




RIO GRANDE WATER FUND WILDFIRE AND WATER SOURCE PROTECTION

▶ **ANNUAL REPORT 2015**



A photograph of a snowy mountain landscape. The foreground shows a snow-covered slope. In the middle ground, there is a dense forest of evergreen trees, all heavily laden with snow. The background is a clear, bright blue sky. The overall scene is peaceful and serene, representing a healthy forest in winter.

“The business community is investing in the Rio Grande Water Fund because of its triple bottom line—clean water, jobs, and fewer economic disruptions from wildfire.”

Diane Ogawa,
Executive Director,
PNM Resources Foundation

The Rio Grande Water Fund is established to achieve the vision of healthy forests and watersheds that provide a reliable supply of high-quality Rio Grande water and other benefits for New Mexico.



▶ MESSAGE FROM THE EXECUTIVE COMMITTEE

Thanks to you,

this was a pivotal year for the Rio Grande Water Fund. What was once an idea on paper is now a successful program channeling resources and restoring overgrown forests in critical water source areas. Many people helped translate this vision into action, and we're pleased to share annual highlights on their behalf. Read on for success stories and ongoing activities first envisioned in the Water Fund's Comprehensive Plan.

The Rio Grande Water Fund is founded on the premise that our forested watersheds are critical for New Mexico's future water security. We know restoring health to these forests is a bigger job than any single agency or organization can handle alone. It takes all of us working together to manage these watersheds, ridge top to river bottom.

Your contributions of funding, time and great ideas are making a real difference in New Mexico. With your generous support, the Rio Grande Water Fund had significant accomplishments this year. And there's more to come.

With gratitude,

Executive Committee of the Rio Grande Water Fund

Jake Caldwell, LOR Foundation

Rick Carpenter, Santa Fe Water Division

Dale Dekker, Dekker/Peritch/Sabatini

Martin Haynes, Business Water Task Force

Laura McCarthy, The Nature Conservancy

Brent Racher, New Mexico Forest Industry Association

PHOTOS ON COVER: Rio Grande below Quartzite put-in. © *Alan Eckert Photography*; INSET Healthy forests provide clean drinking water for New Mexico's communities. © *istockphoto*

PHOTOS: CLOCKWISE: Healthy forests store and filter our water and provide places for outdoor recreation, wildlife habitat, forest and wood industry jobs, and water for farms and communities. © *Alan Eckert Photography* (first three images); © *New Mexico Game and Fish Department*; © *Mark Skalny*

▶ A LIVING PLAN

The Comprehensive Plan for the Rio Grande Water Fund was designed as a living document. New studies are completed annually, and available data for designing Water Fund projects constantly improves. The Plan, along with updated information, is available online at nature.org/riogrande.

How do damage and clean-up costs after a severe wildfire compare to preventing one in the first place?

Looking at a wide variety of costs including property values, water infrastructure and health care impacts, The Nature Conservancy conducted an avoided cost study based on a 180,000-acre fire burning 50 percent of the watershed above Heron and El Vado reservoirs. Forest thinning to boost fire resiliency is estimated at \$73 million to \$174 million. With damage estimates between \$104 million and \$1.3 billion, upfront investment in forest health will clearly save money—even if just one large fire burns in the critical Rio Grande and San Juan-Chama headwaters.

Will restoring 30,000 acres a year—600,000 acres over 20 years—influence watershed functions, like snowpack retention and stream flow?

This turns out to be a very complex question. A team from the University of New Mexico's Center for Water and the Environment is developing a computer model to get answers. Thanks to funds provided by the New Mexico Interstate Stream Commission, Middle Rio Grande Conservancy District, Bureau of Reclamation and Southern Rockies Landscape Conservation Cooperative, their initial evaluation phase is underway with published modeling results available soon.

Where in New Mexico is the highest wildfire risk? Which places, if burned, are most likely to cause downstream flooding and debris flow damage?

With funding from Bernalillo County, the US Geological Survey (USGS) analyzed wildfire and post-fire flooding and debris flow probabilities in the Sandia and Manzano mountains. The report and a news segment about the project are available online at nature.org/riogrande. Using the methods developed in this multi-year, peer-reviewed study, The Nature Conservancy's scientists evaluated the accuracy of a watershed-wide rapid assessment of fire and debris flow hazards, showing the different methods generate nearly identical results. A second USGS study for the Jemez Mountains is currently in progress.



