

Organizations that have received WNTI or NFHP funding in the past must have current progress and/or final reports on file with WNTI in order to be eligible for funding during this cycle.



WESTERN NATIVE TROUT INITIATIVE

2017 Small Grants Program Grant Application

Applicant Information

Lead Organization: Big Hole River Foundation
Contact Name: Brittany Trushel
City, State, Zip: Butte, Montana 59702
Telephone: 406-560-6909

Address: PO Box 3894
Email: brittany@bhrf.org
Website Address: www.bhrf.org

Project Information

Project Title: Caddis House riparian fencing project on the Big Hole River in Melrose, Montana
Native Trout Species Benefitted by Project: westslope cutthroat trout and fluvial Arctic grayling
Total Project Budget: \$ 16,750 Total Amount Requested: \$3,000

Total Matching Funds or In-Kind Support Secured: \$10,750

Project GPS Coordinates: -112.691555 45.630690 decimal degrees

Project Start Date: July 1, 2017

Project End Date: September 30, 2017

Is your project listed in the U.S. Fish and Wildlife FONS system? Yes / (No)

Please indicate FONS Project Number (if applicable): N/A

Project Components (select all that apply)

- ☒ Riparian or In-Stream Habitat Restoration
- ☐ Barrier Removal or Construction
- ☐ Watershed or Population Assessment
- ☐ In-Stream Flow Acquisition

- ☐ Land/Conservation Easement
- ☒ Monitoring
- ☐ Education/Outreach
- ☐ Watershed Planning

Anticipated Outcomes (fill in values applicable to project)

0.75 # Stream Miles Restored or Enhanced

 # Watersheds or Rivers Assessed

 # Stream Miles Reconnected or Reopened

0.75 # Stream Miles Assessed

 # Acres of Lake/Wetlands Restored/Enhanced

 # Populations Assessed

 # Barriers Removed or Constructed

 Other (i.e. number of individuals reached by an educational program, number of presentations given, number of posters produced, etc.):

Project Partners (list all Project Partners and Contributions)

Partner Organization: Big Hole River Foundation

Contact Name: Brittany Trushel

Email: brittany@bhrf.org

Position: Executive Director

Telephone: 406-560-6909

Matching Funds Provided to Project: \$3,000

In-Kind Support Provided to Project: \$2,000

Partner Organization: Rocky Mountain Elk Foundation

Contact Name: Laura Verhaeghe

Email: conservation@rmef.org

Position: Lands Program Specialist

Telephone: 800-225-5355

Matching Funds Provided to Project: \$3,000 (requested)

In-Kind Support Provided to Project: N/A

Partner Organization: Caddis House

Contact Name: Michael Fisher

Email: mfisher@globalwinebank.com

Position: Landowner

Telephone: 707-967-5314

Matching Funds Provided to Project: \$5,750

In-Kind Support Provided to Project: N/A

Project Budget Description:

Description of Service or Activity	Match Dollars	WNTI Grant Dollars requested
Lumber (\$33/meter)	6,900 (BHRF, landowner)	3,000
Labor (fencing contractor)	1,100 (landowner)	
Metal access gate	500 (landowner)	
Noxious weed management	3,000 (RMEF, requested)	
BHRF personnel (project facilitation, post-project monitoring)	2,000	
Project signage	250 (BHRF)	
Budget Totals	16,750	3,000

Signature of Applicant

I certify that the above information is true and accurate to the best of my knowledge.

Print Individual Name: Brittany Trushel

Organization Name: Big Hole River Foundation

Signature: *Brittany Trushel* (electronic)

Date: 6-16-2017



Caddis House riparian fencing project on the Big Hole River in Melrose, Montana

Introduction

The Big Hole River is a 251-kilometer stretch of U.S. Environmental Protection Agency A-1 classified water, surrounded by the Bitterroot, Pioneer, Anaconda, and Pintler mountains (Duffield et al. 1992, EPA 2006). The River supports a world-renowned, cold-water trout fishery, including two Western Native Trout Initiative (WNTI) native trout species: westslope cutthroat trout (*Oncorhynchus clarki lewisi*) and the last fluvial population of Arctic grayling (*Thymallus arcticus*) in the lower-48 United States (Kaya 1990).

Although a scenic, rural river valley, the Big Hole suffers from water quality issues, including low summer flows, high summer temperatures, eutrophication, poor riparian health, and elevated levels of heavy metals, stemming from drought, agricultural use, floodplain development, and legacy mining operations (MTDEQ 2009a and MTDEQ 2009b). These issues threaten the Big Hole's native fisheries by decreasing suitable spawning areas, magnifying the competitive advantage of nonnative trout species, and increasing stress and mortality by exceeding tolerable daily temperature oscillations and critical thermal tolerance of native, cold-water fishes (Griffith 1988, Hunter 1991, Meehan 1991).

