# EXECUTIVE SUMMARY OF THE RIO GRANDE WATER FUND:

## COMPREHENSIVE PLAN FOR WILDFIRE AND WATER SOURCE PROTECTION

**JULY 2014**

Water is life and livelihood. Nowhere is that more true than in New Mexico. However, the reality is that each year the size and severity of wildfires in our state increases, along with subsequent post-fire flooding that degrades rivers, streams and other critical water sources. In addition, state and federal agencies spend hundreds of millions of dollars a year reacting to these fires, not including the lost revenue to business. Without action, New Mexico's future water security is at great risk.

The Rio Grande Water Fund is a solution that can bring clean water to New Mexicans for generations to come. This innovative project will invest in the restoration of forested lands upstream so we can secure clean water for communities in these watersheds and downstream. Our goal is to generate sustainable funding over the next 20 years to proactively increase the pace and scale of forest restoration, including the most high-risk areas in the Rio Grande watershed. We are working together so nature can keep working for us.

## A PLAN FOR THE FUTURE

The *Rio Grande Water Fund: Comprehensive Plan for Wildfire and Water Source Protection* is the culmination of a collaborative partnership among more than 40 organizations and agencies and more than two years of research and planning guided by a diverse advisory board. The Comprehensive Plan uses the best available data to describe the current wildfire threat to water sources and forested watersheds, setting forth a path for New Mexico's future water security. The focus is on water as the primary resource that people value, and that originates in forested headwaters at high risk of damaging wildfire.

Frequent fire is normal in New Mexico's ponderosa pine and dry mixed conifer forests, but changes in tree density and summer temperatures over the last century are causing wildfires to burn hotter. Watersheds that experience extensive mid- and high-severity fire have greatly diminished water storage functions—soil doesn't absorb and hold water, and runoff during rainstorms can cause flooding and debris flows. In addition, the large amounts of sediment that move into rivers and reservoirs during these floods and flows may disrupt water delivery and storage. Other important values—such as homes, property and community infrastructure, wildlife and fish, acequias and rural economies, tourism and outdoor recreation—are also at risk when forested watersheds are severely damaged by wildfire.

**PHOTOS:** Healthy forests provide clean drinking water, places for outdoor recreation, fish habitat, jobs in the woods, and water for farms and communities. TOP TO BOTTOM: *© istockphoto; © Ron Loehman; © Mark Skalny; © Quita Ortiz, NM Acequia Association*

## Las Conchas Fire: Case in Point

In 2011, the Las Conchas Fire burned 156,000 forested acres in the Jemez Mountains of northern New Mexico. Post-fire thunderstorms then led to massive ash and debris flows in surrounding canyons. The Rio Grande turned black with sediment and the cities of Albuquerque and Santa Fe halted water withdrawals because water managers determined the ash-laden water was not worth treating in their new $450 million and $215 million river-water facilities. Meanwhile, the flooding deposited tons of debris in Cochiti Lake, closing the area to recreation and dumping excessive sediment in the reservoir. The damaging effects of the Las Conchas Fire on the Rio Grande will persist for years to come.

**PHOTO:** Nearly 55% of the Las Conchas fire area burned at high severity. © *Craig Allen*

Proactive steps on a large scale are needed to protect the Middle Rio Grande, Rio Chama and their forested tributaries and headwaters, an area with roughly 1.7 million acres of fire-prone ponderosa pine and mixed conifer forest (see Figure 1). Models of debris flow risk after high-severity fire indicate that key water sources are at risk. Scientists recommend that 1% to 2% of fire-adapted forest landscapes be treated each year to change fire behavior, which at the high end of this range corresponds to approximately 30,000 acres per year in this landscape. The Rio Grande Water Fund will sustain these treatments over the next 20 years for a total of 600,000 acres restored–a ten-fold increase in the current rate of forest and watershed restoration.

