



FUTURE FISHERIES IMPROVEMENT PROGRAM GRANT APPLICATION

All sections must be addressed, or the application will be considered invalid



I. APPLICANT INFORMATION

A. Applicant Name: Jim Olsen, Montana Fish Wildlife and Parks

Mailing Address: 1820 Meadowlark Lane

City: Butte State: MT Zip: 59701

Telephone: 406-533-8451 E-mail: jimolsen@mt.gov

B. Contact Person (if different than applicant): _____

Address: _____

City: _____ State: MT Zip: _____

Telephone: _____ E-mail: _____

C. Landowner and/or Lessee Name (if different than applicant): USDA Forest Service, Beaverhead Deerlodge National Forest

Mailing Address: 300 Forest Service Rd 71233

City: Wisdom State: MT Zip: 59761

Telephone: (406) 689-3243 E-mail: jennifer.mickelson@usda.gov

II. PROJECT INFORMATION

A. Project Name: Christiansen Creek Fish Barrier

River, stream, or lake: Christiansen Creek

Location: Township: 1N Range: 14W Section: 12

Latitude: 45.7660025 Longitude: -113.2763970 *Within project (decimal degrees)*

County: Beaverhead

B. Purpose of Project: *(high level, focus on why the project is important)*

The purpose of this project is to restore Westslope Cutthroat Trout to Christiansen Creek.

- C. Brief Project Description (attach additional information to end of application). Please include the anticipated construction schedule:

Westslope cutthroat trout (WCT) in the upper Missouri River drainage occupy less than 5% of their historic habitat. Many of the remaining populations are at risk of extirpation due to small population size and the threats of competition, predation and hybridization with non-native trout species.

There are a total of 47 remaining WCT populations in the Big Hole drainage. Of the 47, at least 39 are considered at risk. An at risk population is one that is not likely to persist over the long-term because of poor habitat, small population size and/or the presence of non-native species. Once a population is extirpated the unique adaptations that have been developed over millennia are lost which could affect the ability of the species as a whole to persist through time. Projects which restore WCT are necessary to ensure the continued survival of the species in the Big Hole drainage and elsewhere. The restoration goal for WCT east of the Continental Divide is to restore WCT to 20% of the historic distribution (FWP Statewide Fisheries Management Plan). In the Big Hole River drainage where WCT historically occupied approximately 2,141 miles of stream the restoration goal is roughly 400 miles of streams restored to westslope cutthroat trout. The primary objective of the Westslope Cutthroat Trout Conservation Strategy for the Missouri River Headwaters of Southwest Montana is to first conserve existing non-hybridized (>99%) populations of WCT in their natal habitat.

Christiansen Creek is located 11 miles northeast of Wisdom, MT. It is home to a native, non-hybridized population of westslope cutthroat trout (Figure 1). Brook trout are also present in the stream and have eliminated the native cutthroat in but the headwaters of the drainage. Brook trout are also sympatric with the remaining cutthroat in the stream and recent data from 2023 suggest cutthroat numbers are declining and brook trout are expanding upstream. Fewer than 500 WCT remain in Christiansen Creek and at the current rate of decline it is likely that within the next 5-10 years cutthroat will be extirpated if restoration actions are not taken.

The goal of this project is to conserve the native cutthroat in Christiansen Creek through the construction of a fish barrier downstream of the confluence of Shaw and Papoose creeks (Figure 1). The barrier would be constructed of treated lumber (See attached design drawing) like the barrier installed on several streams across SW MT over the past decade (Figure 2). Fill and riprap for the barrier would be obtained on site and from adjacent hill slopes at the fish barrier site. Riprap would be placed on the streambanks downstream of the structure and in the bed of the stream immediately downstream of the structure to prevent erosion and undercutting. The expected lifespan of a treated wood fish barrier is 30-50 years. Once the fish barrier is in place westslope cutthroat trout would be salvaged from the stream and brook trout would be removed using rotenone. After brook trout are removed the native westslopes would be released back to Christiansen Creek. The amount of habitat occupied by westslope cutthroat trout in Christiansen Creek will increase from approximately 2 miles to 11 miles and this project will aid in reaching the overall goal of restoring 400 miles of stream for cutthroat trout in the Big Hole. Access to the barrier site is controlled by 2 separate private landowners and an agreement is already in place to allow access to complete the project.

- D. What was the cause of habitat degradation and how will the project correct the cause?

