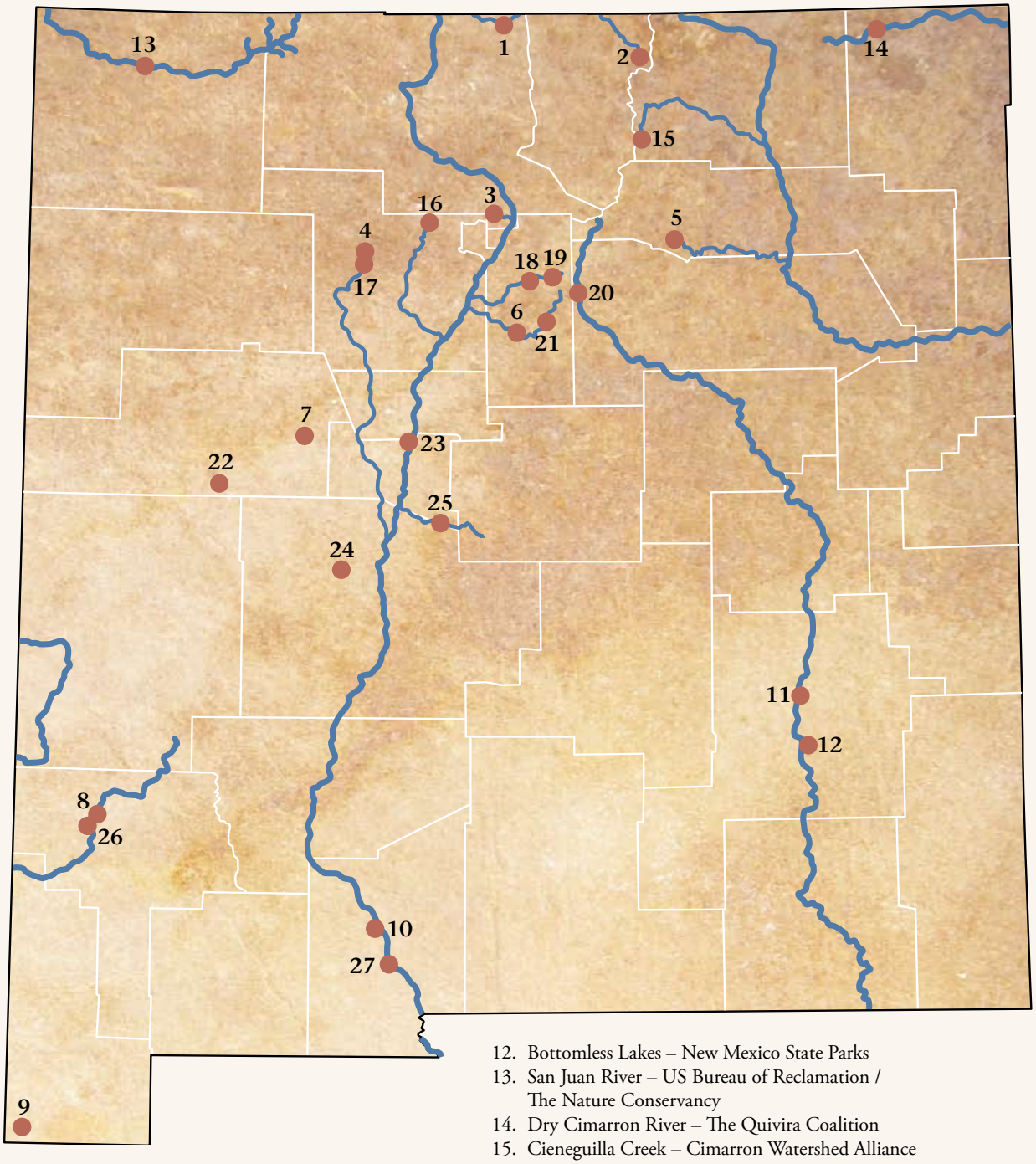
River Ecosystem Restoration Initiative

Community Partnerships Restoring New Mexico Rivers

2007 and 2008 River Restoration Projects
Locations and Project Managers



1. Rio de Los Pinos – San Miguel Ecological Group
2. **Comanche and Gold Creeks** – The Quivira Coalition
3. **Santa Clara Creek** – Santa Clara Pueblo
4. Rio Puerco – WildEarth Guardians
5. Mora River – The Quivira Coalition
6. Galisteo Creek – Earth Works Institute
7. Rio San Jose – Pueblo of Laguna
8. Gila River – The Nature Conservancy
9. Cloverdale Creek – Sky Island Alliance
10. Lower Rio Grande – Elephant Butte Irrigation District
11. **Middle Pecos River** – US Fish and Wildlife Service
12. Bottomless Lakes – New Mexico State Parks
13. San Juan River – US Bureau of Reclamation / The Nature Conservancy
14. Dry Cimarron River – The Quivira Coalition
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17. **Rio Puerco, Phase II** – WildEarth Guardians
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INTRODUCTION

New Mexicans love rivers. Our cultural and natural heritage is synonymous with the Gila, San Juan, Pecos, Rio Grande and Canadian rivers. New Mexicans know that healthy rivers perform important services. Not only are they our most important renewable source of water for drinking and irrigation, they also support vital aquatic, riparian and agricultural ecosystems, offer us a window on nature, provide spiritual renewal and support a multi-billion dollar outdoor industry.

Many of the things New Mexicans value about natural rivers are in danger. We are witnessing the decline of native plants and animals, the spread of invasive species, dry or occluded river channels and dysfunctional watersheds and floodplains. These changes are reversible if we combine concern for rivers with modern restoration techniques, based on scientific understanding of the way rivers function.

Over the past several decades, an impressive array of river restoration projects have been initiated by diverse partnerships. The true champions of river restoration are the citizens of our river-based communities.