Flooding in Cochiti Canyon after the 2011 Las Conchas Fire destroyed the Dixon Conference Center and disrupted downstream water supplies. © U.S. Army Corps of Engineers

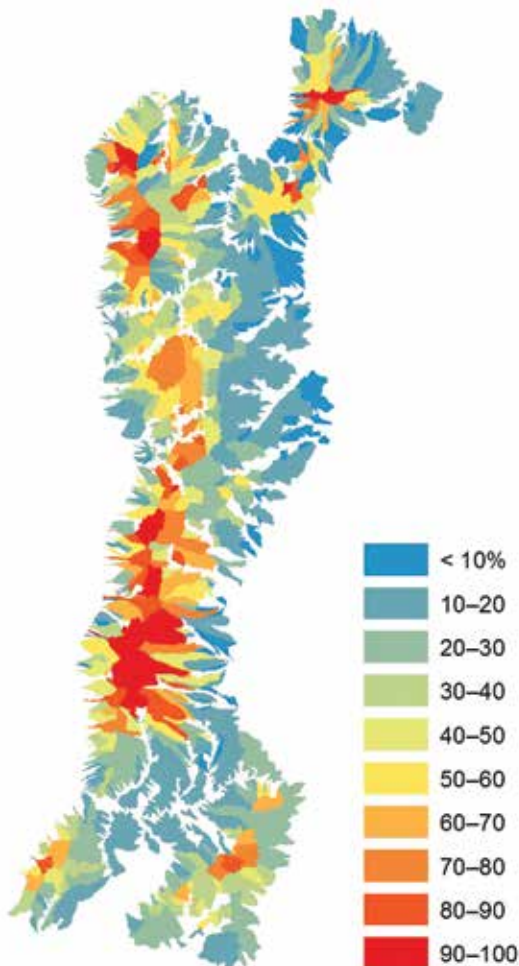
In Their Words



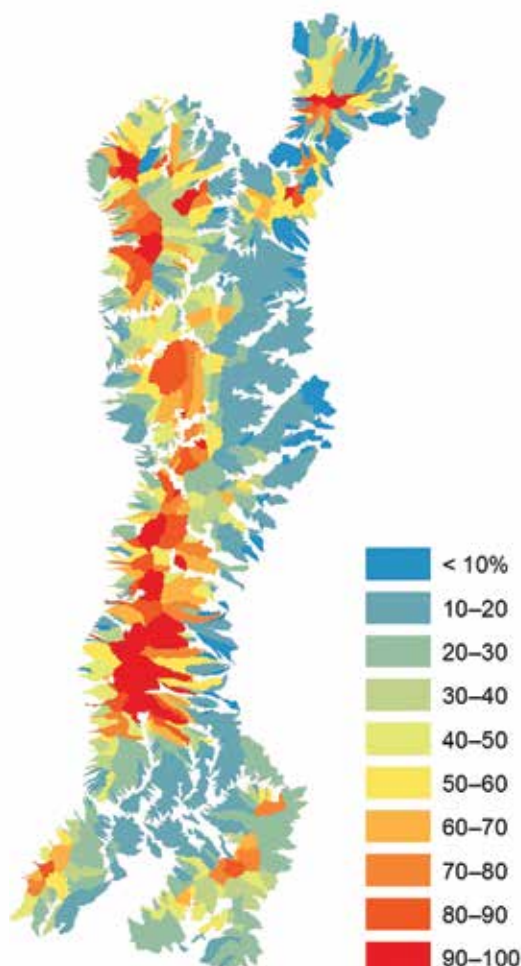
“Large-scale habitat restoration is a critically important tool for managing our state’s wildlife populations. The Rio Grande Water Fund is a significant contribution to achieving our common goals of restoring forests, watershed health and wildlife habitat.”