The stream habitat in Christiansen Creek is in good condition. A forest fire in 2021 caused impacts to the stream. Grazing has minimal impacts on the lower reaches of the stream. The main cause for the decline in WCT in the stream is competition and predation by brook trout. This project will protect the core population of WCT from competition and predation with nonnative trout species and will exclude further colonization with a fish barrier.

E. Length of stream or size of lake that will be treated (project extent): 100 ft of stream
 Length/size of impact, if larger than project extent (e.g., stream miles opened): 11 miles of stream

F. Project Budget Summary:

Grant Request (Dollars): \$ \$23,420
 Matching Dollars: \$ \$25,000
 Matching In-Kind Services:* \$ _____

**salaries of government employees are not considered matching contributions*

Other Contributions (not used as match) \$ _____
Total Project Cost: \$ \$48,420

G. Attach itemized (line item) budget – see budget template

H. Attach project location map(s) that include:

- Extent of the project, including context (relation to major landmark or town)
- Indication of public and private property
- Riparian buffer locations and widths (if applicable) and grazing locations

I. Attach project plans:

- Detailed sketches or plan views with the location and proposed restoration
- Pre-project photographs (GPS location strongly recommended)
- If water leasing or water salvage is involved, attach a supplemental questionnaire (<https://myfwp.mt.gov/getRepositoryFile?objectID=361110>)

J. Attach support letters or statements of (e.g., landowner consent, community or public support). For FWP statement, attach provided template. List any other project partners:

III. MAINTENANCE AND MONITORING (attach additional information to end of application):

A. A 20-year maintenance commitment is required*. Please confirm that you will ensure this protection and describe your approach. Attach any relevant maintenance plans. Yes No
**If it is a water leasing project, describe the length of the agreement.*

This fish barrier will be located on land administered by the US Forest Service (USFS). Both the USFS and FWP are committed to maintaining the barrier for greater than 20 years. Based on similar designs used in the area for irrigation structures, the life expectancy is 30-50 years.

B. Will grazing be part of or adjacent to the project? If so, describe or attach land management plans, including short term and long term grazing regimes. If the landowner is not the applicant, please describe their involvement in the project. *If you want assistance with grazing plan development, note your need.*

Grazing does occur at the project site and upstream on USFS lands according to a rest-rotation grazing plan. Because cutthroat trout exist in Christiansen Creek the grazing plan has more restrictions on timing and intensity of grazing to reduce potential impacts to WCT. The lease holder is also cooperating with the project and is in conserving Arctic grayling in the Big Hole valley on private lands. There are some minor impacts of grazing on the lower reaches of Christiansen Creek primarily where cattle cross the stream but the robust willows in the riparian area and active beavers preclude extensive cattle use.

- C. Will the project be monitored to determine if goals were met? If so, what are the short-term and long-term plans to assess benefits and lessons learned? Were pre-project data collected? Will monitoring information be shared with FWP?

Short-term monitoring will be done with eDNA to determine if the non-native fish were fully removed following treatment with rotenone. Once the native fish are restored to the stream, monitoring will occur on a 5–10-year basis to ensure the population is expanding and filling the available habitat and that non-native fish have not returned to the stream. Monitoring will consist of electrofishing in pre-established monitoring sections within the stream.

IV. PROJECT BENEFITS (attach additional information to end of application):

- A. What species of fish will benefit from this project?

Westslope cutthroat trout

- B. How will the project protect or enhance wild fish habitat?

The primary threat to Upper Missouri River WCT is competition and hybridization with nonnative trout. This project will protect and enhance the wild population of core WCT which are threatened by hybridization with nonnative trout.

- C. What is the expected improvement to fish populations, both short term and long term? How might the project translate to angler success?

It is expected that the restored population will eventually exceed 5,000 fish (>500 WCT per mile). This population sized is adequate to maintain genetic diversity through time. The barrier location also isolates 2 tributary streams which reduces the likelihood that stochastic events such as fire and flood could eliminate the population through time. Christiansen Creek receives little to any fishing pressure due to its remote nature in the Big Hole valley and small size. Squaw Lake is also located in the drainage and will be restored to WCT as part of this project and will provide ongoing angling opportunities in the drainage.

- D. Will the project increase public fishing opportunity for wild fish and, if so, how? Is public fishing allowed onsite? Is it allowed by permission? If not, describe how the public would benefit.

Christiansen Creek is located on public lands but access is limited due to privately controlled access. The landowner controlling access is enrolled in Block Management so access to the area is possible during hunting season. Further, the stream can be accessed through a trail system from the headwaters of the drainage, but it receives little to no fishing pressure because of its small size. This project will provide a unique opportunity to catch aboriginal WCT in southwest Montana. Core populations of WCT (>99% WCT) occupy less than 10% of their historic habitat in the Big Hole River. It will also ensure that the species does not warrant listing under the Endangered Species Act which could restrict future angling.

