FUTURE FISHERIES IMPROVEMENT PROGRAM GRANT APPLICATION

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

I. APPLICANT INFORMATION

A. Applicant Name: Ryan Kreiner

Mailing Address: 730 ½ Montana Street

City: Dillon State: MT Zip: 59725

Telephone: 406-531-5861 E-mail: rkreiner@mt.gov

B. Contact Person (if different than applicant):

Address:

City: State: Zip:

Telephone: E-mail:

C. Landowner and/or Lessee Name (if different than applicant): Beaverhead-Deer Lodge National Forest

Mailing Address: 420 Barrett Street

City: Dillon State: MT Zip: 59725

Telephone: 406-683-3861 E-mail: jennifer.mickelson@usda.gov

II. PROJECT INFORMATION

A. Project Name: Red Rock Creek Fish Removal Project

River, stream, or lake: Red Rock Creek

Location: Township: 6 North Range: 6 West Section: 3

Latitude: 46.29798 Longitude: -112.34789 *Within project (decimal degrees)*

County: Jefferson

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

Red Rock Creek is a tributary to the Boulder River which contains a population of nonhybridized WCT (Figure 1). The stream is also occupied by non-native brook trout and hybridized cutthroat trout. Until recently, nonhybridized WCT were the dominant fish species in the upper four miles of the mainstem (above river mile 5.5) and in three upper tributaries, while brook trout were the dominant species in the lower creek (below river mile 5.5). However, genetic testing in 2025 revealed a rapid advancement of hybridizing species (Rainbow trout and Yellowstone cutthroat trout) (Figure 2). Many hybrids tested were ~50% WCT, strongly suggesting they were first generation hybrids (F1). This indicates that rainbow trout and highly hybridized fish are actively invading Red Rock Creek at an alarming rate. A sample taken at river mile 6.6 was 50% nonhybridized WCT and 50% F1 RB x WCT hybrids. A second-generation (F2) RB x WCT hybrid (75% WCT) was captured at river mile 7.8. In 2025, approximately 200 suspected WCT were PIT tagged and tested and 185 nonhybridized fish are available for salvage based on these tests. In 2026, PIT tagged fish will be captured and transferred to vacant habitat in Dutchman Creek and more fish will be tagged for transfer in 2027 prior to the rotenone treatment. This population contains very high genetic variation compared to other UMR populations, and is of high conservation value, but is at high-risk of extirpation. A wooden barrier (Figure 1) constructed at river mile 3.4 would isolate approximately ten miles of high quality, fish-bearing habitat and would secure a population of >2,500 fish. Once a barrier is constructed, and approximately 200 WCT are salvaged, the stream will be treated with rotenone for two years beginning in 2027 and repopulation will occur in 2029.

The primary management goal for westslope cutthroat trout (WCT) in Montana is to ensure the long-term self-sustaining persistence of the subspecies in its historical range. In the Missouri River drainage, this goal will be achieved when secure WCT populations are restored to 20% of their historic tributary distribution in each subbasin. Non-native trout pose the single greatest threat to the persistence of WCT in the Upper Missouri River basin. It is critical to protect the remaining core populations of WCT in the Missouri River headwaters by installing fish barriers and removing hybridized fish from the project area with rotenone. This will be the first rotenone project conducted in the Boulder River subbasin where protected populations occupy only 1.9% of their historic habitat. This project will double that, and the Red Rock Creek population will be a primary donor source for future projects in the area. WCT conservation has been formally prioritized by Montana state law (Montana Code Annotated; MCA§ 87-5-107; MCA § 87-1-702; § 87-1-201[9][a]), in Montana Fish Wildlife & Park's (FWP) Vison and Guide, and in a 2007 Memorandum of Understanding (MOU) between FWP and 18 other signatories from state and federal agencies and non-governmental organizations (NGOs).

One hundred ninety-two WCT conservation populations currently occupy 1,114 miles of stream (10% of historic range) within the nine sub-basins in southwest Montana. One hundred three core populations occupy 556 miles, comprising about 5.3% of their historic range. Since 2010, 24 fish removal projects were completed in 7 sub-basins that restored approximately 400 miles of core WCT habitat. In the next five years (2026-2030), nine more projects will be initiated which will protect an additional 90 miles of habitat for core WCT. At that point, all remaining at-risk core populations will be protected. Over this same period, 20 populations have been protected through transfers, 22 have been extirpated, and 18 have been reduced from core populations to <90% through hybridization.