Alexa Sandoval,
Director, NM Department
of Game and Fish

Rapid Assessment of Debris Flow Probability in the Sandia and Manzano Mountains



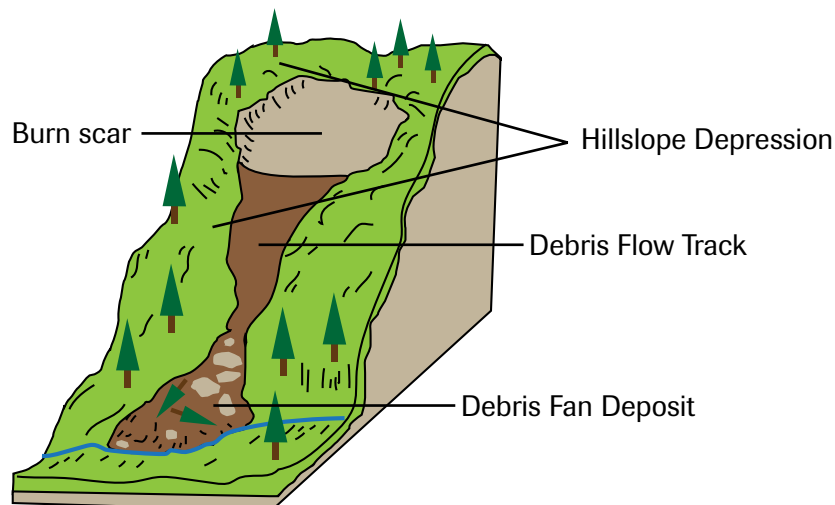
USGS Report on Debris Flow Probability in the Sandia and Manzano Mountains



The USGS published report of wildfire and post-fire debris flow probability modeling in the Sandia and Manzano Mountains generated a new methodology for risk-assessment (map at left). This work enabled the Water Fund to develop a rapid assessment method (map at right) that generates nearly the same results.

DEBRIS FLOW

Debris flows can occur when rain falls on a severely burned area, sending a water-laden mass of ash, rock and other debris down the mountainside. This debris rushes into stream channels and deposits a thick layer of sediment on the valley floor.



► SECURE COMMITMENTS

The year began with a collaborative Charter that articulates how coordination and leverage of activities within a watershed achieves the economy of scale needed to restore large areas and protect water sources.

The resulting new structure enables the Rio Grande Water Fund to catalyze investments in restoring forested lands upstream and securing clean water for communities—within the watersheds and downstream.

We also made substantial progress in generating sustainable funding over the next 20 years. More than 30 agencies and interest groups signed the Charter, with a few of these signatory organizations guiding day-to-day operations through an Executive Committee and 50-member advisory board.



Progress in State Investment

Via strong, bi-partisan support for House Bill 38—the Forest and Watershed Restoration Act, sponsored by Representative Paul Bandy (R) and Senator Peter Wirth (D)—the New Mexico State Legislature demonstrated that state investment in forest and watershed restoration is a real possibility. Separately, Governor Susana Martinez put \$3.5 million in the Watershed Restoration Initiative, for a total of \$10 million invested since 2014.



PHOTO: Acequia gate at near Dixon
© Alan Eckert Photography

► FUNDING AND POLICY

One key element to the Rio Grande Water Fund’s success is the number of diverse investors who have enabled our first year of work. Across New Mexico, businesses, agencies, foundations and people like you are helping restore the health of our forested landscapes. Their investments are sound, with 93 percent directly funding projects on the ground this year.

Founding Investor

- Bernalillo County
- Ciudad Soil and Water Conservation District
- Fire Learning Network
- LOR Foundation
- Lowe’s Charitable and Educational Foundation
- Lowe’s Companies
- Ms. Dorine Smith and Mr. Steven Hecht
- US Bureau of Reclamation via the Southern Rockies Landscape Conservation Cooperative
- US Forest Service

Lead Investor

- Buckman Direct Diversion
- McCune Charitable Foundation
- Middle Rio Grande Conservancy District
- New Mexico Department of Game and Fish
- New Mexico Watershed and Dam Owners Coalition
- NM EPSCoR
- PNM Resources, Inc.

