Key Principles of Watershed Investment: Restoration Priorities

One of the first steps in creating an actionable watershed investment plan is prioritizing what, where, and how restoration will take place in your watershed. This process can be overwhelming, if you don't know where to start. We've sorted through dozens of watershed protection plans from around the American West to get a sense of what actions and outcomes communities are prioritizing, and how those priorities were decided upon. We hope this guide will get you thinking about what successful restoration looks like in your watershed. If you need help getting started, let us know. Our Healthy Headwaters Network is here to support you on your path to investing in the future of your watershed.

Rio Grande Water Fund
Middle Rio Grande, New Mexico
2015-present

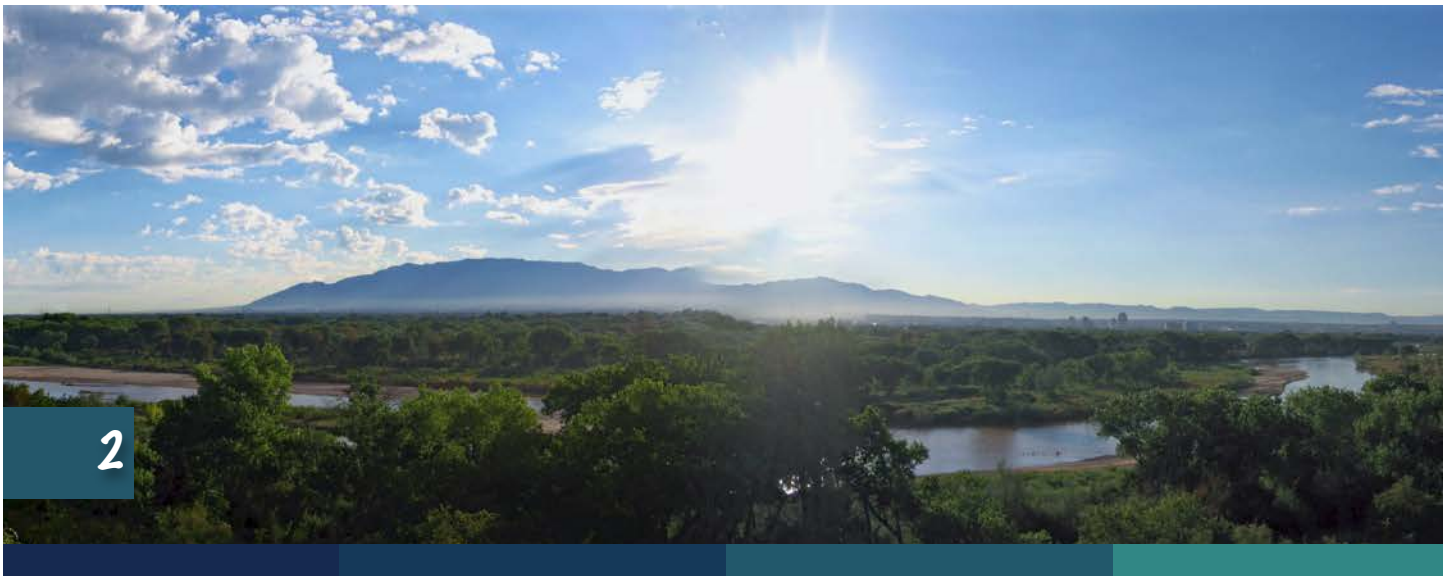
Priorities

- Restore watershed functions by improving the health of streams and riparian areas
- Mitigate the downstream effects of flooding and debris flows after wildfires
- Reduce forest fuels in areas identified as high risk for wildfire and debris flow
- Support forest products industries' use of wood by-products from forest fuel reduction
- Maintain the reduced wildfire hazard in treated areas
- Secure sustainable financing from water users, government, investors and donors, and facilitate payments to upstream land managers

The Nature Conservancy in New Mexico used the results of debris flow modeling to determine that key water sources in the Rio Grande were at risk following high-severity fire. Scientists recommend that 1% to 2% of re-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.

