

Stream Management Plan Grantee Project Summary

North Fork Integrated Water Management Plan

Geographic Description:

Gunnison River Basin:
North Fork Gunnison River, Paonia
Reservoir to Gunnison River
Confluence

Size:

986 square miles

Project Homepage:

westernslopeconservation.org/external-resources/

Primary Contact:

Jake Hartter
Western Slope Conservation Center
jake@theconservationcenter.org

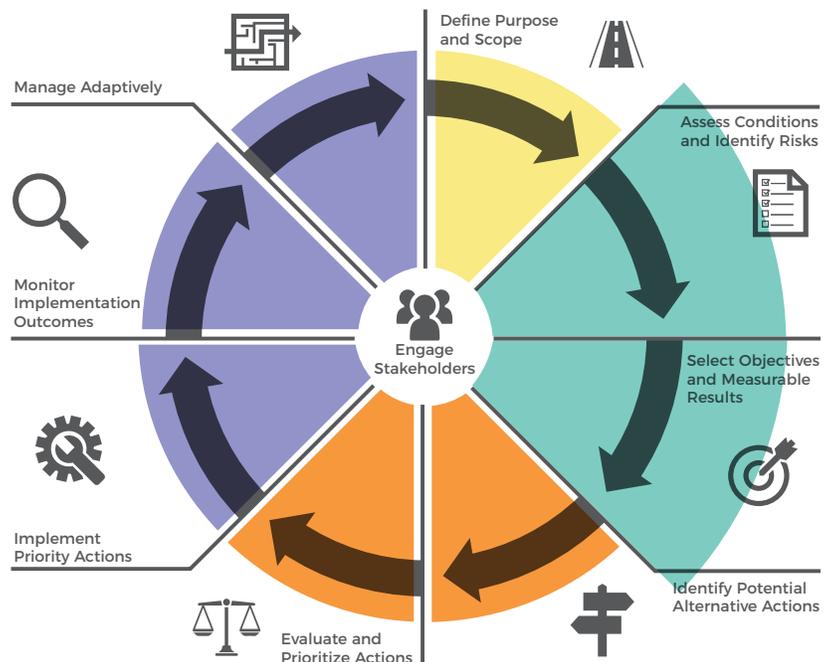
Project Timeline



Stakeholder Groups Involved in Planning Process

●	Agricultural producers
●	Riparian landowners
●	Aquatic and riparian science
●	Environmental advocacy
	Utilities or other water management
●	Recreation & tourism
	Local government & land use planners
●	State and federal agencies

Current Planning Phase



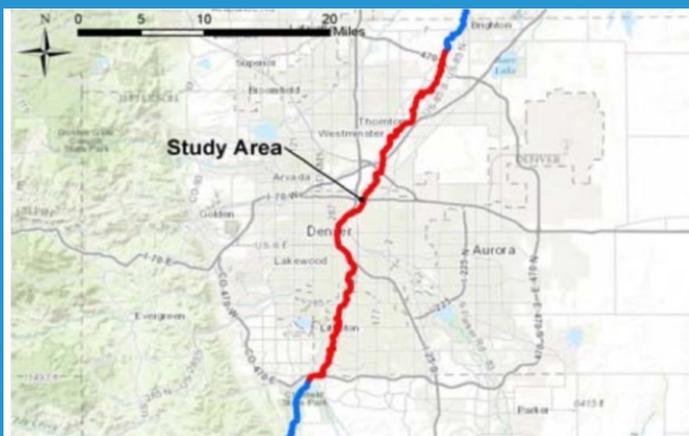
Project Goals

- Synthesize relevant and preexisting information, inventories, and assessments of ecological conditions of the North Fork of the Gunnison River. (Phase 1)
- Better understand stakeholder concerns regarding environmental and recreational needs. (Phase 1)
- Create recommendations for collaborative infrastructure and improvement projects. (Phase 1)
- Create the North Fork River Stakeholder Group to ensure an array of water use values are heard, and to develop local support for multi-purpose projects and concepts and recommended in the Irrigation Management Plan and Environmental and Recreation Needs Assessments. (Phase 2)
- Educate water stakeholders to increase understanding of river operations, including the influence of water use efficiency improvement projects, and associated effects on water quality and quantity through the development of an array of analytical tools to prioritize future projects. (Phase 2)

Overview

Geography:

The North Fork of the Gunnison River (North Fork) is located in west-central Colorado and flows through northwestern Gunnison and eastern Delta Counties. The North Fork is formed by the confluence of Muddy Creek and Anthracite Creek downstream of the Paonia Reservoir Dam.



Users:

Over 90% of riverfront property in the North Fork watershed is privately owned.

Of the more than 1,000 parcels adjoining the river, 35 percent are classified as agricultural. Other water uses in the North Fork include extractive industries, tourism, and outdoor recreation.

Need for planning:

The river is heavily used by agriculture, leaving sections of the river dry through the middle of the watershed during the height of the irrigation season. Simultaneously, much of the local ditch and canal companies' infrastructure is older and in need of repairs. While some irrigation infrastructure has been upgraded to address salinity issues, most canals have not been altered in the past 100 years. The North Fork Integrated Water Management Plan will allow managers to develop plans for projects and programs that will simultaneously address consumptive and recreational and environmental water needs.

