

**2008 - 2011 Secure Rural Schools
Public Law 110-343
TITLE II PROJECT SUBMISSION FORM
USDA FOREST SERVICE
SHOSHONE RESOURCE ADVISORY COMMITTEE**

Project Status: Proposed

Funding Fiscal Year: 2011 - 4th year

2. Project Name: Timber Creek Fish Passage Project

3a. State: Wyoming

3b. County: Wyoming - Park

4. Project Submitted by: Cory Toye, Trout Unlimited (TU)

5. Date: 02/28/2011

6. Contact Phone:

7. Contact E-Mail:

8. Project Location

a. National Forest: Shoshone

b. Forest Service District: Greybull

c. Location (Township-Range-Section)

48-102-29 48-102-32

9. Project Goals and Objectives:

10. Project Description:

a. Brief: (*in one sentence*) Improve existing irrigation diversions and install fish screens to allow fish passage and prevent the entrainment of fish into the ditches while meeting ranch operation needs for water delivery.

b. Detailed:

The Greybull River drainage is a priority fish habitat area for TU and other project partners (including the USFS) for its population of genetically pure Yellowstone cutthroat trout (YCT) and other native fish including: Mountain whitefish, Mountain sucker, Longnose dace and Longnose sucker. The drainage boasts one of the last strongholds of the purest YCT on the Shoshone Forest. Throughout the last 130 years, different anthropogenic activities have created challenges for the YCT life cycle migrations within the entire Greybull River drainage. Timber Creek itself is located on a combination of private, state and Forest Service lands. The Pitchfork Ranch, west of Meeteetse, WY is the sole water user on the creek and began irrigation practices in the late 1880's. Irrigation infrastructure has created fish passage and entrainment issues on lower Timber Creek where 3 diversions are located. The diversions create complete barriers for YCT trying to move upstream from the Greybull River and have disconnected the Timber Creek population of YCT from the other populations in the drainage. Upon completion of this project, Timber Creek will be free of any barriers for YCT and other native fish attempting to move upstream from the Greybull River to access historical spawning and rearing habitat in Timber Creek on USFS land. Fish screens will be installed in the ditches to prevent the entrainment of fish in the irrigation system.

Efforts in the past have concentrated on reconnecting the Timber Creek drainage with the Greybull River. TU and the USFS have worked with numerous partners to eliminate previously existing barriers in Timber Creek. All of the road crossings that posed barriers for fish passage have been removed or replaced. The riparian area immediately adjacent to Timber Creek within the private land has been fenced to reduce the presence of livestock and encourage the revegetation and restabilization of the banks for improved habitat conditions.

This project dovetails directly with past projects completed on Timber Creek which include:

- Timber Creek Low Water Ford Project (USFS)

A severely undersized and deteriorated six foot round culvert was used as a road crossing on Forest Service Road (FSR) #204 near the forest boundary. The culvert was located in a braided, unstable, wide, and flood prone area. The culvert caused a down cut which created a four foot hydraulic jump, resulting in a complete barrier to upstream fish passage. The undersized culvert was removed and the stream restored to natural conditions. A low water crossing was installed to accommodate road use and provide fish passage.

- Timber Creek State Land Easement Project (USFS)

A 6 foot culvert was used as a road crossing on state land about 2.5 miles downstream from the Forest boundary where FSR #203 crosses West Timber Creek. The culvert was severely undersized which lead to a 3.5 foot outlet drop and created steep, high, eroded stream banks immediately downstream. The crossing was a complete barrier for all aquatic organisms and during some precipitation events would pose a threat to the safety of road users.

The culvert crossing was replaced in 2006 with a nineteen foot bottomless arch culvert. The new crossing provides unimpeded aquatic access to approximately 4 miles of upstream habitat when combined with the low water crossing project.

- Timber Creek Culvert Replacement Project (located on main Pitchfork/USFS access road), (TU, USFS, USFWS, WGF, WWNRT, Pitchfork Ranch)

This project installed a bottomless culvert and riparian fencing to improve fish passage and riparian health on Timber Creek. The bottomless culvert replaces the previous road crossing of 3 undersized culverts which created a barrier for the upstream movement of fish in the system. The new crossing accommodates all road uses which include: access to the Shoshone National Forest, Pitchfork Ranch operations and access to the Four Bear Oil Field. Three strand, high-tensile electric fence was installed to provide a wildlife friendly enclosure to encourage stream bank re-vegetation and improve habitat health for fish in the drainage and other riparian dependent wildlife. The new crossing allows year round fish passage as well as reduces or eliminates maintenance of the road crossing. In the past, the undersized culverts required maintenance to ensure the road did not wash out during high flows or from blockage.

Reconnecting YCT populations throughout the drainage will lead to a more stable and resilient assemblage of native fish and will allow fish to access historical habitat, including mainstem and tributary habitat located on the forest. Eliminating migration barriers is often one of the key steps toward providing additional habitat for sensitive aquatic species, encouraging genetic interchange among populations, and insulating fish populations from fire, drought, and/or climate-based events. The removal of the barriers and increasing accessible habitat has been identified as an important need for YCT recovery and conservation. Information gathered through the Yellowstone cutthroat trout Interagency Coordination Group's "Range-Wide Status Assessment for Yellowstone Cutthroat Trout" suggests YCT populations benefit from a larger number of fish occupying relatively large amounts of habitat with well defined habitat networks that allow for connection among sub-components of the population. Improving the existing irrigation infrastructure to provide fish passage and installing fish screens in the ditches to prevent the entrainment of fish will provide protection for the local populations of YCT within Timber Creek and the entire watershed.