The Big Hole River Foundation, created in 1988, is a 501(c)(3) nonprofit whose mission is to protect, enhance, and conserve the free-flowing character of the Big Hole River, its unique culture, fisheries, and wildlife (BHRF 2013). One such way we achieve this goal is through our Stewardship Fencing Program, a decade-old program that provides financial and technical assistance to private landowners within the Big Hole River Valley to build riparian, cattle-exclusion fences, restore native riparian vegetation, and control noxious weeds. This land-based program protects trout habitat within the Big Hole River by reducing sedimentation and increasing riparian vegetation, which conserves suitable fish and macroinvertebrate habitat, reduces thermal loading, and prevents down-cutting and channel widening (Hunter 1991, Hunt 1993).

A lower Big Hole River landowner has approached the Big Hole River Foundation to assist in funding and building a riparian, cattle-exclusion, wildlife-friendly fence. This fencing project adds to an already-existing riparian fence the Big Hole River Foundation built in 2009 with adjacent property owners. Together, these segments of fencing will exclude cattle from over 1.2-kilometers of river, thereby reducing erosion and nutrient inputs via cattle excrement into the river and allowing vegetation succession.

We are seeking to partner with WNTI to fund \$3,000 towards this riparian fencing and restoration project. By protecting and restoring native trout habitat that has been affected by human activities (i.e., cattle operations), this Big Hole River fencing project meets WNTI's 2016 goals and objectives, as well as meeting the National Fish Habitat Partnership's objective of achieving measureable habitat conservation results, improving ecological condition, and restoring natural processes leading to better fish habitat conditions in the Big Hole River in southwestern Montana (NFHP 2016, WNTI 2016).



Project site and methods

The Caddis House property is a 1.87-hectare inholding within a larger surrounding property, Carpenter Ranch, located in Beaverhead County west of Melrose in southwestern Montana (Figure 1).

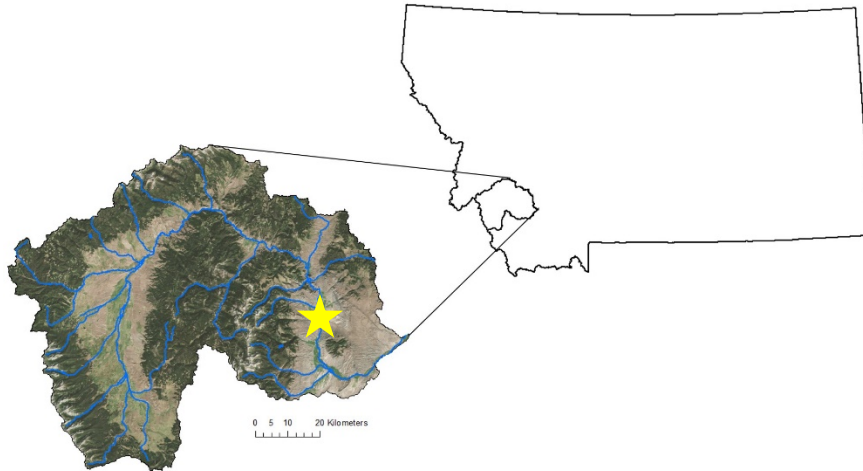


Figure 1. Caddis House, a private-land holding on the Big Hole River, is located in Beaverhead Counties in southwestern Montana.

In 2009, the Big Hole River Foundation (BHRF) worked with the Carpenter Ranch to build a 950-meter riparian, cattle-exclusion fence, in order to address long-term degradation of the riparian area that the property faced from years of cattle operations. The project was built to Montana Fish, Wildlife, & Parks Future Fisheries Improvement Program's wildlife-friendly fencing guidelines (MTFWP 2008). In addition, a 20-year grazing agreement was adopted by the Carpenter Ranch, to combat overgrazing and prevent further environmental damage to the land. To monitor restoration of the site and changes in the plant assemblage, we conduct a riparian assessment of the area every five years, following the US Department of Interior Greenline Riparian-Wetland Monitoring protocol (USDI 1993).

The Caddis House property was not included in the 2009 fencing project and cattle have continued to move into the river banks using this property as a conduit. The Caddis House riparian fence will add approximately 300-meters of wildlife-friendly fence onto the original fence (Figure 2) and will completely exclude cattle from this section of river.

