LOCAL SPOTLIGHT

Rio Grande, New Mexico, United States—Collaborating to reach scale

Panorama of burned ridge above Valles Caldera National Preserve in New Mexico.

The challenge

In the summer of 2011, a severe wildfire struck the state of New Mexico and began to spread at a rate of 0.4 hectares per second, ultimately burning more than 63,000 hectares in just one week. The fire destroyed dozens of houses and buildings and 60 percent of Bandolier National Monument. In some areas where the fire's heat reached an extreme level of intensity, even the soil was vaporized. This wildfire became known as "Las Conchas"—the largest wildfire that New Mexico had ever encountered up to that date.

The Las Conchas fire was ignited by a tree falling onto a power line. The reason it reached such an unprecedented scale, however, is rooted in much more complex problems than electrical infrastructure. First were policies involving the suppression and prevention of naturally occurring (low-intensity) fires for the purpose of safety and forest reserves. The second catalyst is climate change. Since the late 1990s, New Mexico's western landscapes have experienced an average temperature rise of 2 degrees Celsius; some areas have seen an increase of 4 degrees Celsius. By 2005, these pressures caused the now high-density forests to dry out and die. What was once a robust supply of timber for the region became a devastating source of fuel.

Reducing the risk of wildfires has become ever more important for New Mexico not only to prevent catastrophic burns, but also to protect water sources. Shortly after the Las Conchas fire, New Mexico experienced downpours that quickly washed all the wildfire debris and ash into the Rio Grande. This resulted in a 21-meter sediment plug in one of the Rio Grande's tributaries, and sediment loads in the river far beyond what the downstream city of Albuquerque, New Mexico could reasonably process at the water treatment plant. The ash-laden water ultimately prevented Albuquerque from receiving its supply of water from the Rio Grande for 40 days. Under such extreme circumstances, this flooding event was declared a federal disaster. The Las Conchas is neither the first nor the last extreme event New Mexico has experienced in this fire-prone region and climate change impacts are projected to exacerbate incendiary conditions.

In addition to municipal water supplies, other important values—such as homes, property, community and business infrastructure, terrestrial and aquatic biodiversity, agricultural and rural economies, tourism and outdoor recreation—are also at risk when forested watersheds are severely damaged by wildfire.

While these risks are known among key actors across New Mexico, collaborating to address them—principally though not exclusively through managing forest fuels—has been challenging given the range of mandates, goals and desired outcomes each actor holds. It has been estimated that fire suppression activities cost New Mexico as much as US$1.5 billion dollars from 2009 to 2012. These recurring costs directly affect the state's economy with extensive financial implications for property owners, businesses and residents.

Restoration activities have clear benefits. Through an economic lens, the impact of wildfire on just one acre (0.4 hectares) can have a price tag of up to US$2,150, while thinning one acre as a preventative measure is only US$700 on average. It is expected that this cost would also decrease over time as thinning practices become more efficient. Based on these estimates, it is more cost-effective to invest in prevention than suffer damaging wildfires.

Action and opportunity

In order to protect the water supply for the cities of Albuquerque and Santa Fe, tribal lands, surrounding communities and other water users, The Nature Conservancy began developing the Rio Grande Water Fund in 2013. Initially gaining traction from the water and energy subcommittee of the Greater Albuquerque Chamber of Commerce, it wasn't long before the fund started accumulating a variety of new partners such as businesses, water utilities and government forest managers. It was clear enough to New Mexico that healthy watersheds are a necessity to secure livelihoods that the fund gained enough funding and support to officially launch in 2014. While this initiative is focused on tangible activities such as tree thinning, stream restoration, flood control and wildfire management, the scale of natural ecosystems restoration requires direct collaboration among stakeholders. The fund is expected to restore 688,000 hectares of fire-prone ponderosa pine and mixed conifer forest across the Rio Grande watershed stretching some 320 kilometers from Belen all the way to the Colorado border.

By April 2016, the water fund had an impressive 49 signatories including local governments (federal entities, counties, cities and districts), nonprofits, agencies and private businesses. Signatories bring their various mandates, as well as expertise, to the table. For example, in recognition of the need to manage a diverse landscape, the fund includes the four local county governments; federal actors such as the USDA Forest Service, Bureau of Land Management and the U.S. Fish and Wildlife Service; state level counterparts; local community associations such as Chama Peak Land Alliance and Rocky Mountain Youth Corps; Native American tribal communities; and the private sector such as the New Mexico Forest Industry Association. Other water service delivery and infrastructure actors at local and national scales such as the water utility, the Flood Control Authority and the Army Corps of Engineers are also frequently engaged. Collectively, these partners represent the diverse set of land ownership and water users found in the fund's area who commit to working together to secure clean water for communities in the watershed and downstream.

While federal and state funding comprises the majority of the contributions to the fund, the first US$2 million came from private foundations and was the most crucial component to the water fund's formation. The funding goes to planning, restoration treatments, education, outreach and a monitoring program. While The Nature Conservancy administers the private investments, the executive committee of diverse stakeholders decides which projects in the focal areas receive funding. These specific locations are determined by the following five criteria:

1. Wildfire risk
2. Water quality and supply
3. Economic opportunity
4. Forest health (including ecosystem integrity versus harmful insects and disease)
5. Fish and wildlife habitat

The fund offers an excellent example of how investing in a collaborative platform for city, local and national agencies and stakeholders can provide significant economic, political and environmental benefits. Bringing together multiple water users under the water fund model has helped to:

- harmonize mandates across diverse stakeholders and overcome jurisdictional accountability challenges, aiming to improve the effectiveness;
- leverage funding sources to allow for efficiency in terms of resources and capacity, as well as complementary investments such as US$6.2 million allocated by the state legislature to fund watershed restoration improvements across the state (Work New Mexico Act) and nearly US$4 million of federal funding available through competitive grants; and,
- mobilize a collaborative, multi-partner approach to protect watersheds and water supply across a landscape of almost 700,000 hectares through inclusive priority setting and coordinated capacity building in forest management.

RIO GRANDE DASHBOARD

Water fund start date	Number of upstream participants to date	Number of potential downstream beneficiaries	Number of partners to date	Primary funding sources	Activities	Anticipated co-benefits
2014	N/A	Between 500,000 and 1,000,000	53	Public (federal and state agencies) NGO/Foundation Private Utility