11. State/Private/Other lands involved? Yes

If Yes, specify: The diversion structure is located on private land owned by the Pitchfork Ranch.

12. How does the proposed project meet purposes of the Legislation? (check at least 1)

13. Project Type:

a. Check all that apply: (check at least 1) Watershed Restoration & Maintenance, Forest Health Improvement, Wildlife Habitat Restoration, Fish Habitat Restoration

b. Primary Purpose (select only 1)

14. Identify what the project will accomplish

3 Number of structures maintained/improved

10 Miles of stream/river restored/improved

15: Estimated Project Start Date:

06/01/2012

16: Estimated Project Completion Date:

09/01/2012

17. List known partnerships or collaborative opportunities.

Trout Unlimited
Shoshone National Forest
Wyoming Game and Fish Department
US Fish and Wildlife Service
Pitchfork Ranch
East Yellowstone Chapter of Trout Unlimited
Natural Resources Conservation Service

18. Identify benefits to communities.

(max 12 lines)

- Provide an example of local proactive maintenance of native populations through non-traditional partnerships.
- Improve the native fishery in Timber Creek and the Greybull River, increasing angling opportunities on public land

19. How does this project benefit federal lands/resources? (max 12 lines)

Since 2001, efforts and projects have focused on reconnecting Timber Creek to the Greybull River. All road crossings on Timber Creek are now fish friendly, allowing year round passage for all types of fish. The 3 diversion structures to be addressed with this project will complete the restoration of Timber Creek and allow fluvial YCT migrating from the Greybull River to access habitat on public land. The existing populations of YCT above the diversion structures will be reconnected to the rest of the populations in the drainage, improving the health and resiliency of the fishery and restoring the migratory populations of YCT to Timber Creek.

20. What is the proposed method(s) of accomplishment? (check at least 1)

Contract, Volunteers, Other

21. Will this project generate merchantable timber? No**22. Anticipated Project Costs**

- Please fill out a project cost form for each fiscal year the project will be funded
- Is this a multi-year funding request?

24. Monitoring Plan (Input or attach below)

- Provide a plan that describes your process for tracking and explaining the effects of this project on your environmental and community goals outlined above.

TU is responsible for the monitoring of this project and will continue to be in close contact with landowners and project partners about the success of the project. The irrigation diversions and fish screens will be managed and operated by the Pitchfork Ranch along with TU.

Success of the project will be determined through a telemetry study to monitor trout movement starting in the spring of 2011. The movement study will be administered by the WGFD to:

- Determine general movement patterns of YCT within the Timber Creek and Greybull River drainages.
- Document the extent to which YCT movement is blocked or inhibited by in-channel structures.
- Determine the extent to which YCT are entrained in irrigation diversions.

The study will help determine how YCT are taking advantage of the recently completed habitat improvement projects and help identify future opportunities to improve YCT populations within the Greybull drainage. The movement study will be complemented by TU's Adopt a Trout (AAT) Program. 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 will receive a telemetry tag and will be "adopted" by the students. The 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.

\$0 from the RAC Funding will be used to carry out specified monitoring tasks. Other project partners will absorb the \$20000 monitoring cost.

- Identify who will conduct the monitoring:

Trout Unlimited, Wyoming Game and Fish Department

- Identify total funding needed to carry out specified monitoring tasks:
- Identify remedies for failure to comply with terms of the agreement.

If project cannot be completed under the terms of this agreement:

Unused funds will be returned to the RAC account.

If other is selected, explain:

Project Recommended by:
Chairperson, RAC

Project Approved by:
Forest Supervisor, Shoshone National Forest

Project Cost Analysis

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Item	<i>Column A</i> Fed. Agency Appropriated Contribution	<i>Column B</i> Requested Title II Contribution	<i>Column C</i> Other Contributions	<i>Column D</i> Total Available Funds
a. Field Work & Site Surveys	0	0	0	0
b. NEPA/CEQA	0	0	0	0
c. ESA Consultation	0	0	0	0
d. Permit Acquisition	0	0	0	0
e. Project Design & Engineering	0	0	20000	20000
f. Contract/Grant Preparation	0	0	0	0
g. Contract/Grant Administration	0	0	0	0
h. Contract/Grant Cost	15000	0	35000	50000
i. Salaries	0	0	0	0
j. Materials & Supplies	80000	20000	20000	120000
k. Monitoring	0	0	20000	20000
l. Other				
in-kind technical support	0	0	10000	10000
Partner Indirect Costs	0 0	0 0	0 0	0 0
m. Project Sub-Total	95000	20000	105000	220000
n. FS Indirect Costs	0	0	0	0
Total Cost Estimate	95000	20000	105000	220000



[TimberCr4TU.jpg](#) [TimbeCr2TU.jpg](#) [TimberCr1TU.jpg](#) [TimberCr3TU.jpg](#)