

ENVIRONMENTAL ASSESSMENT  
Fisheries Division  
Montana Fish, Wildlife & Parks  
SOUTH FORK LOWER WILLOW CREEK FISH PASSAGE

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 an irrigation diversion upgrade and fish screen on South Fork Lower Willow Creek, a stream in the Flint Creek watershed (Figure 1). The overall goal is to eliminate entrainment in an irrigation diversion and reconnect 25 stream miles of habitat for native and wild fish in South Fork Lower Willow Creek. The project is a priority fish passage project for FWP and will remove an existing barrier to fish movement.

I. Location of Project:

This project will be conducted on South Fork Lower Willow Creek, a tributary to Lower Willow Creek Reservoir, located approximately 8 miles from Hall within Township 9N, Range 14W, Section 22 in Granite County (Figure 1). South Fork Lower Willow Creek was identified as a Priority 3 Fishery by Montana Natural Resource Damage Program and Tier 1 or 2 by FWP.

II. Need for the Project:

One goal within FWP's six-year operations plan for the fisheries program is to "protect, maintain, and restore native fish populations, their habitats, life cycles, and genetic diversity to ensure stewardship of native species." This project would improve habitat for genetically pure westslope cutthroat trout, a Species of Concern in Montana and a federally sensitive species. The large, genetically pure population is particularly significant in light of threats to their persistence (i.e. climate change, habitat fragmentation, hybridization).

III. Scope of the Project:

The project proposes to upgrade an irrigation diversion and improve fish passage in the watershed. This project is expected to cost \$83,484.88. Of this total, the FFIP would be contributing up to \$20,900 to complete the project. There are \$37,380 in contributed matching funds (Table 1) and \$33,680 in

contributions that are not used as FFIP match.

The project is intended to build upon recently completed conservation efforts in the basin and fully reconnect fish passage in South Fork Lower Willow Creek. The project will improve the only irrigation diversion in the drainage above the reservoir, which blocks fish passage during periods of low streamflow and diverts 80% of the stream (Figure 2). The diversion would be upgraded to a rock vane with a Farmers Conservation Alliance (FCA) fish screen (Figure 3). By improving the diversion and installing a fish screen, the water user can maintain their water right and fish would remain in the stream with unobstructed movement. The project would eliminate entrainment and reconnect 25 stream miles of habitat for native, wild fish movement.

Table 1. Financial contributions to the project.

Contributor	In-kind services	In-kind cash
Montana Trout Unlimited		\$2,500
Montana Watershed Coordination Council Watershed Fund		\$25,380
Trout Unlimited	\$5,000	
Landowner	\$4,500	
TOTAL: \$37,380		

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: SOUTH FORK LOWER WILLOW CREEK FISH PASSAGE

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

Description of Project: The FFIP tentatively plans to provide partial funding toward an irrigation diversion upgrade and fish screen on South Fork Lower Willow Creek, a stream in the Flint Creek watershed. The overall goal is to eliminate entrainment in an irrigation diversion and reconnect 25 stream miles of habitat for pure westslope cutthroat trout in South Fork Lower Willow Creek.

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

4. Existing water right or reservation				X		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
8. Unique, endangered, or fragile wildlife or fisheries species			X			X
9. Introduction of new species into an area				X		
10. Changes to abundance or movement of species			X			X

**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		
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		
8. Cultural and historic resources				X		X
9. Evaluation of significance				X		
10. Generate public controversy				X		

**V. Explanation of Impacts to the Physical Environment**

**3. Water quantity, quality, and distribution.**

No changes in streamflow would occur in South Fork Lower Willow Creek as a result of the proposed project. Short-term increases in turbidity may occur during project construction. To minimize turbidity, operation of equipment in the stream channel will be minimized to the extent practicable. A 318 authorization will be obtained, if necessary, to meet short-term water quality standards.

This project does not change the water right or the water remaining in the stream, but eliminates

entrainment of fish into the irrigation diversion. Distribution of water will be modified to accommodate the fish screen and bypass, but water rights and withdrawals will not change.

7. Terrestrial or aquatic life and/or habitats.

This project would replace an outdated irrigation diversion with a rock cross vane, head gate, and fish screen. The replacement would accommodate fish passage while diverting water for irrigation. The fish screen will eliminate entrainment and keep fish in the stream, which will improve aquatic life and habitat. This project will remove a barrier and allow for migration of genetically pure westslope cutthroat trout and increase access to 25 miles of habitat. All changes are expected to be positive.