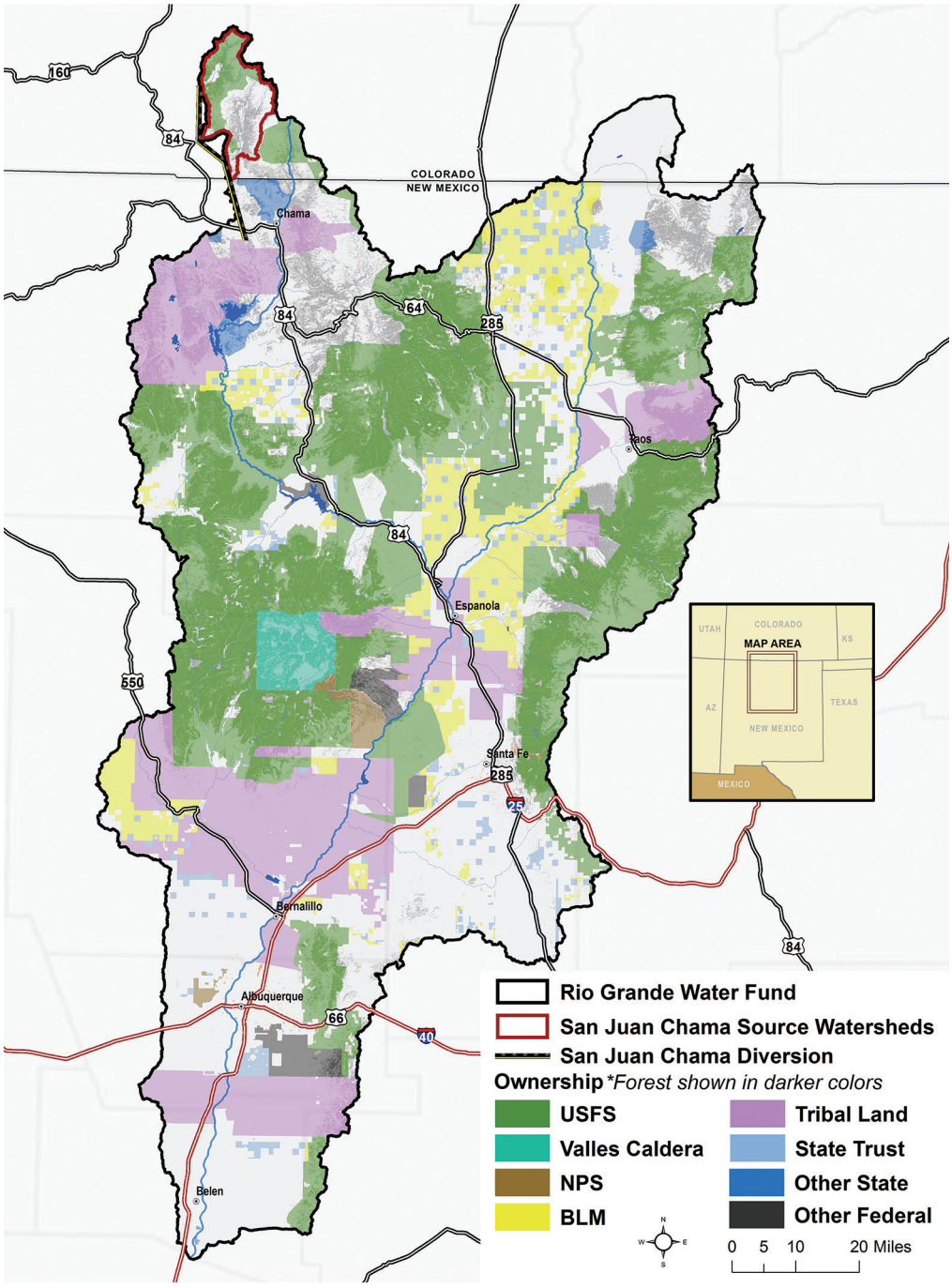


**Figure 1.** The Rio Grande Water Fund area includes forests, agricultural lands and communities from Belen north to the Colorado border.

The Rio Grande Water Fund is the tool to collect and facilitate investments in this accelerated restoration work. A water fund allows government agencies, water users, community stakeholders and others to invest in the protection of the forests that supply our water. Similar funds have been established in Latin America and several cities in the western U.S., including a successful pilot effort in Santa Fe, New Mexico.