State government has responded to this grassroots movement. In 2007 Governor Richardson proposed, and the state legislature enacted, the River Ecosystem Restoration Initiative. Since 2007, the River Ecosystem Restoration Initiative has awarded 27 grants to restore 2,394 riparian acres and 33 river miles within 17 counties in New Mexico. This program has enabled local restorationists to acquire matching funds from other agencies, in many cases doubling or tripling funding for their projects.

Over 90 diverse partners are involved in implementing the projects. The River Ecosystem Restoration Initiative has created over 222 permanent, seasonal and part-time restoration-related jobs in the private sector. And the positive effects of these projects are already becoming apparent in every corner of the state.

Here is a look at a few of these projects.

The goal of the River Ecosystem Restoration Initiative is to fund community-based restoration of instream ecosystem function and watershed health within and along our state rivers, streams and wetlands. Living rivers benefit New Mexicans by:

- Preserving our cultural heritage
- Enhancing recreation
- Attenuating flooding
- Reducing erosion
- Increasing base flows
- Recharging groundwater
- Restoring fish and wildlife habitat

The River Ecosystem Restoration Initiative is administered by the **New Mexico Environment Department.**

To learn more about this program and the availability of funding visit the New Mexico Environment Department website: www.nmenv.state.nm.us/swqb/reri/

J. PHELPS WHITE III

Phelps White is a third generation rancher on the eastern plains of New Mexico. He is also a longstanding member of the New Mexico Interstate Stream Commission and an avid birdwatcher. Mr. White grew up on the banks of the Pecos River and has a life-long understanding of the delicate balance required to sustain both people and wildlife along the Pecos River Valley and adjacent desert grasslands.

"Collaborative work by various public agencies and through private sector organizations has been very beneficial in restoring habitat, and improving water availability for all uses. It contributes to the realization of a balance of uses for the benefit and enjoyment of future generations."