8. Unique, endangered, or fragile wildlife or fisheries species

This project will reduce entrainment and allow for upstream passage of genetically pure westslope cutthroat trout, helping to reduce mortality and ensure long-term persistence. Westslope cutthroat trout are a Species of Concern in Montana and are federally sensitive. Increased connectivity and available habitat tend to make populations more resilient and numerous. Any changes are expected to be positive.

10. Changes to abundance or movement of species.

The replacement of the diversion with a rock cross vane and fish screen will establish connectivity within South Fork Lower Willow Creek and lead to reduced mortality from entrainment. The project will keep fish in the stream and allow unobstructed movement throughout 25 miles of habitat. Additional habitat is expected to translate to increased survival and resiliency through additional places for fish to live, rest, grow, and move when there are threats. The impact is considered positive and is expected to positively impact westslope cutthroat trout abundance and movement within the Flint Creek drainage.

VI. Explanation of Impacts to the Human Environment

8. Cultural and historic resources.

No cultural or historical resource impacts are anticipated. However, the State Historical Preservation Office will be notified of the project, and any potential concerns will be addressed.

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 South Fork Lower Willow Creek would continue to experience fish mortality due to entrainment.

2. The Proposed Alternative.

The proposed alternative intends to provide partial funding through the FFIP to restore the irrigation diversion on South Fork Lower Willow Creek.

IX. Environmental Assessment Conclusion Section.

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

Granite County Conservation District  
Montana Department of Environmental Quality  
Montana Natural Resource Damage Program  
Montana Department of Natural Resources  
U.S. Army Corps of Engineers  
U.S. Fish and Wildlife Service

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 also will be reviewed by the Fish & Wildlife Commission, and funding will be contingent upon their approval. The EA will be distributed to all individuals and groups listed on the cover letter 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 through May 1, 2021.

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

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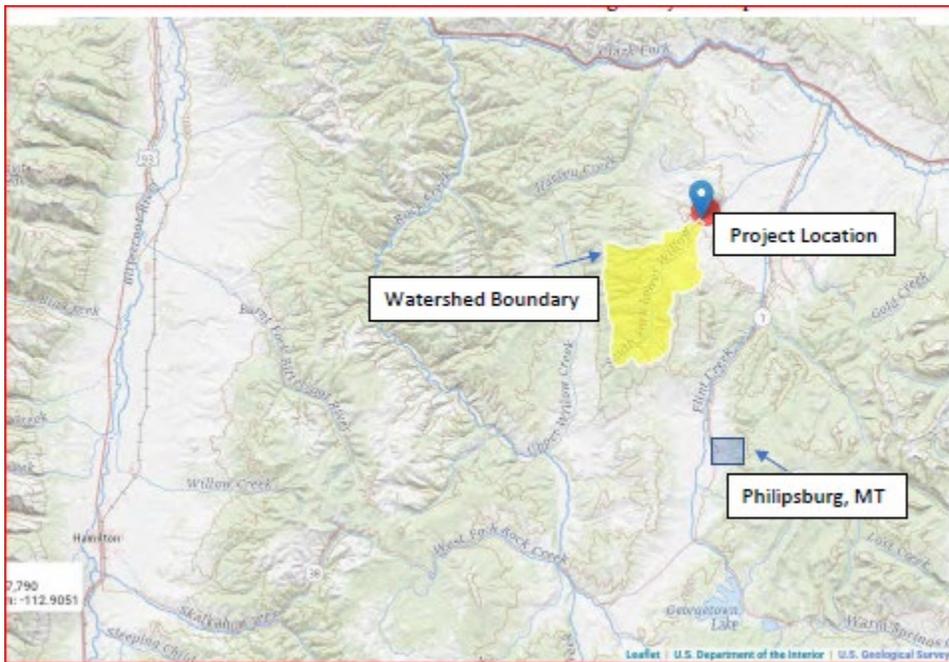


Figure 1: Location of the project near Hall and Phillipsburg Montana



Looking across diversion dam. Photo taken late July 2019.



Looking upstream at diversion.

Figure 2. Current conditions of South Fork Lower Willow Creek at the diversion.



Figure 3. Examples of other projects involving a rock cross vane irrigation structure.