An advisory board was convened in April 2013 to guide the formation of the Rio Grande Water Fund. Initially, 23 organizations and agencies participated and over the course of the next year the board grew to more than 45 New Mexico entities. The Rio Grande Water Fund Advisory Board assembled a comprehensive planning team to conduct a statewide analysis to identify focal areas for water fund support. They are listed below, with the model assigned the greatest weight listed first:

1. Wildfire Risk
2. Water Quality and Supply Model
3. Economic Opportunity



Northern Arizona Forest Fund
Phoenix, Arizona 2014-present

The National Forest Foundation and the Salt River Project worked with the U.S. Forest Service to identify an annual list of priority projects that will improve the health and resiliency of National Forest lands in the Salt and Verde River watersheds. These priority projects have undergone National Environmental Policy Act analysis, the USFS review processes, and are now ready for implementation. Accomplishing this work involves working in close coordination with volunteer groups, nonprofits, private contractors, and USFS staff and seasonal employees.

Priorities

- Forest Thinning and Prescribed Burning
- Stream and Wetland Restoration
- Sediment and Erosion Management
- Habitat Improvement and Revegetation Projects

McKenzie Watershed Drinking Water Source Protection Plan
Eugene, Oregon 2013

Priorities

- Restore watershed functions by improving the health of streams and riparian areas
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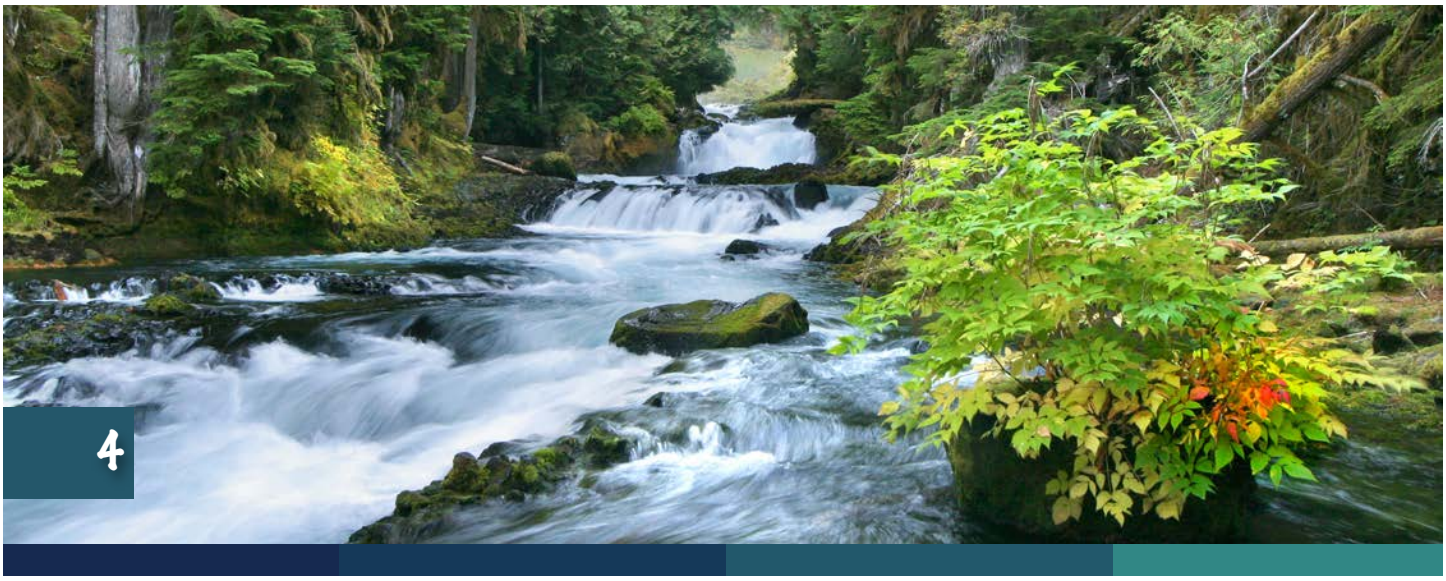
In 2000, The Eugene Water & Electric Board (EWEB) prepared a Drinking Water Source Protection Plan in order to meet the requirements of the 1996 Safe Drinking Water Act Amendments. The general approach for implementation of this program is for EWEB to accept a leadership role for protection of the McKenzie River by working with partners to develop protection plans and programs without expectations that partners initially contribute resources to implementation of these plans and programs. The Source Protection Planning Team ranked the following risk categories:

1. Storm Sewer Outfall
2. Urbanized Contamination
3. Hazardous-Materials Transportation
4. Industrial and Commercial Facilities
5. Road Vegetation Management
6. Agricultural Activities
7. Forest Practices
8. Recreation
9. Fish Hatcheries
10. Dams & Powerhouses



Ashland Forest Resiliency Stewardship Project
Ashland, Oregon 2013

The Ashland Forest Resiliency Stewardship Project is a stewardship agreement between the U.S. Forest Service, the City of Ashland, The Nature Conservancy, and the Lomakatsi Restoration Project. At an initial workshop, 20 diverse technical stakeholders came together to develop a long-term forest monitoring plan. The group advocated for science-based decision making and for placing data on a user-friendly website to ensure transparency and accessibility

Priorities

- Thin smaller trees, while saving largest trees
- Reduce flammable fuels
- Conduct controlled burns
- Preserve habitat for wildlife dependent on older forests
- Preserving stream-side habitat thereby ensuring water quality
- Protect unstable slopes and erodible soils

Forest-to-Faucets: Denver Water & U.S. Forest Service Rocky Mountain Region
Denver, Colorado 2013

Priorities

- Forest thinning projects
- Wildfire fuels reduction

Through the Forest-to-Faucets partnership, Denver Water, along with the U.S. Forest Service, focused treatments on specific "Zones of Concern" identified through an assessment that analyzed and ranked wildfire hazards, flooding or debris risks, soil erodibility and water uses. Front Range water providers developed the assessment methodology in 2009 in collaboration with the U.S. Forest Service, the U.S. Geological Survey, the Bureau of Land Management, the U.S. Natural Resources Conservation Service, the Colorado State Forest Service, and the Colorado Department of Public Health. This methodology is used by all agencies to identify and prioritize "at risk" watersheds in the Front Range for hazard reduction treatments and other watershed protection measure.

Four-Forest Restoration Initiative
Northern Arizona 2011

Stakeholders in the Four-Forest (Cocnino, Kaibab, Apache-Stigreaves, and Tonto National Forests) Restoration Initiative recognized that the program would require a formal collaborative process that allows research results, monitoring, adaptive management, and lessons learned through implementation to be incorporated into an evolving set of project design parameters. These parameters build on existing collaboratively-developed research and reports such as Arizona Governor's Forest Health Council's Statewide Strategy for Restoring Arizona's Forests, Guiding Principles for Forest Restoration and Community Protection, Guiding Principles for Wildlife Habitat, Guiding Principles for a New Economy based on Forest Restoration, the Analysis of Small Diameter Wood Supply in Northern Arizona, and approved community wildfire protection plans.

Priorities

- Plan and implement restoration treatments across 2.4 million acres of ponderosa pine forest
- Treat 50,000 acres per year during a 20-year period
- Allow for increased use of prescribed fire and management of natural fires for restoration objectives
- Engage industry so the cost of restoration is covered by the value of the products removed
- Assure that the science-based and socially-acceptable agreements forged during the last decade result in the implementation of long-term, landscape-scale restoration.
- Surround and support communities and provide wildlife habitat, recreational resources and ecosystem services.