Approach

Phase 1 of the North Fork Integrated Water Management Plan and Environmental and Recreational Needs Assessment began as a collaborative effort between Trout Unlimited (TU), the Western Slope Conservation Center (WSCC), and the North Fork Water Conservancy District (NFWCD). The original plan was to build upon previous plans and assessments to develop a single, valley-wide document that would inform project work to benefit irrigators, the environment, and recreational users.



Due to significant opposition from some water users, collaborating partners altered the original scope of work to conduct two separate, but complementary plans:

- Environmental and recreation needs: North Fork of the Gunnison River Environmental and Recreation Needs Assessment conducted by the Western Slope Conservation Center
- Agricultural needs and infrastructure: North Fork of the Gunnison River Irrigation Management Plan conducted by J-U-B Engineers Inc. on behalf of the North Fork Water Conservancy District

These two plans use similar approaches, stream reach segmentation, and reference studies. These plans are intended to be

used to identify opportunities for multi-benefit, collaborative projects and to allow future stream management planners to design projects and develop programs that address both consumptive and environmental and recreational needs.

The North Fork Integrated Water Management Plan: Phase 2 will focus on implementing three core objectives prioritized in the Environmental and Recreational Needs Assessment and Irrigation Management Plan:

- Create the North Fork River Stakeholder Group to gain support for the multi-purpose projects recommended in the 2017 assessments
- Improve boater safety in Reach 2-3 through engineering design and signage
- Work with water users to increase understanding of river operations through the development of a suite of analytical tools

Outcomes

The North Fork of the Gunnison River Environmental and Recreation Needs Assessment prioritized a number of short-term, mid-term, and long-term suggested projects on the North Fork of the Gunnison River. The highest priority projects include:

- Creation of a river stakeholder group to improve multi-use communication and assist in watershed management planning.
- Improved invasive species inventory, monitoring, and removal.
- Re-initiation of morphological river channel monitoring of established cross-sections.
- Bank stabilization and riparian corridor development at specific locations.
- Development of additional public access points and improved boating and fishing infrastructure.
- Investigation of market mechanisms for mitigating current and future water use conflict.

The parallel North Fork of the Gunnison River Irrigation Management Plan emphasized the following recommendations:

- Create a small-scale water control structure grant program.
- Develop a conservation program allowing for irrigators to monetize “foregone diversion”. This is likely a complex idea and would require significant administration to develop.
- Begin (and continue in some cases) to educate irrigators and community members that the basis for any value associated with the beneficial use of irrigation water is dominated, not by the diversion, but by the irrigated acreage.
- Emphasize and support a funding plan for improvements

to targeted large diversions.

- Emphasize and support projects that remove proportional splits from conveyance infrastructure.
- Support the rehabilitation of Paonia Reservoir and encourage increased management.
- Continue to support Colorado River Salinity Reduction projects with local and state funds.



The North Fork Integrated Water Management Plan: Phase 2 will utilize recommendations from both management plans to implement multi-benefit stream management projects. Project prioritization will be dependent on the outcomes of the stakeholder engagement process.

Variables and Inventory Assessment Level

Depending on the purpose and scope determined by local stakeholders, assessments employ different methodologies to evaluate a suite of specific parameters related to stream health and ecosystem goods and services. The comprehensiveness of the data is will vary depending on what is needed to answer core questions addressed by the SMP, ranging from less precise (general, often anecdotal or third-party information) to more precise (data-driven, quantitative metrics). The North Fork Integrated Water Management Plan assessed the following variables to evaluate watershed health and delivery of ecosystem services.

	Variable	Assessment Level
Ecological Integrity:		
●	Existing Flow Regime	More Precise
	Future Flow Regime	
	Sediment Regime	
	Water Quality	
●	Network Connectivity	More Precise
●	Floodplain Hydrology	More Precise
●	Riparian Vegetation	More Precise
●	Stream Corridor Dynamics	More Precise
	Structural Complexity	
	Aquatic Biota	
Regulating and Maintenance:		
●	Flood Regulation	More Precise
	Groundwater Recharge	
●	Erosion Control	More Precise
	Pest Regulation	
	Regulatory Compliance	
Provisioning:		
●	Agricultural Production	More Precise
	Drinking Water Supply	
	Industrial Processing	
	Hydropower Production	
Cultural:		
●	Aesthetics and Intrinsic Values	More Precise
●	Symbolic/Emblematic Species	More Precise
●	Boating Recreation	More Precise
●	Angling Recreation	More Precise

Budget for North Fork Integrated Water Management Plan (Phases 1 & 2)

Contributing Entity	Amount and Form of Match
CWCB Watershed Restoration Fund Revised Scope of Work 2017	\$26,000 cash
CWCB Stream Management Planning Grant 2019 award	\$66,047 cash
CWCB Water Supply Reserve Account fund	\$85,547 cash
Other cash (Western Slope Conservation Center, North Fork Water Conservancy District, Trout Unlimited)	\$33,000 cash
In-Kind from (Western Slope Conservation Center, North Fork Water Conservancy District, Trout Unlimited)	\$42,500 in-kind
Total	\$253,094

Photo credits: Western Slope Conservation Center



COLORADO
Colorado Water
Conservation Board
Department of Natural Resources