Pecos River

Restoring Big-River Habitat along the Pecos River in Eastern New Mexico

In its natural state, the Pecos River was a wide, sediment-rich, braided river made famous by the songs of western pioneers. Reoccurring floods and sediment deposits sculpted diverse habitats from slow-moving backwaters to rapid deep channels. Native fish, turtles and riparian songbirds thrived in this highly mobile channel bed and connected river-floodplain system. Over the last century, the river was altered—channelized and armored with salt cedar—and only now have we come to understand that the lost natural river processes are key to maintaining abundant fish and wildlife and providing free ecosystem services to the valley residents.

In February 2008, the US Fish and Wildlife Service, the US Bureau of Reclamation, the NM Interstate Stream Commission, and the World Wildlife Fund commenced restoration on 8.5 miles of the Pecos River on the Bitter Lake National Wildlife Refuge.

Supported in part by $519,000 in funding from the state's River Ecosystem

Restoration Initiative, work crews have spent the spring resculpting a historic oxbow on the Pecos River, and clearing the invasive saltcedar that armors the river.

The state funding for the project enabled partners to leverage over two million dollars in federal and private funding for the project.

"The combined resources provide a once in a lifetime opportunity to remove the invasive salt cedar and restore channel dynamics that promote overbanking and spawning grounds and nursery habitat for native fish," says Refuge Manager, Joe Saenz. "With almost 75,000 visitors touring the Refuge every year, we can showcase this restored river reach and visitors can experience the historic Pecos River in a natural state and setting."

"With almost 75,000 visitors touring the Refuge every year, we can showcase this restored river..."

In addition to recreating wildlife habitat and eco-tourism opportunities, the Pecos River project has also provided increased storage of floodwaters, reduction in fuel load for wildfires and reconnection of artesian spring flow to the river.

Santa Clara Creek

Lower Santa Clara Creek Watershed Restoration Project

In June 1998, the Oso Complex Fire started and burned 5,185 acres in the Santa Fe National Forest in the Jemez Mountains, including more than 1,500 acres of Santa Clara Pueblo land. In May of 2000, the infamous Cerro Grande Fire also came onto Santa Clara land and destroyed an additional 7,000 acres of the Tribe's land base. These fires significantly degraded the watershed and destroyed nearly half of Santa Clara's forests, which severely impacted Santa Clara Creek—one of Santa Clara Pueblo's most important natural resources.

Using funds from the River Ecosystem Restoration Initiative, the Pueblo has restored 445 acres of the riparian areas along 4.45 miles of Santa Clara Creek. Restoration crews, primarily from the Pueblo, were hired to remove non-native vegetation and replant a diversity of native trees and shrubs. Stream meanders have been reconstructed, helping to dissipate stream energy during floods and providing an array of in-channel habitat for fish and other aquatic life.

"Using funds from the River Ecosystem Restoration Initiative, the Pueblo has restored 445 acres of the riparian areas..."

The Tribal Council has recognized and supported this restoration project by enhancing stream flow in the creek during the spring when irrigation diversions leave the creek bed dry. The cattle growers have also become important partners in this project and have allowed for the installation of fencing to restrict cattle from the stream and surrounding riparian areas.

Although this restoration has not been completely finished, the success of this project is already apparent: continuously clear flowing waters and native riparian areas are already supporting numerous species of birds and wildlife including deer, elk, turkey and bear.

J. MICHAEL CHAVARRIA

J. Michael Chavarria is the former Governor of Santa Clara Pueblo (2006 to 2008) and currently serves as the Pueblo's Water Quality Coordinator.

"Our waters and natural resources are a lifeline for our community and are of vital importance to our culture and even our presence on earth."

SUZAN BRAZIL

Susan Brazil is town clerk of Mountainair. Her husband Greg is a third generation New Mexican and a supervisor of the Claunch-Pinto Soil and Water Conservation District. Susan and Greg still live on the family ranch.