E. Aside from angling, what local or large-scale public benefits will be realized from this project?

This project will move us closer to our regional goal of restoring WCT to 20% of their historic distribution. Our current priority is to protect all remaining at-risk populations of core WCT. Once protected, this population will serve as a donor source for future projects. This project combined with others occurring across the state ensure that WCT will be around for future generations to enjoy.

F. Will the project interfere with water or property rights of adjacent landowners? (explain):

No. Both landowners are cooperators on the project.

G. Will the project result in the development of commercial recreational use on the site (including paid access)? Explain:

No

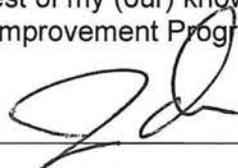
H. Is this project associated with the reclamation of past mining activity?

No

Each approved project applicant must enter into a written agreement with Montana Fish, Wildlife & Parks specifying terms and duration of the project. The applicant must obtain all applicable permits prior to project construction. A competitive bid process must be followed when using State funds.

V. AUTHORIZING STATEMENT

I (we) hereby declare that the information and all statements to this application are true, complete, and accurate to the best of my (our) knowledge and that the project or activity complies with rules of the Future Fisheries Improvement Program.

Applicant Signature:  Date: 11-13-25

Submittal: Applications must be signed and received on or before November 15 and May 15 to be considered for the subsequent funding period. Late or incomplete applications will be rejected.

<p>Mail to: FWP Future Fisheries Fish Habitat Bureau PO Box 200701 Helena, MT 59620-0701</p>	<p>Email: Future Fisheries Coordinator FWPFFIP@mt.gov (electronic submissions must be signed) For files over 10MB, use https://transfer.mt.gov and send to mmcgree@mt.gov</p>
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Figure 1. Proposed fish barrier site on Christiansen Creek located 11 miles northeast of Wisdom Montana on the Beaverhead Deerlodge National Forest.

