Yaak Headwaters Restoration Partnership Project

State(s): Montana
Managing Agency/Organization: Yaak Valley Forest Council
Type of Organization: Nonprofit
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: Bull Trout, Interior Redband Trout, Westslope Cutthroat Trout
Population: Yaak River Watershed/South Fork of Meadow Creek

Project summary: This project will perform 1.2 miles of active road decommissioning and 3.9 miles of passive decommissioning, including removal of two culverts that are acting as barriers to fish passage, on unneeded U.S. Forest Service (USFS) road 5971A on the South Fork of Meadow Creek in the Yaak River watershed in northwest Montana.

Problem the Project Addresses: The South Fork of Meadow Creek provides critical spawning habitat for a genetically pure population of Westslope Cutthroat Trout. The historic range, population numbers, and genetic integrity of these native trout, as well as the genetically pure Columbia River Interior Redband Trout and Bull Trout also found in the Yaak watershed, have been drastically reduced by habitat fragmentation and degradation due to historically unsustainable road building and logging practices, along with hybridization with non-native trout. Because of this, these species are at high risk of extinction. In the Yaak watershed, there is imminent need to reduce sediment loading into the habitat of these sensitive native fish species by right-sizing the roads system.

Restoring this watershed through active and passive road decommissioning on unused portions of Forest Service road 5971A will reduce sediment pollution into the South Fork of Meadow Creek, which will greatly improve habitat for the Yaak River's native trout. Stream channel restructuring and bank stabilization achieved through heavy equipment work on Road 5971A will contribute to the health of the fishery, improving riparian and in-stream habitat by increasing stream flows, reducing water temperatures, and providing native re-vegetation of stream banks. Removing the culverts currently acting as fish barriers on Road 5971A will reconnect native trout habitat, increasing spawning habitat availability for genetically pure Westslope Cutthroat Trout in the South Fork of Meadow Creek.

Objectives: In 2015 the Yaak Headwaters Restoration Partnership (the Headwaters Partnership) completed a Watershed Restoration Plan (WRP) for the Kootenai River Basin, which includes the Yaak, Kootenai, and Fisher Rivers. The WRP was developed in a formal collaborative process, and was written by Kootenai River Network, Inc. The plan used data collected by the Headwaters Partnership to identify priority restoration needs. The WRP will inform the work of the Headwaters Partnership going forward. WRP priority projects in the Yaak River watershed emphasize native Westslope Cutthroat Trout and Columbia River Interior Redband Trout conservation through improved habitat connectivity, culvert upgrades and/or removal to improve fish passage.

The South Fork of Meadow Creek (SFMC) is identified as a priority stream for restoration in the WRP and is a priority project identified by the USFS hydrologists who work on the Three Rivers Ranger District. The SMFC houses a genetically pure population of Westslope Cutthroat Trout. A natural fish barrier in the lower portion of the main stem of Meadow Creek helps to keep this genetically pure population separate from the non-native and hybridized trout species. The SFMC was genetically tested in 1991 and 2011 and found to have genetically pure Westslopes, although one non-native eastern brook trout was captured in the SFMC during sampling in 2011. Sampling in 2013 did not find any brook trout. Competition from brook trout could decrease the overall health of the Westslope population if brook trout were to become established in this system. Restoration in this key tributary of the Yaak River will include 1.2 miles of road re-contouring, including stream channel restructuring, bank stabilization, and natural native plant revegetation, and 3.9 miles of active decommissioning, with culverts removed and the roadbed stabilized to reduce sediment deposition into the SFMC. As part of this project, two culverts will be removed in the upper portion of the tributary that are currently acting as barriers to fish passage. In addition, YVFC will do eDNA sampling pre-and post-restoration to set a baseline and assess the effects of the restoration effort on native trout, do updated Stream Crossing Inventories (SCI's), and continue to monitor water temperatures in the main stem of Meadow Creek using in-stream thermographs. This data collection is part of a long-term monitoring effort to track temperatures over

time and assess the effectiveness of our restoration efforts in reducing and stabilizing stream temperatures in key habitats.

Partners:

- Yaak Valley Forest Council
- Yaak Headwaters Restoration Partnership
- U.S. Forest Service – Kootenai National Forest, Three Rivers District
- National Fish and Wildlife Foundation
- Liz Claiborne Art Ortenberg Foundation

Project Monitoring: Project proponents will measure progress on this project using benchmarks such as completing field reconnaissance during the summer of 2019, completing the project design and heavy equipment contract during the fall/winter of 2019-2020, hiring a contractor and completing on-the-ground work by the end of 2020, and beginning monitoring efforts both prior to the beginning of on-the-ground work and on a continuing basis after the on-the ground work is complete. The partnership meets once per year with special planning meetings as needed, and the partners work together year around monitoring benchmark goals and objectives and provide in-field oversight for restoration work. Subsection 6.3 of the WRP provides for monitoring of projects in the Yaak River watershed by the YVFC, including our continuous stream temperature monitoring. The YVFC field crew will install 2 to 4 photo-point sites at each of the restored crossings to document native re-vegetation over time and complete updated Stream Crossing Inventories (SCI's) that include upstream and downstream, inlet and outlet, and photos and video of the crossing. Additionally, our field crew will do eDNA fish sample testing pre-restoration to set a baseline for native fish populations in the South Fork of Meadow Creek and post-restoration to monitor the result of the restoration on native fish populations. Stream Crossing Inventories and monitoring data will be incorporated into the Headwaters Partnership's online database at http://mapinception.com/hrpp/).

Funding Source(s): National Fish Habitat Action Plan
Project cost: $33,500
Start Date: 02/15/2019 **Completion Date:** 10/30/2020
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