

Beaver-Based Restoration to Bolster a Reintroduced Population of Greenback Cutthroat Trout in George Creek

State(s): Colorado

Managing Agency/Organization: Rocky Mountain Flycasters Chapter of Trout Unlimited

Type of Organization: Non-profit

Project Status: Ongoing

Project type: WNTI Project

Project action(s): Stream and wetland assessment and enhancement. Two watersheds and 14 miles of stream will be assessed, with beaver dam analogs (BDA) enhancing or restoring 14 miles of stream and 365 acres of wetland.

Trout Species Benefitted: Greenback Cutthroat Trout

Population: George and Cornelius Creeks

Project summary: This proposal is part of a broader effort to strategically restore stream habitat in George and Cornelius Creeks while studying the methods and effects of beaver-based restoration on vegetation, hydrology, geomorphology, and Cutthroat Trout habitat. The focus of this project is to install beaver-mimicry (BDA) structures and riparian fencing, based on research previously conducted in the study area. These structures are designed to replicate beaver dams and pond series that may encourage natural beaver re-establishment; however, if that does not occur, beavers may be reintroduced into the system.

George and Cornelius Creeks both suffer from overbrowsing in riparian areas by ungulates such as moose and cattle. Riparian fencing will be installed as standalone structures and in conjunction with BDA's. Partners estimate the scale of restoration between fencing and BDA's to replace up to 52 beaver dams that occurred naturally in the system prior to their destruction in an effort to remove non-native trout species from the systems to provide habitat for Greenback Cutthroat Trout. This large-scale, low-tech stream restoration project will improve habitat and provide a strong-hold for Greenback Cutthroat Trout.

Problem the Project Addresses: This project restores beaver-influenced wetlands that were destroyed to facilitate the eradication of non-native trout. By implementing beaver-mimicry structures paired with riparian exclusion fencing, we will restore these wetlands, improve riparian health, and expand aquatic habitat to enhance the resilience of the reintroduced GBCT population. We will be providing deep pools that provide flow refuges and support overwinter survival, and expanding wetlands and streamside vegetation habitat for aquatic and terrestrial organisms. Increased water in the system will improve vegetation survivability during wildfires and slow water flow, which will mitigate temperature extremes and sedimentation, both of which have been lacking in the system since the prior removal of naturally occurring beaver dams.

Objectives:

- Construct beaver mimicry structures to repair dams notched to facilitate the removal of nonnative species.
- Construct enclosure fencing to allow riparian vegetation to regrow

Partners:

- Rocky Mountain Flycasters Chapter of Trout Unlimited
- Colorado State University (CSU)
- Colorado Parks and Wildlife
- US Forest Service
- State of Colorado

Project Monitoring: CSU will document initial conditions and monitor changes in groundwater elevation, streamflow, water temperature, and vegetation throughout the project. CSU and the local chapter of Trout Unlimited will be responsible for long-term monitoring of the abiotic and biotic changes in the habitat. Ideally, the beavers will be responsible for the ongoing maintenance of the mimicry structures after reintroduction.

Overall project success will be based primarily on the quantifiable increase in productive habitat for greenback cutthroat and beavers that provides food, shelter, and areas of refuge from temperature changes, wildfire, and predators in various seasons and drought conditions.

Long-term project success will culminate in a viable self-sustaining population of Greenback Cutthroats that can serve as brood stock for further reintroduction of GBCT in their native range.

Funding Source(s): National Fish Habitat Action Plan

Project cost: WNTI \$20,000 Total \$160,000

Start Date: 08/01/2026 **Completion Date:** 10/01/2026

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