Hayman Restoration Partnership
Front Range, Colorado 2011

Priorities

- Stream Reconstruction and Restoration
- Off-Channel Ponds
- Erosion Control and Sediment Catchments
- Trail and Road Work
- Vegetation Management

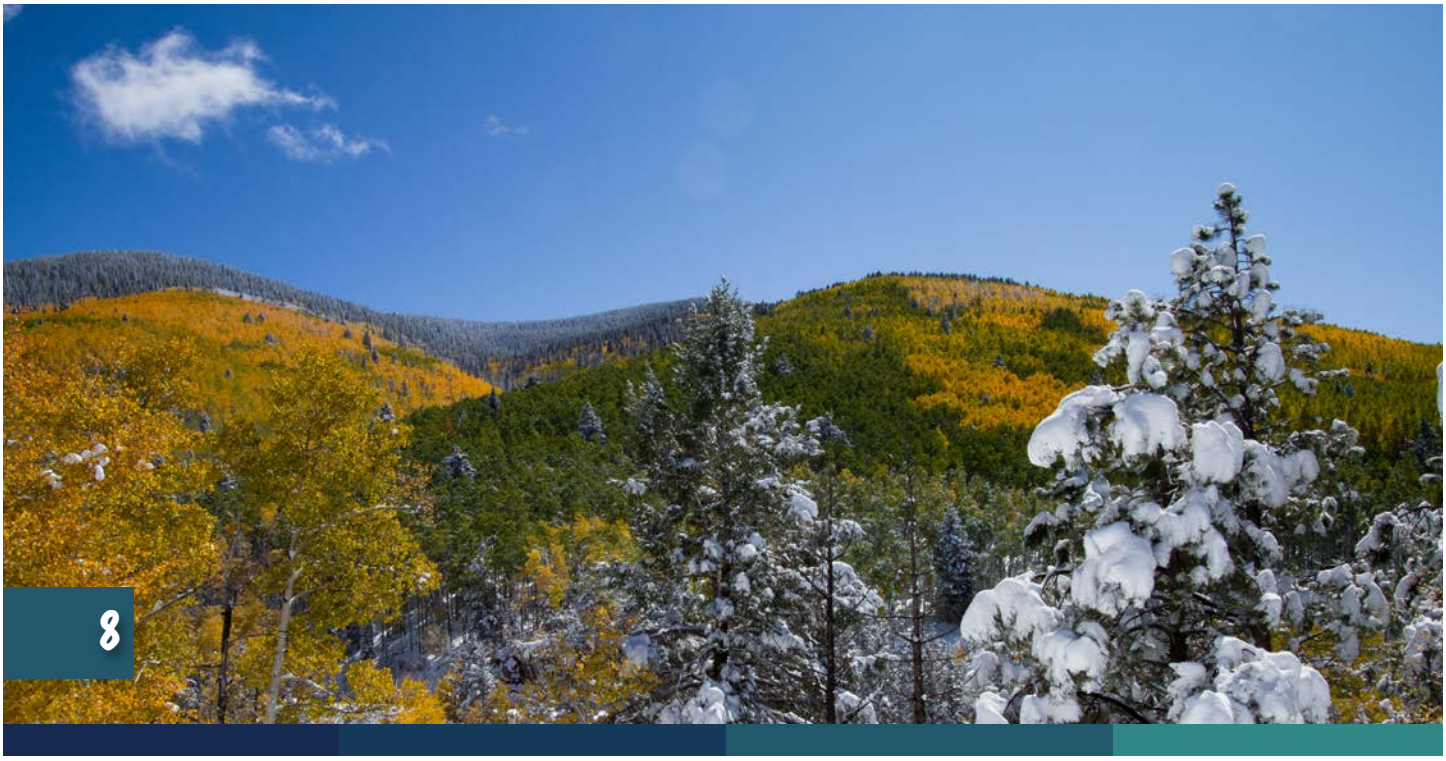
The 2002 Hayman Fire, the largest in Colorado's history, roared through the forests in the mountains above Denver. After the fire, rain washed over a million cubic feet of ash and debris into reservoirs, threatening the water supply for 1.3 million people. The National Forest Foundation (NFF) collaborated with the U.S. Forest Service and local partners, such as Aurora Water, to develop specific goals for the restoration of the Trail Creek watershed and surrounding forests. NFF worked with a diverse group of partners and supporters to accomplish these mutually-developed goals.