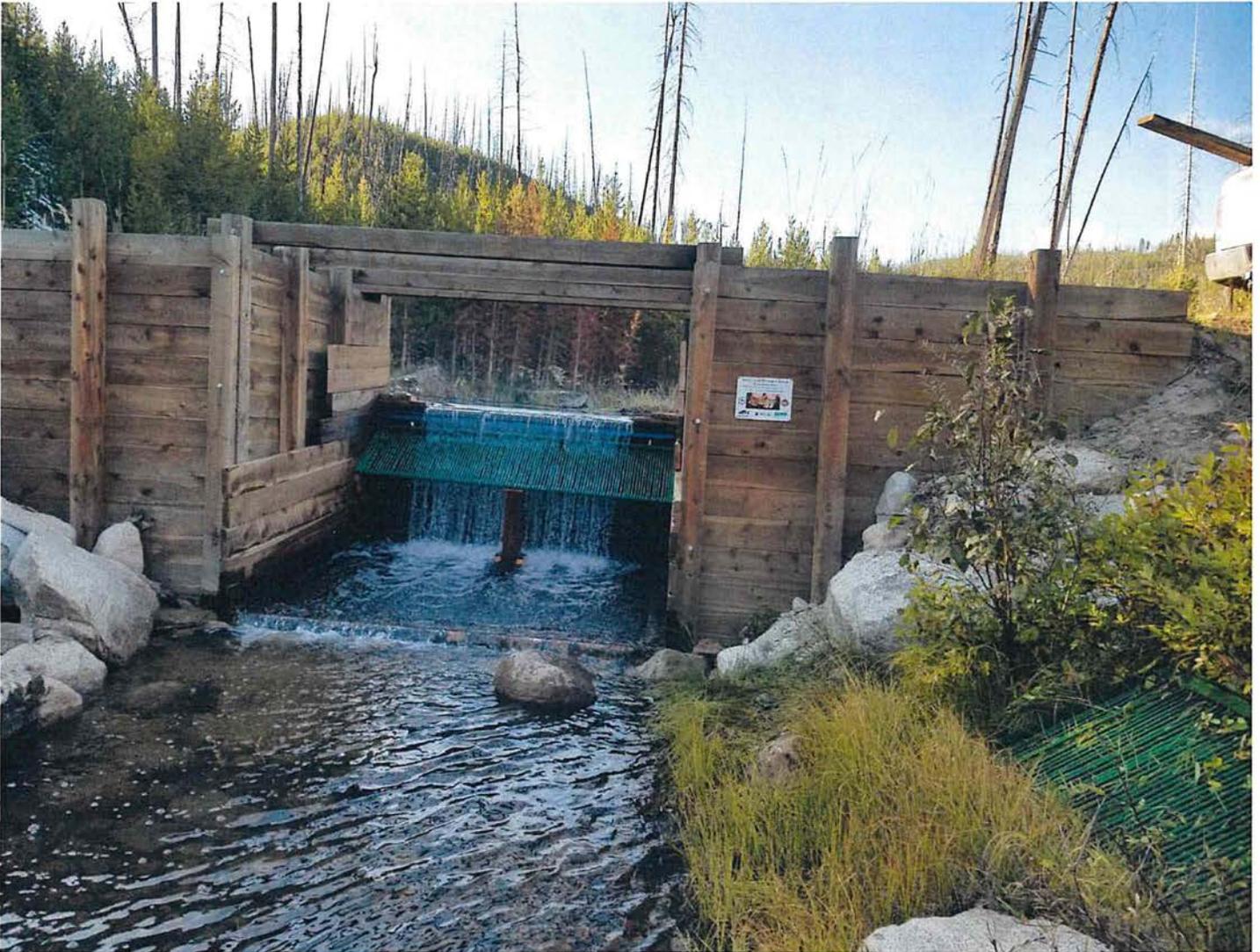


Figure 2. Bender Creek fish barrier constructed in 2017 which would be similar to the barrier proposed on Christiansen Creek.

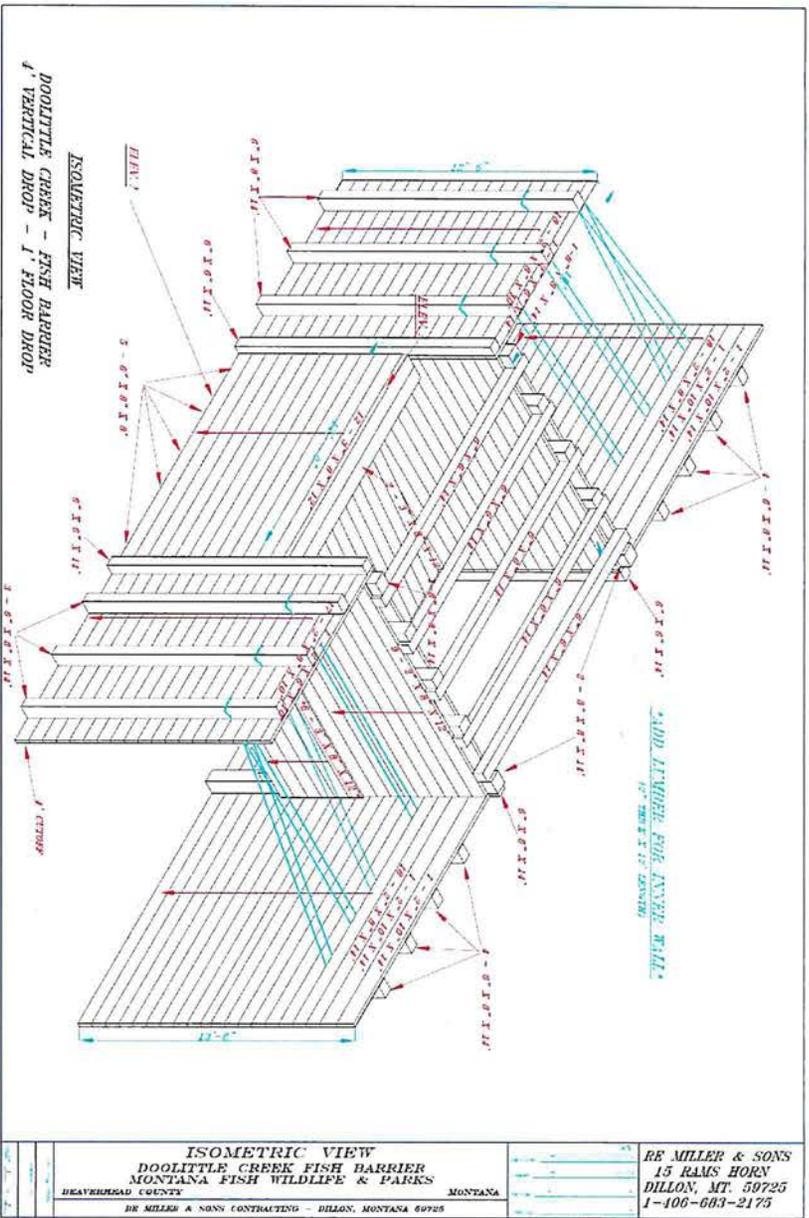


Figure 3. Fish barrier design for Doolittle Creek which is identical to the design for Christiansen Creek.