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

A wooden barrier will be installed at river mile 3.4 on Red Rock Creek to exclude non-native fish (Figure A). Based on genetic results from PIT tagged individuals, approximately 200 remaining nonhybridized WCT will be salvaged and transferred to Dutchman Creek. The stream above the barrier will be treated with rotenone for two years and confirmed to be fishless using environmental DNA (eDNA). Once confirmed, salvaged fish will be transported back to the drainage. Since 2010, Region 3 has installed 22 wooden barriers to protect WCT populations. Over that time, we have treated and protected WCT in approximately 400 miles of additional secure habitat.

Timeline:
Summer 2026: Fish Salvage
Fall 2026- Barrier Construction
Summer 2027: Second fish salvage and rotenone treatment on Red Rock Creek
Summer 2028: Second rotenone treatment
Summer 2029: Environmental DNA (eDNA) surveys will determine if fish removal was complete. Localized removals may occur if results dictate.
Fall 2029: Salvaged WCT will be returned to Red Rock Creek

Figure A. Wooden barrier on Cottonwood Creek in the Beaverhead River subbasin. This barrier was installed in 2020 and the stream above the barrier was treated with rotenone for two years. The project was successful, and this population is now considered protected. The barrier on Red Rock Creek would be a similar design.

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

This project will protect the core population of WCT from hybridization with nonnative trout species. This project will alleviate the cause by removing hybridized trout with rotenone and excluding further colonization with a fish barrier.

E. Length of stream or size of lake that will be treated (project extent): 10 miles

Length/size of impact, if larger than project extent (e.g., stream miles opened): 10 miles

F. Project Budget Summary:

Grant Request (Dollars):	**$**	**23,420* (see below)**
Matching Dollars:	**$**	**56,545**
Matching In-Kind Services:*	**$**	

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

Other Contributions (not used as match)	**$**	
Total Project Cost:	**$**	**80,175**

**Fundraising has been affected by federal funding complications. Applicants will continue to identify potential matching sources and if successful, would request reduced reimbursement from an FFIP award.*

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: (Seef Figure 3 below)

- ☒ 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=36110*)

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:

Beaverhead-Deerlodge National Forest

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
X	

**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. 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.*

The project is within a grazing allotment administered by the Beaverhead-Deerlodge National Forest. Grazing will continue but is not anticipated to have negative impacts on the project. The area is grazed on a rotational schedule and the riparian habitat is healthy. Red Rock Creek is a boulder dominated channel type that is less susceptible to the impacts of grazing than many other SW Montana streams. The primary threat to the Red Rock Creek population is hybridization with nonnative fish. Once that threat is removed, the population will thrive.

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?

Yes. The success of the initial rotenone project will be determined by eDNA surveys in 2029 after two years of treatment. Following repopulation, the stream will be electrofished after five years to determine if the salvaged fish have fully seeded the available habitat. If necessary, WCT from additional populations may be used to supplement the population and serve as a genetic rescue.

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 4,000 fish. Red Rock Creek is a publicly accessible stream with open terrain for casting.

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.

This project will provide a unique opportunity to catch aboriginal WCT in southwest Montana. Protected populations of nonhybridized WCT occupy approximately 1.8% of their historic habitat in the Boulder River. This project will double that.

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.

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

No

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: 4/1/2026

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.

Mail to:	FWP Future Fisheries Fish Habitat Bureau PO Box 200701 Helena, MT 59620-0701	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