Water Source Protection Program
Santa Fe, New Mexico 2009-present

Recognizing the need for a long-term source water protection solution, the City of Santa Fe formed a collaborative planning group with the U.S. Forest Service, the Santa Fe Watershed Association and The Nature Conservancy. The group was awarded a USFS Collaborative Forest Landscape Program grant to develop a watershed management plan. The resulting 2009 twenty-year Santa Fe Municipal Watershed Plan established the method and plan for forest treatments, the protocol for water quality and quantity monitoring, promoted public awareness and outreach, and made recommendations for long-term project funding.

Priorities

- Vegetation management and fire use
- Water management
- Public awareness and outreach
- Financial management based on a "Payment for Ecosystem Services" model



Clackamas River Water Providers Source Water Protection Program
Clackamas County, Oregon 2007

Priorities

- Basin Analysis: Studies, GIS, Modeling and Water Quality Monitoring
- Education and Research Assistance
- Point Source Evaluation and Mitigation
- Nonpoint Source Evaluation and Mitigation
- Disaster Preparedness and Response
- Public Outreach and Information Sharing
- Watershed Land Use Tracking and Management
- Land Acquisition

In 2002 and 2003 the Oregon Department of Environmental Quality and Department of Human Services with the assistance of the Clackamas Basin Watershed Council and the Clackamas River Water Providers completed four source water assessments on the Clackamas. The purpose of the assessments was to identify surface water areas that supply public drinking water, identify sensitive areas, and potential sources of contamination that could impact water supplies.

Bull Run Watershed Habitat Conservation Plan
Portland, Oregon 2007

The City of Portland developed a Habitat Conservation Plan (HCP) for the Bull Run Watershed based on three factors: Endangered Species Act species listing, Clean Water Act compliance, and waters supply reliability and affordability. The HCP was crafted in the spirit of the 1998 MOU between the National Marine Fisheries Service, The U.S. Fish and Wildlife Service, the Mt. Hood National Forest, the Bureau of Land Management, The Oregon Department of Fish and Wildlife, Portland General Electric, and the Portland Water Bureau.

Priorities

- Minimize and mitigate impacts on fish species
- Choose measures that are feasible, implementable, and compatible with ongoing operation of the water system
- Improve conditions in the Bull Run River where the City has direct impacts on habitat
- Improve conditions at targeted locations elsewhere in the Sandy River Basin for three primary reasons: 1) not all of the impacts of the drinking water system on the Bull Run River can be mitigated; 2) greater benefits for the species can be achieved by habitat improvements elsewhere in the Sandy Basin for a smaller cost; and 3) cooperation with Basin partners will create better overall results than the City acting alone
- Act in a timely fashion to help reverse declining trends in the Sandy River Basin fish populations
- Plan for and manage any Habitat Conservation Plan impacts to water system customers and ratepayers

Cedar River Watershed Habitat Conservation Plan
Seattle, Washington 2000

Priorities

- Endangered Species Act
- Instream flows
- City Public Utility Functions and Constraints
- Prior City Initiatives
- Mitigation for Fish Blockage at Landsburg Dam
- Public and Scientific Concerns about Habitat Conservation Plans (HCPs)
- Sustainable Management

The City of Seattle prepared a multi-species Habitat Conservation Plan for the Cedar River Watershed to comply with the Endangered Species Act and to address other impacts to natural resources. The HCP is based on a decade of studies and the results of 5 years of analysis and negotiations with five state and federal agencies. The HCP lays out conservation strategies designed to protect and restore habitat that may be impacted by the facilities and operations of the City on the Cedar River, while simultaneously providing high quality drinking water and reasonably priced electricity to the region.

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