

Wall Creek Fish Barrier

State(s): Montana

Managing Agency/Organization: U.S. Forest Service – Beaverhead-Deerlodge National Forest, Madison Ranger District

Type of Organization: Government

Project Status: Ongoing

Project type: WNTI Project

Project action(s): Barrier Construction, Monitoring, Education/Outreach. Construction of one barrier to protect 8 miles of stream for a conservation population of Arctic Grayling and Westslope Cutthroat Trout.

Trout species benefitted: Arctic Grayling, Westslope Cutthroat Trout

Population: Wall Creek, Madison River drainage, upper Missouri

Project summary: Wall Creek also applied for the Western Native Trout Initiative 2019 funding cycle and was ranked high but only able to be funded for \$9,448. The 2019 WNTI funding has gone directly to support the construction of this barrier that has yet to be fully funded to begin construction.

This project consists of constructing a concrete and steel reinforced, spillover fish passage barrier consisting of a 10 foot drop over a 15 foot velocity barrier apron in the Wall Creek drainage, a tributary to the Madison River in SW Montana, to protect roughly 8 miles of habitat upstream from the barrier site that is currently occupied by 95% genetically pure Westslope Cutthroat Trout. Survey and design for the Wall Creek Fish Barrier has already been contracted by Montana Fish Wildlife and Parks and North Western Energy in 2016 for a location that was selected on National Forest property, immediately upstream of the Kelly Ranch private inholding. With the design completed in June of 2018, the Beaverhead-Deerlodge NF-Madison Ranger District intends to oversee the implementation of this design upon the start of construction projected in 2020. The design itself incorporates USFS required specifications for fish passage barriers and has included USFS engineering oversight throughout the process (see attached drawings). The structure will be comprised primarily of concrete and earthen materials, with some of the earthen reinforcing materials sourced onsite. The construction site will be accessed through the Kelly Ranch inholding with land access granted by an April 2018 agreement secured by Montana Fish Wildlife and Parks. Construction will occur between July 15th and September 15th under dry ground and lower flow conditions to minimize impacts to the stream and surrounding riparian habitat. The construction phase of this project is anticipated to take up to 3 weeks to complete.

This action falls under a categorical exclusion and requires a decision memo by the U.S. Forest Service to implement. The project was scoped for public comment in May 2019. Only favorable comment was received. All Forest Service IDT (Interdisciplinary Team) specialist have reviewed the project details and have cleared it for implementation. The associated Decision Memo will be written this winter 2019/early 2020 and thereafter, no other environmental compliance is required - except for appropriate permitting which is under the authority of the project partners (Montana Fish Wildlife and Parks).

Problem the Project Addresses: The purpose of this project is to protect approximately eight miles of habitat occupied by 95% genetically pure Westslope Cutthroat Trout (WCT) in the Wall Creek drainage, tributary to the Madison River. This would be accomplished by constructing a fish passage barrier near the USFS and private land boundary in lower Wall Creek on U. S. Forest Service administered lands. WCT populations, such this one that exists in Wall Creek, are at risk of extirpation due to competition and hybridization with non-native fish species, degradation of habitat, and climate change. Without appropriate conservation and management efforts, such as construction of isolation mechanisms, fish like this population are not likely to persist over the long term. Montana Fish Wildlife and Parks management plans considers conservation populations secured when they are isolated from non-native fishes, typically by a physical fish passage barrier, have a population size of at least 2500 fish, and occupy sufficient (5-6 miles) of habitat to ensure long term persistence. This project provides us with the opportunity to secure one of the few remaining WCT conservation populations in the Madison River drainage where they once flourished.

Objectives: Currently non-native rainbow trout are able to ascend Wall Creek and hybridize with the WCT. In an effort to prevent further dilution of the genetic purity and risk having the Wall Creek WCT population fall out of conservation status, MT FWP in partnership with the Beaverhead-Deerlodge National Forest Madison Ranger District is seeking funding for the construction of a fish barrier. The barrier would protect 8 miles of the headwaters in the Wall Creek drainage currently occupied by the WCT population. MT FWP and the U.S. Forest Service have already received a stamped design for construction of the barrier. Because the barrier will be constructed on Forest Service land, materials and construction will be in accordance with the standard specifications for construction of roads and bridges on federal highways projects FP-14. Phase one of the

project was completed in 2018 (survey and design). Phase two of the project (barrier construction) will be completed in a matter of one month or so but is dependent on securing complete funding in order to award the construction contract. Westslope Cutthroat Trout and Mottled Sculpin are currently present at the project site. Arctic Grayling will be translocated above the fish barrier; they are historic to the Madison River drainage and have been extirpated throughout. At present WCT populations are at risk of extirpation due to competition and hybridization with non-native fish species and are not likely to persist over the long-term without appropriate conservation efforts.

Partners: Project partners to date include:

- U.S. Forest Service – Beaverhead-Deerlodge National Forest, Madison Ranger District
- Montana Fish Wildlife and Parks
- NorthWestern Energy
- Montana Fish Wildlife and Parks – Future Fisheries Improvement Program
- Trout and Salmon Foundation
- Montana Trout Foundation
- Western Native Trout Initiative
- American Sportfishing Association FishAmerica Foundation

Project Monitoring: Barrier efficacy will be monitored by U. S. Forest Service and Montana Fish Wildlife and Parks employees by means of electrofishing to further assess population genetics and species distribution. The barriers integrity will be monitored by annual inspection at the barrier site. The structure will be cleaned of all debris and inspected for cracks or other structural deficiencies. Future barrier repair, if needed (the structure is anticipated to have a 100yr life span) will be a shared responsibility of the partners (USFS and MT FWP). These responsibilities will be outlined and agreed upon in a signed project participation agreement once the barrier is constructed. The long-term benefits of the project include securing eight stream miles of Wall Creek and protection of the genetic purity of the Wall Creek Westslope cutthroat trout from competition and hybridization with nonnative trout species. Genetic purity would therefore stay above 95% with the success of the fish barrier. Designated reaches will be established to monitor the distribution, abundance, and genetic status of the fish being conserved by this management action.

Funding Source(s): American Sportfishing Association FishAmerica Foundation

Project cost: \$48,467

Start Date: 08/04/2020 **Completion Date:** 10/24/2020

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