Secure Investor

- Albuquerque Bernalillo County Water Utility Authority
- City of Albuquerque
- Jonathan and Kathleen Altman Foundation
- Edgewood Soil & Water Conservation District
- New Mexico Interstate Stream Commission
- Santa Fe Community Foundation
- US Geological Survey

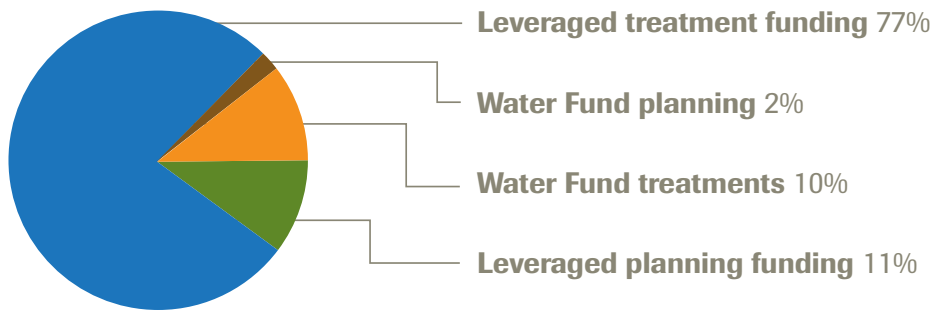
Contributor

- Anonymous
- Avalon Trust
- General Mills Foundation
- Los Alamos County
- Los Alamos National Laboratory and Los Alamos National Security, LLC
- Tides Foundation
- US Army Corps of Engineers
- Wells Fargo Bank/Wells Fargo Foundation

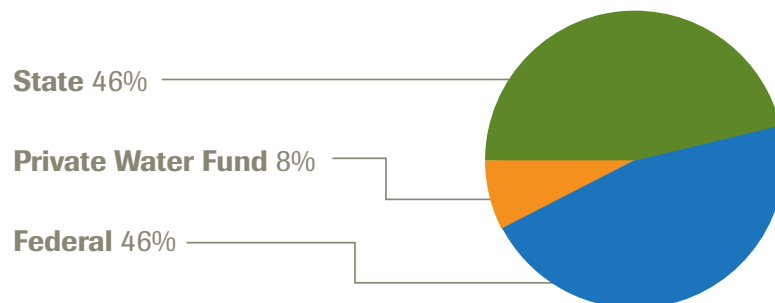
Other Supporters

- Bank of Albuquerque
- Mr. Irving M. Deitz III
- Los Alamos National Bank
- Kelly’s Brewery

2014-2015 DIRECT AND LEVERAGED FUNDING



FY 2015 INVESTMENT IN PLANNING & TREATMENTS



▶ INITIAL RIO GRANDE WATER FUND INVESTMENTS



San Juan-Chama Headwaters

The Water Fund's first investment, the San Juan-Chama project supplies drinking and irrigation water for 1 million people. Treatments are conducted on private lands with partners such as the Chama Peak Land Alliance and involve forest thinning and improved fire management strategies on approximately 1,000 acres.



Los Rios Tusas and San Antonio

Draining from the Tusas Mountains, these rivers and their snowpack are crucial for native Rio Grande water. Funding supports surveys needed to restore 160,000 acres of the Carson National Forest, important habitat for big game and a productive wood supply to existing mills in Tres Piedras and Taos.



Northern Manzano Mountains, Isleta Project

Fire spreads quickly through overgrown forests, threatening habitats as well as rural communities and homes near natural and urban areas. South of Albuquerque, the 10,000-acre Isleta Project is ground central for testing strategies to protect animal, plant and human communities from catastrophic fire.

▶ LEVERAGED FUNDING

Large-scale restoration can be accomplished by pooling funding from a variety of sources.

Examples from the past year include:

Cibola National Forest in the Sandia Mountains

Leveraged funding for the Sulphur project on the Cibola National Forest in the Sandia Mountains was made available with some of the \$6.2 million Governor Susana Martinez approved in 2014 for watershed restoration. The Sulphur and Isleta (see page 8) projects are part of a landscape restoration strategy for the East Mountains that contributes substantially to the goals of the Rio Grande Water Fund.

Greater Rio Grande Watershed Alliance

The Greater Rio Grande Watershed Alliance, a consortium of soil and water conservation districts and Pueblos in the basin, received \$2.4 million for forest and watershed restoration treatments on private lands. Provided by the Natural Resource Conservation Service's Regional Conservation Partnership Program, the project is leveraging the Rio Grande Water Fund here, and in the neighboring Estancia Basin.

Canjillon area of the Carson National Forest

The New Mexico Department of Game and Fish recently committed \$3 million for archeological clearances and large-scale restoration treatments in the Canjillon area of the Carson National Forest, directly adjacent to the Tusas-San Antonio project, described on the previous page.



