

ENVIRONMENTAL ASSESSMENT  
Fisheries Division  
Montana Fish, Wildlife & Parks  
Bighorn River Side Channel Reactivation

General Purpose: The 1995 Montana Legislature enacted sections 87-1-272 through 273, MCA that direct Montana Fish, Wildlife & Parks (FWP) to administer a Future Fisheries Improvement Program (FFIP). The program involves providing funding for physical projects to restore degraded fish habitat in rivers and lakes for the purpose of improving wild fisheries. The legislature established an earmarked funding account to help accomplish this goal. Additionally, the 1999 Montana Legislature amended statute sections 87-1-273, 15-38-202 and Section 5, Chapter 463, Laws of 1995 to create a bull trout and cutthroat trout enhancement program. This legislation was amended again in 2013 to open the program to all native fish species (statute section 87-1-283). The program now calls for the enhancement of native fish through habitat restoration, natural reproduction and reductions in species competition by way of the FFIP.

The FFIP tentatively plans to provide partial funding toward the reactivation of 12 side channels of the Bighorn River (Figure 1). This project would build on a pilot project with the intention of achieving stream function at the lower flows produced by the dam. Habitat complexity would also be improved in areas with oversimplified bedform features. The work would be completed by excavating and filling the side channel areas (Figure 2). The goals are to improve stream and ecological function, enhance habitat, and increase angling opportunities by improving brown trout and rainbow trout populations.

I. Location of Project:

This project will be conducted on the Bighorn River, a tributary to the Yellowstone River, located downstream of Yellowtail Dam within Township 6S, Range 30E, Sections 16 in Big Horn County (Figure 1). The 12 project sites total about 6 miles below Yellowtail Dam. Eleven are located in the 17 mile stretch between river mile 80 and 63. The twelfth site is at river mile 31.

II. Need for the Project:

One goal within FWP's Statewide Fisheries Management Plan for the fisheries management program is to "restore and enhance degraded fisheries habitats." By implementing an improvement project and restoring important habitat, this proposed project would help meet this goal. This project addresses 12 side channels that have been disconnected from the main river. By reconnecting these side channels, stream function would be restored at the lower flow regime produced by Yellowtail Dam. This will improve habitat complexity, improve ecological function, and provide much-needed spawning, rearing, and backwater habitats for fish and aquatic organisms. These degraded fisheries habitats are expected to improve with this project and increase angling opportunities with enhanced trout populations.

III. Scope of the Project:

The project proposes to complete 12 side channel reconnections on the Bighorn River. The overall goals

are to improve stream and ecological function, enhance habitat, and increase angling opportunities by improving trout populations. This project is expected to cost \$170,663. Of this total, the FFIP would be contributing up to \$60,000 to complete the project. The project will primarily use heavy equipment to excavate and reshape the side channels so that they can return to naturally-functioning systems. Once functional, the side channels are expected to maintain themselves over time, but the project will be monitored and adjustments can be addressed as needed.

Contributor	In-kind services	In-kind cash
Great Plains Fish Habitat Partnership		\$60,000
Montana Trout Foundation		\$5,000
American Fly Fishing Trade Assn (AFFTA)		\$5,000
Bighorn River Alliance	\$10,500	\$30,163

#### IV. Environmental Impact Review Checklist:

#### **Evaluation of the impacts of the Proposed Action including secondary and cumulative impacts on the Physical and Human Environment**

Project Title: Bighorn River Side Channel Reactivation

Division/Bureau: Fisheries Division / Fish Management Bureau (FFIP)

Description of Project: The project proposes to complete 12 side channel reconnections on the Bighorn River. The overall goals are to improve stream and ecological function, enhance habitat, and increase angling opportunities by improving trout populations.

