

## Mill Creek Watershed Restoration

**State(s):** Utah

**Managing Agency/Organization:** National Forest Foundation/Uinta-Wasatch-Cache National Forest

**Type of Organization:** Nonprofit/Federal Government

**Project Status:** Underway

**Project type:** WNTI Project

**Project action(s):** Barrier Removal or Construction, Riparian or Instream Habitat Restoration, Watershed Connectivity, Monitoring, Outreach/Education

**Trout species benefitted:** Bonneville Cutthroat Trout

**Population:** Mill Creek

### Project summary:

The funding requested is to aid in the replacement of an undersized culvert, the last fish passage barrier on Mill Creek, with a fish friendly passage structure. The funding requested will support the contract to remove an undersized culvert, the last remaining barrier on the main stem of Mill Creek. The work includes using heavy equipment to remove the existing roadbed, reroute the channel, and replace the undersized culvert with a fish friendly passage structure. After the new structure is in place, the subcontractor will return the channel to its natural place, reconstruct the road and restore the streambanks and vegetation around the project site. The environmental analysis for this task is complete.

This work is part of the Mill Creek Watershed Restoration Project (MCWRP), a multi-year project to improve native fish habitat in Mill Creek. The MCWRP overall includes removing ten man-made barriers and restoring Bonneville cutthroat trout (BCT) and other native non-game fish to the upper nine miles of Mill Creek and the lower mile of Porter Fork. The project also includes removal of an unneeded bridge and an abandoned hydroelectric dam, redesign of the stream channel, improved fishing access, redesign of a small lake to include a spawning channel, replacement of seven undersized culverts that are partial fish barriers and the development of educational material to inform the public of the importance of aquatic and terrestrial resources, including native fish.

### Problem the Project Addresses:

In Mill Creek, on the Uinta-Wasatch-Cache National Forest (UWC) in Utah, Utah's state fish, the BCT, is struggling to survive amidst a maze of man-made barriers and competition from non-native fish species.

Once prevalent throughout Utah, eastern Nevada and smaller areas in Idaho and Wyoming, BCT today occupy only one quarter of their historic range, according to a recent report by Trout Unlimited. As early as the 1870's, non-native fish species such as brown trout and rainbow trout were imported into streams throughout the Wasatch Mountains to replace the diminished BCT, an important source of food for early settlers. Man-made barriers later fragmented Mill Creek's already-struggling BCT population, and as a result, very few BCT have existed in the Wasatch Mountains for over 100 years.

The National Forest Foundation (NFF) is working through a highly leveraged public-private partnership to restore genetically pure BCT within their historic range in Mill Creek. This work is a top priority of the UWC and Salt Lake community and critical to the survival of BCT as a species.

In 2014, when the NFF first joined this effort, Mill Creek was highly fragmented by ten man-made fish passage barriers, including undersized culverts, weirs and a 14-foot abandoned hydroelectric dam. By late fall 2016, only one of these barriers, an undersized culvert, will remain in the main stem of Mill Creek. This culvert limits fish passage and connectivity between the upper and lower canyon. Replacing this culvert with a fish friendly passage structure will completely reconnect fish populations throughout the nine-mile stretch of Mill Creek.

The MCWRP addresses most of WNTI's strategic priorities for 2015-2020. Specifically, this project will: protect, enhance or restore a WNTI priority western native trout species, and; improve degraded and isolated habitats by removing man-made barriers to restore connectivity. Ultimately, this project will result in the restoration of genetically pure BCT and other native fish throughout more than 10 miles of native fish habitat.

In addition to the removal of ten full or partial fish passage barriers, restoration activities include the removal of non-native and hybrid fish, restoration of riparian conditions through active riparian plantings and education, channel restoration and installation of a fish migration barrier to prevent future invasions. This restoration effort significantly increases the number of miles of BCT in the Central

Geographic Management Unit as described in the Utah Conservation Agreement for BCT. The project also addresses climate change by expanding BCT higher in the drainage through the replacement of migration barriers, allowing the fish to move into higher, cooler waters. The MCWRP addresses most of WNTI's strategic priorities for 2015-2020. Funds being requested will go directly to the contract to remove a 14 foot high hydroelectric dam and to restore the natural stream channel through the impacted reach. This dam currently prevents fish passage through this reach and limits connectivity from the lower part of the canyon with the upper canyon area.

**Objectives:** The project addresses the key threats to the BCT by removing hybrid cutthroat and non-native trout, connecting isolated habitats, improving public awareness of species' needs, and restoring native fish communities. The project restores native BCT to the upper nine miles of Mill Creek and the lower 1.2 miles of Porter Fork, improving the status of western native trout. The project enhances the Mill Creek watershed by removing an abandoned hydroelectric dam, a bridge and a diversion weir, providing fish passage over a second weir, and replacing seven undersized culverts with passable structures. A fish migration barrier is being placed at the bottom of the restored section to prevent invasion of non-native fish. This work is supported by both the Range-wide and State of Utah's Bonneville Cutthroat Trout Conservation Agreement and strategy to restore BCT back to its historic habitat.

**Partners:**

- National Forest Foundation
- Uinta-Wasatch-Cache National Forest
- Great Salt Lake Council of the Boy Scouts of America
- U.S. Fish and Wildlife Service
- PacifiCorp
- Trout Unlimited Utah Council and Stonefly Society
- Utah Division of Wildlife Resources
- Flying Cloud Enterprises Inc.
- Utah Habitat Council, Watershed Restoration Initiative
- Salt Lake County

**Project Monitoring:**

The Utah Division of Wildlife Resources, in coordination with the U.S. Forest Service, will monitor the success of the fish removal and restocking.

The U.S. Forest Service will conduct the monitoring around the new culverts, the dam and the riparian restoration work. The Forest Service, working with private home owners, will manage long-term maintenance of the new culverts on Porter Fork. The Forest Service will maintain the educational material and their website on the project.

Salt Lake County is responsible for the long-term maintenance of the new culverts on Mill Creek Road.

The Great Salt Lake Council will be responsible for monitoring activities on their lands around the Tracy Lake Boy Scout Camp.

**Funding Source(s):** National Fish Habitat Action Plan and National Fish Passage Program

**Project cost:** \$50,000.00

**Start Date:** 08/01/2017 **Completion Date:** 9/30/2019

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