PHOTO: Sulfur demonstration area in the Sandia mountains before treatment and nine months post treatment © Laura McCarthy/TNC

In the Queue

HAVE A PROJECT IDEA?

The Rio Grande Water Fund uses a Request for Statements of Interest to identify possible projects within four focal areas. Proposals are reviewed by a Technical Review Panel to determine if eligibility criteria detailed in the Comprehensive Plan have been met. Eligible projects are added as approved to the Candidate List of Projects, available online at nature.org/riogrande.

▶ ECONOMIC DEVELOPMENT, CONSEQUENCES AND JOB CREATION

In addition to securing water and other benefits, restoring forest health at a large scale and pace generates significant wood biomass—regardless of whether it’s seen as a disposal problem or a raw material source. The Rio Grande Water Fund made good progress this year toward wood utilization and job creation.

Wood Supply Study

To determine wood supply availability within the Water Fund area, The Nature Conservancy developed a spatial model and generated maps for 15 communities, showing how much wood exists in high-priority restoration areas. Resulting data is organized by species and tree size—and by driving distance on existing roads. Findings are already in use by new and existing companies.

By the numbers

130

acres treated by Rio Grande Water Fund directly—the number jumps to 10,000 acres restored with all funding combined



68

estimated jobs thinning



1,500

cords for community firewood



8,500

cords of commercial firewood

Romero Wood Products

Restoration treatments in the Manzano Mountains are supporting a homegrown business in Mountainair and Albuquerque. Marcus Romero and his company are moving more than 3,000 cords of firewood per year, turning spindly, overcrowded trees into hearth-warming heat. They are also milling rough-cut lumber and selling shrink-wrapped firewood in supermarkets and convenience stores throughout the region.



PHOTO: Forest restoration generates wood by-products. © Alan Eckert Photography

▶ MONITORING, EDUCATION AND OUTREACH



The monitoring program is intended to track environmental and economic effects of Water Fund activities, ensure that investments are achieving anticipated impacts, and enable corrections to management strategies. To provide a framework for adaptive management, the program described in the Comprehensive Plan was substantially updated. Download it at nature.org/riogrande.

The education program goal is to promote and support programs that engage people in protecting storage, delivery and quality of Rio Grande water—with a focus on forest health, river ecology and a sustainable water supply. Students are reached through existing education programs tailored to Water Fund goals. In the past year, programs were offered to Albuquerque students through the Bosque Environmental Management Program. Sandia Park students at San Antonito Elementary School also participated, in collaboration with Arid Lands Innovations and the New Mexico Museum of Science and Natural History’s Sandia Mountain Center. Planning for fall programs with northern New Mexico schools is underway.

PHOTOS: CLOCKWISE: A group of 7th graders measure streambed geomorphology in the Valles Caldera National Preserve. © *Bosque Ecosystem Monitoring Program*; Jake Caldwell © *LOR Foundation*; The Water Fund and education partners are getting youth outdoors to see where their water comes from. © *Bosque Ecosystem Monitoring Program*

In Their Words



“The LOR Foundation is committed to enhancing livability and quality of life in the rural intermountain West. With the Foundation as an early investor in the Rio Grande Water Fund, our goal was to help accelerate the transition from planning to action while encouraging others to join the mission. LOR’s funding will catalyze outcomes that help communities thrive by protecting their water sources in the forests that surround them.”

Jake Caldwell,
LOR Foundation
Program Officer



CHARTER SIGNATORIES



SIERRA CLUB
FOUNDED 1892



Claunch-Pinto
SOIL & WATER CONSERVATION DISTRICT



City of Santa Fe Water Division



Albuquerque Bernalillo County
Water Utility Authority



NEW MEXICO
MUSEUM OF
NATURAL HISTORY
& SCIENCE



Business Water Task Force

Edgewood



Soil & Water
Conservation District



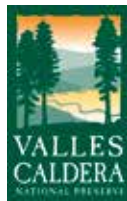
CHAMA PEAK
LAND ALLIANCE
RESPONSIBLE LAND
STEWARDSHIP



New Mexico Coalition



of
Conservation Districts



US Army Corps
of Engineers.
Albuquerque District



FOUNDING AND LEAD INVESTORS*



*Full list of investors inside

FOR MORE INFORMATION, VISIT US ONLINE AT NATURE.ORG/RIOGRANDE