

Wood River Fish Passage Project

State(s): Wyoming

Managing Agency/Organization: Trout Unlimited

Type of Organization: Nonprofit

Project Status: Ongoing

Project type: WNTI Project

Project action(s): Barrier Removal, Watershed Connectivity, Monitoring. Over 100 miles of mainstem Wood River and tributary streams will be reconnected through construction of a fish ladder.

Trout species benefitted: Yellowstone Cutthroat Trout

Population: Wood River, tributary to the Greybull River

Project summary:

Trout Unlimited (TU), WY Game and Fish (WGFD), and the Greybull Valley Irrigation District (GVID) are collaborating to install a fish ladder on the Wood River Diversion (aka Lower Sunshine Diversion). The diversion has a water right of approximately 658 cfs and operates throughout the calendar year to fill Lower Sunshine Reservoir. The structure is a complete barrier for Yellowstone Cutthroat Trout (YCT) and other native fish and has disconnected upper and lower habitat on the Wood River since its construction in the early 1970s

The Wood River Supply Diversion is located 14 miles upstream of the Greybull River/Wood River confluence west of Meeteetse, WY. The diversion dam was built in 1972 and is operated by GVID to fill Lower Sunshine Reservoir as well as provide irrigation water to nearby agriculture lands. The concrete structure spans the entire channel, is nearly 8' high, and is a complete barrier to upstream fish movements. GVID operations personnel see countless numbers of fish (primarily YCT) stack up below the dam each year and attempt to move upstream unsuccessfully. A technical fish ladder is designed to provide upstream passage for all species at this diversion. Aquatic species include Yellowstone Cutthroat Trout, Mountain Whitefish, Mountain sucker, Longnose dace, Longnose sucker.

The ladder will be built within GVID's occupancy easement and maintain the current structure and its operation. A bypass flow of 10-15 cfs is maintained through the diversion throughout the year that will ensure the ladder is operable and allows year-round passage. Construction is anticipated to occur in summer/fall 2021. This project will reconnect over 100 miles of mainstem Wood River and tributary streams that have been disconnected for 50 years.

Problem the Project Addresses:

Trout Unlimited (TU), WY Game and Fish (WGFD), and the Greybull Valley Irrigation District (GVID) are collaborating to install a fish ladder on the Wood River Diversion (aka Lower Sunshine Diversion). The diversion has a water right of approximately 658 cfs and operates throughout the calendar year to fill Lower Sunshine Reservoir. The structure is a complete barrier for Yellowstone Cutthroat Trout (YCT) and other native fish and has disconnected upper and lower habitat on the Wood River since its construction in the early 1970s. The Wood River is the largest tributary of the Greybull River in Park County, Wyoming. The drainage is one of the last strongholds of the native YCT in its native waters. Other native species within the drainage include Mountain sucker, Mountain whitefish, Longnose dace, and Longnose sucker.

YCT occupy only 42% of their historic range and about 60% within WY. The decrease in abundance and distribution has led to ESA petitions in 1998 and 2005 though they were determined unwarranted. Most of the Upper Greybull River and the entirety of the Wood River lies within a Crucial and Enhancement Aquatic Habitat Priority Area, as designated by WGFD. The Greybull River Basin contains seven conservation populations of YCT. Two of these populations are currently separated by the Wood River Diversion.

For over 12 years, TU has prioritized passage projects in the Upper Greybull River drainage where genetically pure YCT populations remain strong. Stream connectivity insulates fish populations from the effects of catastrophic events and climate change. Allowing access to historical spawning and refugia habitat increases genetic exchange and enhances the health and survival of the species in the basin.

This project will dovetail with completed passage projects that TU and others have implemented. Recently completed projects that relate to the watershed scope of this project include removal of barriers to allow genetic interchange and access to diverse habitats that these fish need throughout their life cycle. These projects have removed all anthropogenic barriers on Timber Creek and Francs Fork (tributaries to Greybull River), which are key spawning streams. In addition, a fish ladder was installed on the Greybull River at GVID's Upper Sunshine Diversion that allows fish below the diversion to access over 160 miles of habitat upstream.

Thanks to the successful completion of other projects and a strong partnership with GVID, the project partners are prepared to eliminate the last major barrier for fish in the Greybull/Wood River drainage.

Partners:

- Trout Unlimited
- Wyoming Wildlife and Natural Resource Trust
- Greybull Valley Irrigation District
- Wyoming Game and Fish Department
- U.S. Forest Service
- U.S. Fish and Wildlife Service, National Fish Passage Program
- U.S. Fish and Wildlife Service, Partners for Fish and Wildlife Program
- Wyoming Water Development Commission
- National Fish and Wildlife Foundation
- East Yellowstone Chapter of Trout Unlimited
- Meeteetse Conservation District
- Private donations
- Western Native Trout Initiative

Project Monitoring:

Trout Unlimited will continue to be in close contact with landowners and project partners about the success of the project. The fish ladder will be managed by project partners including TU, WGFD and GVID.

After the completion of the project, TU, WFGD and other partners will conduct a telemetry study to monitor the success of the project. Telemetry tags will be implanted in YCT to gather data regarding life cycle migratory patterns, identify potential projects and quantify use of the fish ladder.

TU will pursue a partnership with the Meeteetse School Districts to develop an Adopt a Trout (AAT) curriculum to provide an educational opportunity about the watershed, water use and the environment. The AAT program is a partnership with TU and other project partners to educate school kids about their local watershed and its fishery. Each trout that receives a telemetry tag will be "adopted" by the students. Their movement will be monitored throughout the school year. Each month, TU and other project partners will update the kids with fish locations and provide a lesson to further their understanding of the resource. Curriculum includes lessons on trout life cycles, habitat needs, how to use GPS, mapping skills and the importance of connected migratory corridors to the health of fisheries on private and public land. The local community and private landowners will be included in this project to help identify projects and partnerships to improve YCT populations in the Greybull Drainage.

Funding Source(s): National Fish Habitat Action Plan

Project cost: \$50,000

Start Date: 08/01/2021 **Completion Date:** 11/30/2021

Project Contacts: Cory Toye. Wyoming Water and Habitat Program Director, CToye@TU.org