"We are pleased with the salt cedar removal on the Brazil property. There is such an improvement to the water source and the vegetation in the riparian area. The water table has risen and the area hidden by all the salt cedar has flourished. It is programs like this that have really given the landowners a chance to do a lot for their land and water, with the help of the local Soil and Water Conservation District and the Natural Resource Conservation Service."

Abó Arroyo

Abó Arroyo Riparian Restoration Project

Abó Arroyo is an intermittent stream that rises in the Manzano Mountains and flows to the Rio Grande in Central New Mexico. After decades of construction in its watershed, the Abó Arroyo has been subject to increased erosion and sedimentation that has dramatically altered its natural character. Wetlands have disappeared and non-native trees have invaded its course.

Responding to the deterioration of the stream, the Claunch-Pinto Soil and Water Conservation District's (CPSWCD) Abó Arroyo Riparian Restoration Project began on November 7, 1994 with the formation of a Coordinated Resource Management Team and the preparation of an Abó Arroyo Watershed Plan. The District's vision is total watershed restoration within the Abó Arroyo Watershed.

The main objective of this long-term effort is to reduce the amount of sediment transported into the Rio Grande, working throughout the headwater regions of the five main drainages of the Abó Arroyo to protect banklines, reduce runoff velocity, induce stream meandering, and re-establish healthy riparian and wetland areas. Nearly one-half of the river's mileage has been treated under the plan.

"Ecosystem monitoring has demonstrated a number of improvements, including increased flows in springs and wetland areas."

CPSWCD is joined in this project by private landowners and the BNSF Railroad, along with BLM, Forest Service, NRCS, Farm Bureau and student volunteers from the local Future Farmers of America chapter and high school science classes.

The District and its partners have already removed more than 230 acres of salt cedar within the main channel of the Abó Arroyo and sub-watersheds and actively revegetated the area with plantings of native grasses and willows. Ecosystem monitoring has demonstrated a number of improvements, including increased flows in springs and wetland areas.

In 2008, the CPSWCD received $116,000 through the River Ecosystem Restoration Initiative, enabling the District to install erosion control structures in the upper watershed, which will act as demonstration projects for local private landowners and allow continued monitoring of ecosystem processes in the Abó watershed.

Comanche Creek

Restoring Native Rio Grande Cutthroat Trout on the Comanche Creek, Valle Vidal

The Comanche Creek watershed is the jewel of the Valle Vidal Unit of the Carson National Forest. Here, The Quivira Coalition and partners are working to restore river habitat for the state fish of New Mexico, the Rio Grande Cutthroat Trout. Habitat for the Rio Grande Cutthroat Trout is rapidly shrinking in New Mexico. Cutthroat trout require clear, cold water, variable flows, low levels of fine sediment in channel bottoms, well-distributed pools, stable stream banks, and abundant stream cover. Historic land management practices have increased stream-bed and bank erosion and amplified the fine sediment load—contributing to steep declines in this once abundant native trout.

State and federal agencies are searching for solutions to keep the New Mexico cutthroat trout populations viable. Comanche Creek is identified as a promising site for accelerated recovery of New Mexico's state fish and The Quivira Coalition has harnessed RERI funds to stem the loss of cutthroat trout from the Comanche Creek watershed. Using the innovative techniques of landscape restoration specialist Bill Zeedyk, volunteers halt streambed erosion with natural materials like river rock and cedar posts. These time-tested, inexpensive techniques are effective in increasing channel sinuosity, and restoring riparian vigor to the creek—all essential ingredients for recovery of the Rio Grande cutthroat trout.

"The Quivira Coalition has harnessed RERI funds to stem the loss of cutthroat trout from the Comanche Creek watershed..."