## SETTING PRIORITIES

The Comprehensive Plan sets forth the case and process for establishing a Rio Grande Water Fund. Most important, this Comprehensive Plan sets priorities to support the objectives of the water fund. These priorities are expressed as **focal areas** and **project criteria**, developed to ensure that the water funds and other leveraged public funds are allocated to the areas where the risk to water supplies is greatest and where forest thinning, controlled burning, stream restoration and flood mitigation projects have the highest potential for immediate and successful implementation.

## INVESTING WISELY

The benefits of forest and watershed restoration are clear. Thinning one acre of dense forest in the Rio Grande Water Fund area costs $700 on average, whereas the economic impact of one acre affected by damaging wildfire can be up to $2,150 per acre. The 2011 Las Conchas fire cost is estimated at $246 million and expenses are still accruing. In contrast, to accelerate the pace of wildfire and water source protection, $21 million a year—or close to $420 million over the next 20 years—will be needed. For comparison, about $6 million is currently invested annually in restoration on federal lands in the water fund area. Based on these estimates, it is more cost-effective to invest in "prevention" than to pay for expenses associated with "reacting" to damaging wildfires. Over time, the cost of prevention will decline as a larger forest industry is established. A transition period will be needed, and the Rio Grande Water Fund can fill the need as described in this Comprehensive Plan.

Water is essential for promoting economic well-being and provides a high return on investment. Water is a necessity for residents, industry, agriculture and many service activities, and to promote and sustain economic activity in the largest cities and marketplaces in the state. Water supports recreational activities and sustains the beautiful places that make New Mexico a "Land of Enchantment." And water fund investments in forest treatments have the added benefits of creating jobs in rural communities, providing wood materials for locally sourced products, and protecting habitat for numerous forest and water dependent species.

## A CALL TO ACTION

**New Mexico must act now to protect our watersheds and water supply**. With every year that goes by without a large-scale solution, more forested acres are severely burned, more critical water sources are jeopardized, more communities are threatened and other natural values are placed at risk. A coordinated, leveraged, multi-partner effort is needed to scale up restoration. The *Rio Grande Water Fund Comprehensive Plan for Wildfire and Water Source Protection* provides a blueprint for action (available for download at http://www.nmconservation.org/RGWF/RGWF_CompPlan.pdf). The plan includes an introduction and analysis of water security threats, a vision for the future, summaries of study results that will guide water fund investments and a clear path forward to securing New Mexico's water for the future.

## In Their Words

"An economic development strategy and a comprehensive plan that responds to the uniqueness of a place and realistically assesses the water resources necessary to retain and attract new business enterprises is a goal of the Rio Grande Water Fund. Growth, conservation and well managed natural resources can all work together if the end game is to build a resilient economy and a quality place for current and future generations to live, work and raise a family."

Dale Dekker, Principal
Dekker/Perich/Sabatini and
Greater Albuquerque Chamber
of Commerce, Water and
Energy Subcommittee Chair

**PHOTO:** Headwater forests in the Valles Caldera feed the Jemez River, a tributary of the Rio Grande.
© *Alan Eckert Photography*

# THIS PLAN IS SUPPORTED BY THE FOLLOWING ORGANIZATIONS:

The Nature Conservancy
Protecting nature. Preserving life.™

New Mexico Association of Conservation Districts

Albuquerque Bernalillo County Water Utility Authority

New Mexico State Land Office

UNM

Albuquerque Public Schools

forest GUILD

Dekker Perich Sabatini
Architecture Design Inspiration

Chama Peak Land Alliance
Responsible Land Stewardship

Bohannan Huston

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NMFWRI

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NMFIA

NM Watershed and Dam Owners Coalition

Middle Rio Grande Conservancy District

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New Mexico Museum of Natural History & Science

Business Water Task Force

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intel

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New Mexico Association of Counties
NMAC

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Edgewood Soil & Water Conservation District

NAIOP
Commercial Real Estate Development Association
New Mexico Chapter

ACI
Association of Commerce and Industry

BEMP
Bosque Ecosystem Monitoring Program

PNM

Trout Unlimited

New Mexico Acequia Association

New Mexico Coalition of Conservation Districts