Figure 4. Aerial view of Christiansen Creek fish barrier location (note robust riparian area around the stream).

BUDGET TEMPLATE SHEET FOR FUTURE FISHERIES PROGRAM APPLICATIONS
 Christiansen Creek Fish Barrier

008-2026

Both tables must be completed or the application will be returned

PROJECT COSTS					CONTRIBUTIONS			
WORK ITEMS (Itemize by Category)	NUMBER OF UNITS	UNIT DESCRIPTION*	COST/UNIT	TOTAL COST	FUTURE FISHERIES REQUEST	MATCH (Cash or Services)**	OTHER (Not part of this application)	TOTAL
Personnel***								
								\$ -
								\$ -
								\$ -
								\$ -
								\$ -
								\$ -
			Sub-Total	\$ -	\$ -	\$ -	\$ -	\$ -
Travel								
				\$ -				\$ -
				\$ -				\$ -
			Sub-Total	\$ -	\$ -	\$ -	\$ -	\$ -
Construction Materials****								
Wooden Barrier	1	barrier	\$29,000.00	\$ 29,000.00	15,000.00		14,000.00	\$ 29,000.00
Other materials	1	hardware	\$2,000.00	\$ 2,000.00	1,000.00		1,000.00	\$ 2,000.00
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
			Sub-Total	\$ 31,000.00	\$ 16,000.00	\$ -	\$ 15,000.00	\$ 31,000.00
Equipment, Labor, and Mobilization								
Mobilization	1	Mob	\$2,500.00	\$ 2,500.00	1,000.00		1,500.00	\$ 2,500.00
Excavator Time	75	hr	\$100.00	\$ 7,500.00	3,500.00		4,000.00	\$ 7,500.00
Articulated dump truck	20	hr	\$80.00	\$ 1,600.00			1,600.00	\$ 1,600.00
Laborer	97		\$60.00	\$ 5,820.00	2,920.00		2,900.00	\$ 5,820.00
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
			Sub-Total	\$ 17,420.00	\$ 7,420.00	\$ -	\$ 10,000.00	\$ 17,420.00
TOTALS				\$ 48,420.00	\$ 23,420.00	\$ -	\$ 25,000.00	\$ 48,420.00

OTHER REQUIREMENTS:

All of the columns in the budget table and the matching contribution table MUST be completed appropriately or the application will be invalid. Please see the example budget sheet for additional clarification.

*Units = feet, hours, inches, etc. Do not use lump sum unless there is no other way to describe the costs.

**Can include in-kind materials. Justification for in-kind labor (e.g. hourly rates used). Do not use government salaries as match. Describe here or in text.

***The Review Panel suggests that design and oversight costs associated with a proposed project not exceed 15% of the total project budget. If design and oversight costs are in excess of 15%, applications must include a justification or minimum of two competitive bids for the cost of undertaking the project.

****The Review Panel recommends a maximum fencing cost of \$1.50 per foot. Additional costs may be the responsibility of the applicant and/or partners.

Additional details: Per FWP's overhead policy, we have included a 3.2% overhead on non-federal match brought in through Trout Unlimited (0.032*\$100,000= \$3,200). We have also included a 10% contingency on all construction costs including Materials, Equipment, Labor, and Mobilization). Mobilization costs are high due to the remote site location, the specialized equipment needed (e.g., amphibious excavator), and non-conventional construction techniques. The project is also within a designated wilderness and archaeological site.

APPLICATION MATCHING CONTRIBUTIONS

(do not include requested funds or contributions not associated with the application)

CONTRIBUTOR	IN-KIND	CASH	TOTAL	Secured? (Y/N)
FFIP	\$ -	\$ 23,420.00	\$ 23,420.00	N
State Wildlife Grants (SWG)	\$ -	\$ 25,000.00	\$ 25,000.00	N
	\$ -			
	\$ -		\$ -	
	\$ -		\$ -	
	\$ -		\$ -	
	\$ -		\$ -	
	\$ -		\$ -	
TOTALS	\$ -	\$ 48,420.00	\$ 48,420.00	

OTHER CONTRIBUTIONS

(contributions not associated with the application)

CONTRIBUTOR	IN-KIND	CASH	TOTAL	Secured? (Y/N)
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
TOTALS	\$ -	\$ -	\$ -	