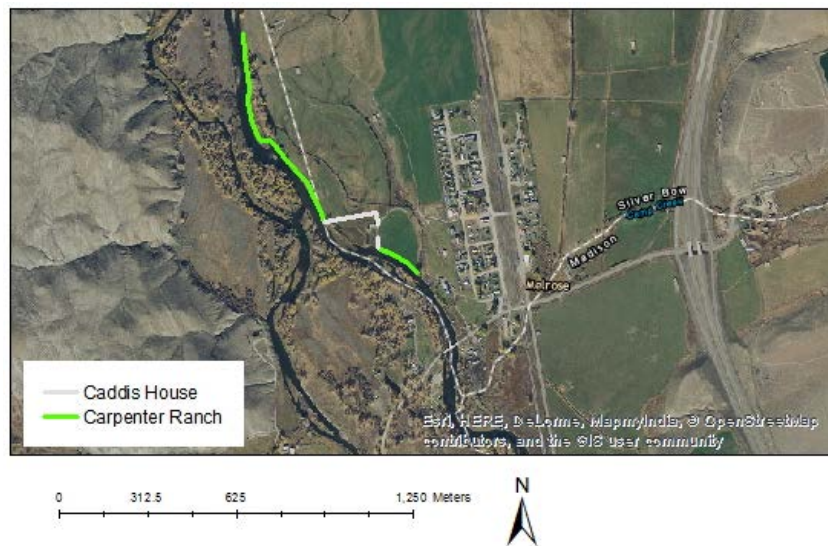


Figure 2. Already-existing riparian, cattle-exclusion fencing at the Carpenter Ranch (green) and the proposed fencing project for Caddis House, in grey. Both properties are located in southwestern Montana in Melrose. In total, both fences would exclude cattle from approximately 1.2 kilometers of the Big Hole River.

The fence will be a jackleg design, built with untreated lumber with 12' centers, the top rail will be 42" off the ground, and the rub rail will be 30" off the ground (MTFWP 2008). We will solicit three independent bids from area contractors and will select the most-affordable contractor. After construction, the landowner will be responsible for upkeep and repair of the fence, for a period of 10 years. As with the Carpenter Ranch, Caddis House property owners will sign a 20-year grazing agreement and we will monitor the progress of the riparian restoration following the USDI Greenline protocol, which we will conduct every five years (USDI 1993). In addition, before and after photos will be taken at established points along the fencing perimeter before the project, immediately after the project, 1-year post-project, and then at 5-year intervals to monitor the success of the project. In addition, we will contract Basic Biological Services, LLC in Dillon, Montana to manage and monitor noxious weed colonization at the project site for a period 10 years.

As with other Stewardship Fencing projects, we anticipate the riparian vegetation assemblage will begin succession within 2017 and we anticipate a 50% increase in vegetative ground cover within 1-year post-project. We will provide a post-project report, including pre- and post-project photos to WNTI in fall of 2017, along with a 1-year post-project update with photos in 2018.

Partners and funders will be acknowledged via visible signage at the project site, on our website, through our social media outreach, and on materials distributed as periodic membership updates (i.e., quarterly newsletters and email alerts).



Project cost estimates and budget

Table 1. Breakdown of costs associated with the Caddis House riparian fencing project. The Caddis House property is located in southwestern Montana in Melrose.

Item/service	Cost (USD)
Lumber (\$33/meter)	9,900
Labor (fencing contractor)	1,100
Metal access gate	500
Noxious weed management	3,000
BHRF personnel cost (project facilitation, post-project monitoring)	2,000
Project signage	250
Project Total	16,750

Table 2. Breakdown of funding and partners for Caddis House riparian fencing project. The Caddis House property is located in southwestern Montana in Melrose.

Funder	Amount (USD)
WNTI (requested)	3,000
Big Hole River Foundation (match)	3,000
Rocky Mountain Elk Foundation (requested; match; weed management)	3,000
Big Hole River Foundation (in-kind; personnel)	2,000
Landowner contribution (50% of fencing cost)	5,750
Total Funding	16,750

Literature Cited

[BHRF] Big Hole River Foundation. 2013. Webpage. Access: www.bhrf.org

Duffield, JW, CJ Neher, TC Brown. 1992. Recreation benefits of instream flow: Application to Montana's Big Hole and Bitterroot rivers. *Water Resources Research*: 28(9): 2169-2181.

[EPA] U.S. Environmental Protection Agency. 2006. Environmental quality: Water quality. Publication 17-2692. Washington: DC.

Griffith, JS. 1988. Review of competition between cutthroat trout and other salmonids. Pages 134- 140 *In* RE Gresswell editor. Status and management of interior stocks of cutthroat trout. American Fisheries Society Symposium 4. Bethesda: Maryland.

Hunt, RL. 1993. Trout stream therapy. University of Wisconsin Press. Madison: Wisconsin.



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Meehan, WR. 1991. Influences of forest and rangeland management on salmonid fishes and their habitats. American Fisheries Society Special Publication 19. Bethesda: Maryland.

[MTDEQ] Montana Department of Environmental Quality. 2009a. Middle and Lower Big Hole planning area TMDLs and water quality improvement plan. Helena: Montana. Access: <https://deq.mt.gov/Portals/112/Water/WQPB/CWAIC/TMDL/M03-TMDL-02a.pdf>

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[WNTI] Western Native Trout Initiative. 2016. Plan for strategic actions. Access: <http://www.westernnativetrout.org/media/final-update-to-wnti-strategic-plan-approved-by-sc-november-10-2016.pdf>