#### **A. POTENTIAL IMPACTS TO THE PHYSICAL ENVIRONMENT**

Will the proposed action result in potential impacts to:	Unknown	Potentially Significant	Minor	None	Can Be Mitigated	Comments Provided
1. Geology and soil quality, stability and moisture				X		
2. Air quality or objectionable odors				X		
3. Water quality, quantity and distribution (surface or groundwater)			X		X	SEE BELOW
4. Existing water right or reservation				X		
5. Vegetation cover, quantity and quality				X		
6. Unique, endangered, or fragile vegetative species				X		
7. Terrestrial or aquatic life and/or habitats			X		X	SEE BELOW

8. Unique, endangered, or fragile wildlife or fisheries species				X		
9. Introduction of new species into an area				X		
10. Changes to abundance or movement of species			X		X	SEE BELOW

## B. POTENTIAL IMPACTS ON THE HUMAN ENVIRONMENT

Will the proposed action result in potential impacts to:	Unknown	Potentially Significant	Minor	None	Can Be Mitigated	Comments Provided
1. Noise and/or electrical effects			X		X	SEE BELOW
2. Land use				X		
3. Risk and/or health hazards				X		
4. Community impact				X		
5. Public services/taxes/utilities				X		
6. Potential revenue and/or project maintenance costs				X		
7. Aesthetics and recreation			X		X	SEE BELOW
8. Cultural and historic resources				X		
9. Evaluation of significance				X		
10. Generate public controversy				X		

## V. Explanation of Impacts to the Physical Environment

### 3. Water quality, quantity and distribution (surface or groundwater)

This project is expected to reactivate 12 side channels on the Bighorn River. This will not change water quality or quantity or impact any water rights, but it will increase the streamflow into side channels. This is expected to be an overall benefit to stream function and the physical environment. These side channels were functional before streamflow was reduced from the construction of Yellowtail Dam.

### 7. Terrestrial or aquatic life and/or habitats

Reactivation of side channels is expected to benefit both terrestrial and aquatic habitats. This project is intended to return the area to a naturally functioning state. Side channel habitats are important for aquatic species in terms of promoting spawning areas as well as backwater and nursery areas. Terrestrial species will benefit from the eventual improvements to riparian corridors and the increase in functional habitat.

10. Changes to abundance or movement of species

This project is expected to improve natural stream function and enhance aquatic habitat in a way that will support and increase fish populations. Increases in fish populations equates to increased abundance, which is a positive impact.

VI. Explanation of Impacts to the Human Environment

1. Noise and/or electrical effects

The heavy equipment used in this project may cause some short term increases in noise. However, these potential impacts are expected to be minor and temporary. Overall, the benefits of the project far outweigh any potential noise.

7. Aesthetics and recreation

The expected increases to fish populations should translated to increased angler success and recreational opportunities. This is considered a positive benefit.

VII. Narrative Evaluation and Comment.

There are no anticipated cumulative effects.

VIII. Discussion and Evaluation of Reasonable Alternatives.

1. No Action Alternative.

If no funding is provided through the FFIP, either the applicant would have to seek additional sources of funding to complete the project, or the affected area of the Bighorn River would remain impaired.

2. The Proposed Alternative.

The proposed alternative intends to provide partial funding through the FFIP to restore 12 side channels on the Bighorn River downstream of Yellowtail Dam.

IX. Environmental Assessment Conclusion Section.

1. Other groups or agencies contacted, or which may have overlapping jurisdiction:

Big Horn Conservation District, US Army Corps of Engineers, US Bureau of Reclamation Montana Area Office, USDA Natural Resource Conservation District Hardin Field Office, Magic City Fly Fisheries

2. Evaluation and listing of mitigation, stipulation, or other control measures enforceable by the agency or another government agency:

None.

3. Is an EIS required?

No. We conclude, from this review, that the proposed activities will have an overall positive impact on the physical and human environment, and will therefore not require the extensive analysis associated with an EIS.

4. Level of public involvement.

The project application to the FFIP has been posted on the FWP webpage for public comment. No comments have been received to date. The proposed project was reviewed and supported by the public review panel of the FFIP. The proposed project has been approved by the Fish & Wildlife Commission. The EA will be distributed to relevant individuals and groups and will be published on the FWP webpage: [www.fwp.mt.gov](http://www.fwp.mt.gov).

5. Duration of comment period?

Public comment will be accepted from October 11 to November 11, 2022. If no substantive comments are received within the comment period, this EA will become final.

6. Person(s) responsible for preparing the EA.

Michelle McGree, Program Officer  
Montana Fish, Wildlife & Parks  
1420 East 6th Avenue, P.O. Box 200701  
Helena, MT 59620  
Telephone: (406) 444-2432, E-mail: [mmcgree@mt.gov](mailto:mmcgree@mt.gov)  
Contributor: James Chalmers, Bighorn River Alliance

Figure 1: Project location. The restoration would occur near Hardin, MT.

