

## French Creek Fish Barrier

**State(s):** Montana

**Managing Agency/Organization:** Montana Fish Wildlife and Parks (FWP)

**Type of Organization:** State government

**Project Status:** Underway

**Project type:** WNTI Project

**Project action(s):** Barrier construction

**Trout species benefitted:** westslope cutthroat trout, Arctic grayling

**Population:** Upper Missouri River Basin, Big Hole River drainage, French Creek

The overarching goal of this project is to restore the native fish assemblage and habitat in French Creek, a tributary to Deep Creek and the Big Hole River. With the construction of a fish barrier and removal of non-native trout, 38 miles of stream will be restored to native westslope cutthroat trout and Arctic grayling. Once restored, the French Creek population would represent one of the largest interconnected populations of westslope cutthroat trout in the upper Missouri River drainage and the only population of fluvial Arctic grayling that would exist in the absence of non-native species. Further, the habitat impacted by past mining and grazing practices will be restored and the fishery will reach its full potential.

The French Creek drainage lies on lands owned and managed by FWP (Mount Haggin Wildlife Management Area), US Forest Service and BLM. The task that will be accomplished and the purpose for this grant is the construction of a fish migration barrier near the mouth of the creek on Mount Haggin Wildlife Management Area to prevent upstream fish passage. There are approximately 38 miles of habitat upstream of the proposed fish barrier site that are currently occupied by trout and 2 tributary streams with native populations of westslope cutthroat trout. Once the fish barrier is in place, non-native brook trout and rainbow trout would be removed from the stream and native westslope cutthroat trout and Arctic grayling will be restored. Construction of a fish barrier is one of the tasks in the larger scale restoration of the watershed, which includes significant habitat restoration.

### Objectives:

The goals of this project line up well with the goals of the WNTI Strategic Plan. This project would protect, enhance and restore westslope cutthroat trout and Arctic grayling on a watershed-type scale. It has been a collaborative effort among several agencies (USFS, BLM, MDEQ, MDT, DRNC), sporting groups, local governments and conservation groups to complete the project.

According to the FWP Statewide Fisheries Management Plan (FWP 2012), the restoration goal for westslope cutthroat trout east of the Continental Divide (Upper Missouri River Basin upstream from and including the Judith River) is to restore secure conservation populations of westslope cutthroat trout to 20% of their historic distribution. Populations of westslope cutthroat trout are considered secure by FWP when they are isolated from non-native fishes, typically by a physical fish passage barrier, have a population size of at least 2,500 fish, and occupy sufficient (5 to 6 miles) habitat to assure long-term persistence. Estimates of the historic distribution of WCT within the Upper Missouri River Basin are approximately 19,000 stream miles. Therefore, having 3,800 miles of secure conservation populations within the basin would satisfy this 20% goal. Implementation of the 20% historic range goal for westslope cutthroat trout would assure persistence of subspecies in the Upper Missouri River Basin for the foreseeable future, provide numerous fishing opportunities for Montana's State Fish, and leave unchanged the vast majority of fisheries that have developed for non-native trout. In the Big Hole, the 20% target goal represents approximately 420 miles of stream occupied by secured westslope cutthroat trout populations. Therefore this one project would result in achieving nearly 10% of this goal.

The 2007 document titled "*Memorandum and Conservation Agreement for Westslope Cutthroat Trout and Yellowstone Cutthroat Trout in Montana*" (MOU; FWP 2007) is the principal document that sets objectives and goals for overall cutthroat conservation in Montana, and has been signed by numerous state, federal, tribal, and private stakeholders. This document states: "The management goal for westslope cutthroat trout in Montana is to ensure the long-term, self-sustaining persistence of the subspecies within each of the five major river drainages they historically inhabited in Montana, and to maintain genetic diversity and life history strategies represented by the remaining local populations." FWP and many of the partners on this project are signatories to this document. The proposed project in French Creek helps to meet this management goal.

The Upper Missouri River Drainage Arctic Grayling Restoration Plan (2013, draft) states that: "The Workgroup believes that in order to be successful, restoration efforts must include: 1. Continued efforts to

maintain, and as necessary, secure and enhance remaining aboriginal Arctic grayling populations, 2. Establishing and maintaining “replicates” of existing grayling populations, and 3. Seeking and implementing additional efforts to restore Arctic grayling to suitable habitats within their historic range.”

This project would be the first to replicate the Big Hole grayling population within its historic habitat.

**Partners:**

- Montana Fish Wildlife and Parks
- Montana Dept. of Transportation
- US Forest Service
- US Fish and Wildlife Service
- Montana Dept of Environmental Quality
- Bureau of Land Management
- Big Hold Watershed Committee
- Montana Trout Unlimited
- Deerlodge Valley Conservation District
- Montana Trout Foundation
- Montana Natural Resource Damage Program

**Measures:**

The success of the project will be assessed based upon the response of the newly restored fishery. Extensive fisheries data has been collected in the watershed over the past 2 years including population estimates of native and non-native trout. Once the native fishery and habitat are restored it is anticipated that native fish density will be equal to or hopefully exceed that of non-native fish because of habitat improvements. The monitoring plan for this project will include the following:

1. Annual checks of the fish barrier to monitor its integrity and debris collection in spillway.
2. Electrofishing of two mainstem monitoring sites and four tributary sites. The frequency of this monitoring will be year 2 after non-native fish removal is complete to determine the survival of re-introduced trout and grayling then again in year 5 after non-native fish removal is complete to determine if natural reproduction of cutthroat and grayling is occurring. Thereafter, monitoring will be repeated every 3-5 years to determine the status of the fishery.
3. Aquatic macroinvertebrates will be monitored pre and post fish removal at four sites.
4. Habitat projects will be closely monitored for a minimum of 3 years after construction. Sediment and metals samples have been collected and will continue to be collected to determine the reduction in loading up to 3 years after project completion. FWP will be required as part of the 404 process to monitor the habitat restored from past placer mining activities.

**Funding Source(s):** National Fish Habitat Action Plan, US Fish and Wildlife Service Fish Passage Program

**Project cost:** \$65,000.00

**Start Date:** 07/01/2015 **Completion Date:** 9/30/2016

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