An out-pouring of public, non-profit and volunteer support for the Valle Vidal coupled with U.S. Forest Service management has improved watershed health since 2001. The Quivira Coalition has installed over 200 in-stream structures and exclosures for elk and livestock throughout the Comanche Creek watershed. The River Ecosystem Restoration Initiative funds supplement and leverage over 13 additional private and federal funding sources for Comanche Creek watershed restoration. Fund sources include Environmental Protection Agency 319 grants, the Skylark Foundation, New Mexico Community Foundation, Trout Unlimited, Truchas Chapter, Patagonia Corporation's World Trout Initiative, New Mexico Trout, Zeedyk Ecological Consulting, Rangeland Hands, Inc., Dryland Solutions, Inc., Stream Dynamics, Steve Vrooman Restoration Ecology, and The Quivira Coalition Land & Water Fund.

ART VOLLMER

Art Vollmer is an avid trout fisherman and member of New Mexico Trout and the Truchas Chapter of Trout Unlimited. Since 2002, he has volunteered his time to restore the Comanche Creek watershed.

"TThe RERI grant has enabled the various stakeholders to leverage numerous funding sources and hundreds of volunteer hours to accomplish much more than we ever could have hoped to accomplish on our own. Our combined efforts over the years have contributed to designation of this creek and its tributaries as "Outstanding National Resource Waters" and to the restocking of pure Rio Grande cutthroat trout in its upper reaches."

Rio Puerco

Restoring the Historic Bread Basket of New Mexico

"Today, this river reach flows only seasonally, but efforts to restore streamside vegetation may change that. "

Community volunteers from the towns of Cuba and Torreon, elementary school children, and college students have planted thousands of willows, cottonwoods and other native shrubs along the Rio Puerco's banks, in an effort to restore a degraded stretch of this once lush stream. Led by the Rio Puerco Alliance and WildEarth Guardians, the restoration efforts seek to restore year-round flows and help the Rio Puerco reclaim its fertile past as the "Bread Basket of New Mexico."

Today, this river reach flows only seasonally, but efforts to restore streamside vegetation may change that.

Riparian vegetation plays a key role in promoting water infiltration, which contributes to perennial flows. Enhanced riparian areas provide better habitat for fish and wildlife, shading the water and trapping sediment and improving water quality. Songbirds, Bald Eagles, and mule deer find more varied food and cover. Beavers rely on the native trees for food and construction materials for dams.

Project proponents have leveraged RERI funding with a "Bring Back the Natives" grant from the National Fish and Wildlife Foundation increasing total project funds by almost one-third.

Cebolla Creek

Restoration of Historic Working Lands

Springs, wetlands, and riparian habitats are extremely scarce in the El Malpais area of Cibola County in west-central New Mexico. Permanent water is undoubtedly what drew homesteaders to Cebolla Spring during the Great Depression. Now their stone cabins and irrigation systems lie in ruins. Deep headcuts and gullies form gashes down the valley bottom.

Today, the Bureau of Land Management, New Mexico Environment Department, Rio Puerco Alliance and the Albuquerque Wildlife Federation are working together to restore these historic working lands. Mindful of ecosystem processes that sustain stream health, partners are analyzing stream flow and channel form to identify innovative techniques to return the degraded land and stream channel to a natural condition. With construction of induced meanders, wicker weirs, one-rock dams and other grade control structures, partners hope to reduce channel incision, enhance flows, and reduce sediment yield. For several years, Albuquerque Wildlife Federation has employed these same techniques to successfully rewet the near-by spring-fed meadow, and enhance the hydrologic connectivity of the stream bed and floodplain. Project partners have leveraged RERI funds with federal funding from the Environmental Protection Agency and the American Recovery and Reinvestment Act.