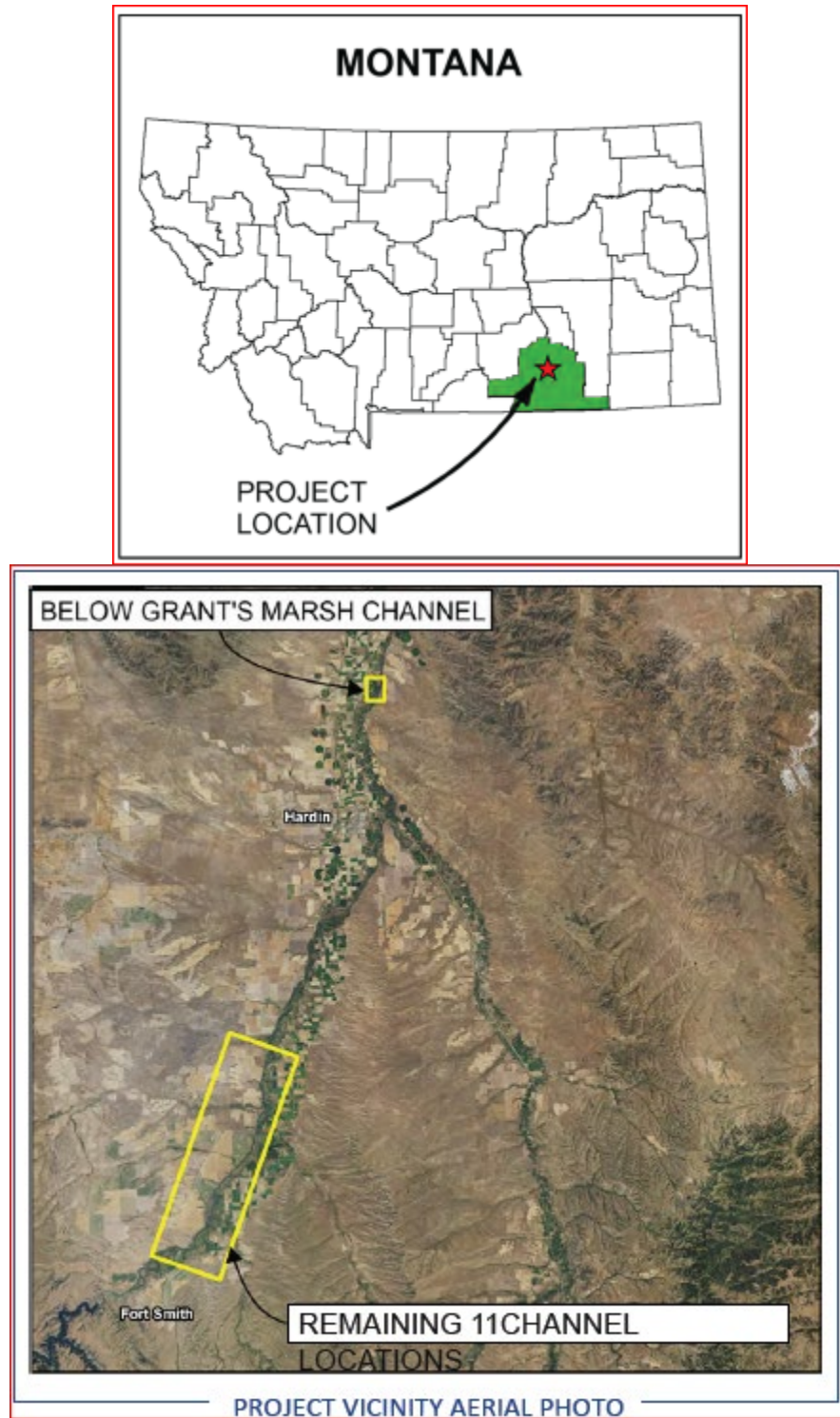


Figure 2. Example of a Preliminary Design. The colors denote areas of cut and fill. This project would excavate and fill side channel areas to enhance aquatic habitat and restore natural side channel function.

