

**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: Horse Creek Diversion Improvement Project

3a. State: Wyoming

3b. County: Wyoming - Park

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

5. Date: 03/01/2011

6. Contact Phone:

7. Contact E-Mail:

8. Project Location

a. National Forest: Shoshone

b. Forest Service District: Dubois

c. Location (Township-Range-Section)

42-106-20

9. Project Goals and Objectives:

10. Project Description:

a. Brief: (*in one sentence*) Replace the existing "push-up" diversion on Horse Creek with a low maintenance structure that will meet operational needs and provide fish passage throughout the year.

b. Detailed:

Horse Creek, a tributary to Wind River, is a valuable fishery and considered part of the crucial and aquatic enhancement priority areas by the Wyoming Game and Fish Department (WGFD). Anthropogenic impacts throughout the upper Wind River basin have created challenges for the native and wild trout fishery. The primary challenges to the fishery throughout the drainage include the presence of barriers to fish movement, fish loss into irrigation ditches, and the fragmentation of stream habitat through dewatering or barriers. Removing barriers to fish movement is important to provide a larger, connected system to meet migratory requirements for trout life cycles. Combining populations of fish separated by barriers will improve the health of the fishery by increasing genetic resiliency, and providing refuge and protection in the event of a stochastic event which may displace an isolated population.

The diversion on Horse Creek is a complete barrier for fish movement throughout the majority of the year. Native and wild trout attempting to move upstream from the Wind River and lower portions of Horse Creek cannot pass the current structure to access habitat above the diversion, including the entire Shoshone National Forest. Anecdotal evidence from people familiar with the drainage suggest the diversion has decimated the population of fish above the diversion. Populations of resident fish still remain in Horse Creek within the forest and upper portions of the drainage, but the large migratory population of wild and native fish migrating from the Wind River and lower portions of Horse Creek are no longer present. Providing passage through the current structure will restore passage through Horse Creek and improve the fishery within the Shoshone National Forest. Currently, a 3 – 4 foot push-dam is constructed by water users to divert water for irrigation operations. The dam creates a barrier for all fish in the drainage and remains in place until water users breach the dam each fall. The structure is replaced every spring to divert water for the irrigation season. The headgate on the irrigation ditch is in disrepair and offers little to no control over the irrigation water. The lack of control can contribute to lower stream flows throughout the year, especially during winter base flows when the irrigation ditch cannot be turned completely off. The diversion structure and its associated ditch likely entrain fish throughout the year. Through the next few years, project partners will be conducting entrainment studies to determine whether the loss to the irrigation system warrants screening efforts.

This project will install a low maintenance, permanent diversion structure designed to meet operational irrigation requirements and allow upstream fish passage throughout the year. It will also improve sediment transport within the stream channel, which will enhance spawning gravels and point bar development downstream. A new headgate will be installed to provide more control over diverted water and allow for complete shut off during the irrigation off-season, improving base flow and stream flows throughout the year. The permanent diversion structure will eliminate disturbances to the stream channel from push-up dam construction and reduce sedimentation and other negative impacts to the stream channel. This structure will also reconnect approximately 20 miles of Horse Creek and its tributaries and provide access for all types of fish to upper portions of the drainage on Forest Service land.

11. State/Private/Other lands involved? Yes

If Yes, specify: If Yes, specify: The diversion structure is located on state land immediately upstream from the private land where the irrigation water is put to use.

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

Restores water quality

13. Project Type:

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

b. Primary Purpose (select only 1)

14. Identify what the project will accomplish

1 Number of structures maintained/improved

1 Miles of stream/river restored/improved

20 Miles of fish habitat restored/improved

Describe other accomplishments

This project will serve as an example for similar projects in the future. Installing a fish friendly diversion structure to provide upstream passage and improve irrigation practices will lead to more opportunities for conservation and agriculture partnerships to improve fishery health.

15: Estimated Project Start Date:

10/01/2011

16: Estimated Project Completion Date:

05/01/2012

17. List known partnerships or collaborative opportunities.

Trout Unlimited
Shoshone National Forest
Wyoming Game and Fish Department
US Fish and Wildlife Service
Double Diamond Ranch
Dubois Angling and Wildlife Group (DAWGS)
Natural Resources Conservation Service

18. Identify benefits to communities.

(max 12 lines)

- Provide an example of local proactive maintenance of wild and native populations through non-traditional partnerships.
- Improve the wild and native fishery within the upper Wind River and its tributaries to generate increased angling opportunities on public land.

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

Fish currently trapped downstream of the Horse Creek Diversion structure will have access to spawning and refugia habitat in the upper portions of Horse Creek located on Shoshone National Forest land. Providing passage throughout the drainage will improve the health of the fishery on Forest Service land by expanding connected habitat and providing refuge from stochastic events, which could eliminate isolated populations. It will also likely reduce entrainment of fish in the irrigation ditch, which will increase fish populations throughout the Horse Creek drainage.

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

Contract, Volunteers

21. Will this project generate merchantable timber?

22. Anticipated Project Costs

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

24. Monitoring Plan *(Input or attach below)*

- a. 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 and the WGF will monitor the new diversion structure to ensure the project is working correctly and efficiently for water users.

TU, along with the WGF will use electro-fishing equipment during the fall of 2011 to quantify fish loss data for the associated ditch to determine whether screening efforts are warranted for a follow-up project. TU will work with the WGF to assess the success of the project by monitoring the fish population within Horse Creek, above the diversion structure, before and after project completion.

The RAC money will not be used for monitoring. Any issues that may arise through monitoring efforts of the project will be handled by TU and the WGF

- b. Identify who will conduct the monitoring:
TU, WGF

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

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

If other is selected, explain:

Project Recommended by:
Chairperson, RAC

Project Approved by:
Forest Supervisor, Shoshone National Forest

Project Cost Analysis

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	10000	0	0	10000
f. Contract/Grant Preparation	0	0	0	0
g. Contract/Grant Administration	0	0	0	0
h. Contract/Grant Cost	0	0	15000	15000
i. Salaries	0	15000	35000	50000
j. Materials & Supplies	0	0	5000	5000
k. Monitoring	0	0	0	0

l. Other				
	0	0	0	0
Partner Indirect Costs	0	0	0	0
	0	0	5000	5000
m. Project Sub-Total	10000	15000	60000	85000
n. FS Indirect Costs	0	0	0	0
Total Cost Estimate	10000	15000	60000	85000



[HorseZoomInTU.jpg](#) [OverviewHorseCKTU.jpg](#)