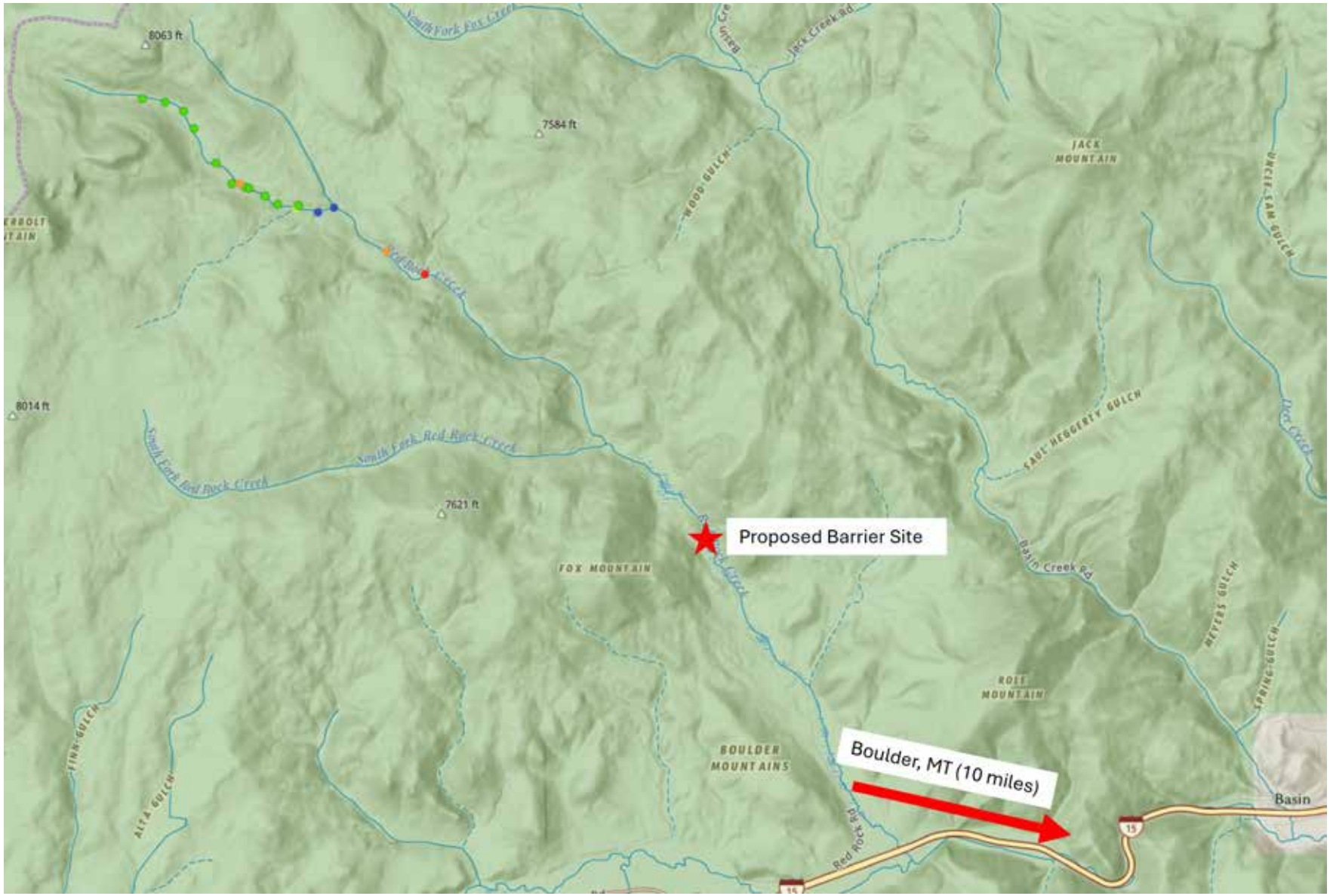

Figure 1. Map of Red Rock Creek in the Boulder Mountains. The stream is 10 air miles from Boulder, MT.

Figure 2. Red Rock Creek with genetic results from 2025. Nonhybridzed WCT exist in the headwaters, but highly hybridized individuals are advancing farther upstream with no barrier. Brook Trout exist throughout the drainage and are outcompeting WCT.