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Highlights

Two Years of Funding
Under the River Ecosystem Restoration Initiative

- Since it began in 2007, the River Ecosystem Restoration Initiative has awarded more than $5 million in grant funds to over 27 river ecosystem and watershed restoration projects. River and watershed restoration projects are located in 17 of the state's 33 counties.
- The River Ecosystem Restoration Initiative has created 222 full-time, part-time or temporary restoration-related jobs in the private sector.
- Dollar for dollar, River Ecosystem Restoration Initiative funding has been matched by other federal, state and private grants and in-kind contributions. Project managers and partners have provided over $3 million in in-kind contributions like labor, supplies and equipment and leveraged another $3 million in funding for the projects from other federal, state and private restoration funding sources.
- Project managers represent a broad and diverse cross-section of New Mexicans including irrigation districts, federal and state agencies, local governments, soil and water conservation districts, Pueblos, watershed organizations, and conservation organizations.
- Over 90 diverse partners are involved in implementing the projects including Tribes and Pueblos, federal and state agencies, local government, elementary and secondary schools, Universities, community groups and organizations, private entities and citizen volunteers.
- Major rivers and tributaries benefiting from restoration activities include the Gila River, the Rio Grande, the Rio Puerco, the Pecos River, the Santa Fe River and the San Juan River. Current funded projects will restore 2,394 riparian acres and 33 river miles.

River Ecosystem Restoration Initiative Project Managers and Partner Organizations

FEDERAL RESOURCE AGENCIES

US Bureau of Indian Affairs, US Bureau of Land Management, US Bureau of Reclamation, Natural Resources Conservation Service, US Army Corps of Engineers, US Fish and Wildlife Service, US Forest Service, US Geological Survey, US Section-International Boundary and Water Commission

TRIBES AND PUEBLOS

Navajo Nation, Pueblo of Isleta, Pueblo of Laguna, Pueblo of Santa Ana, Santa Clara Pueblo

STATE RESOURCE AGENCIES

NM Department of Agriculture, NM Department of Game and Fish, NM Department of Transportation, NM Energy, Minerals and Natural Resources Department, NM Environment Department, NM Interstate Stream Commission, NM State Forestry Division, NM State Land Office, NM State Parks Division

LOCAL GOVERNMENT AND DISTRICTS

City of Santa Fe, Claunch-Pinto Soil and Water Conservation District, Elephant Butte Irrigation District, Santa Fe County, Santa Fe-Pojoaque Soil and Water Conservation District, Town of Mesilla, Village of Pecos

SCHOOLS AND UNIVERSITIES

Alma d'Arte Charter High School, The Colorado College, Eldorado Elementary School, Mountainair High School, New Mexico State University, University of Missouri, University of New Mexico

PRIVATE ENTITIES AND INDIVIDUALS

La Jencia Creek Ranch, Pecos Benedictine Monastery, Rainbow Ranch, Wind River Ranch, and other private landowners

GROUPS AND ORGANIZATIONS

Albuquerque Wildlife Federation, Cub Scout Troop #37, Cimarron Watershed Alliance, Commonweal Conservancy, Earth Works Institute, Eldorado Community Improvement Association, Future Farmers of America, Galisteo Community Association, Galisteo Community Stewardship Team, Galisteo Watershed Partnership, Gila Conservation Education Coalition, Hawks Aloft, Los Amigos de Valles, NM Trout, NM Farm and Livestock Bureau, NM Wilderness Alliance, Paso del Norte Watershed Council, Rio Puerco Alliance, Rio Puerco Management Committee, RSVP, San Juan River Basin Recovery Implementation Program, Santa Fe Conservation Trust, Santa Fe Watershed Association, Sedillo Cattle Association, Sierra Club, Sky Island Alliance, Southwest Environmental Center, The Nature Conservancy, The Quivira Coalition, Trout Unlimited, Truchas Chapter of Trout Unlimited, Upper Gila Watershed Alliance, Upper Pecos Watershed Association, Valles Caldera Trust, WildEarth Guardians, World Wildlife Fund, Youth Works and other citizen volunteers

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Credits

Design: Really Good Graphics

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River Restoration Works in New Mexico!

THE SANTA FE RIVER

BEFORE (1997)

AFTER (2004)

THE GILA RIVER

BEFORE (1995)

AFTER (2007)

THE RIO PUERCO

BEFORE (2005)

AFTER (2009)

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