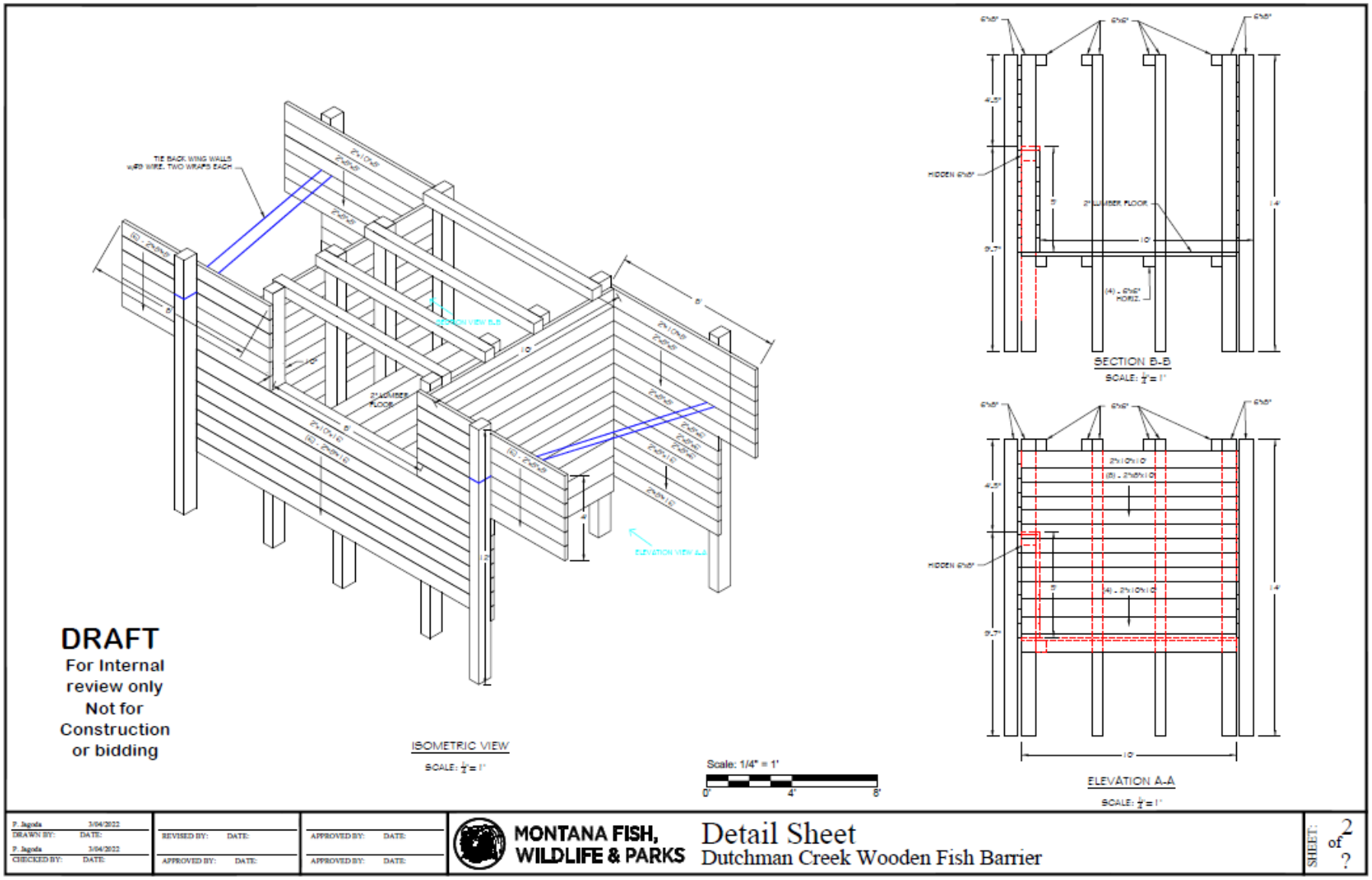

Figure 3. Wooden barrier design used by Region 3 FWP to protect at-risk populations of WCT in place.

BUDGET TEMPLATE SHEET FOR FUTURE FISHERIES PROGRAM APPLICATIONS

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	$15,770.00	$ 15,770.00	7,885.00	7,885.00		$ 15,770.00
Rip Rap	40	cub yds	$100.00	$ 4,000.00	2,000.00	2,000.00		$ 4,000.00
				$ -				$ -
				$ -				$ -
				$ -				$ -
				$ -				$ -
				$ -				$ -
				$ -				$ -
				$ -				$ -
			Sub-Total	$ 19,770.00	$ 9,885.00	$ 9,885.00	$ -	$ 19,770.00
Equipment, Labor, and Mobilization								
Mobilization	130	hour	$145.00	$ 18,850.00	9,220.00	9,430.00		$ 18,650.00
Labor	100	hr	$100.00	$ 10,000.00	4,315.00	5,685.00		$ 10,000.00
Rotenone	35	gal	$187.00	$ 6,545.00		6,545.00		$ 6,545.00
Potassium Permanganate	500	lbs	$10.00	$ 5,000.00		5,000.00		$ 5,000.00
eDNA	125	sample	$96.00	$ 12,000.00		12,000.00		$ 12,000.00
Genetics	200	sample	$40.00	$ 8,000.00		8,000.00		$ 8,000.00
				$ -				$ -
				$ -				$ -
				$ -				$ -
				$ -				$ -
				$ -				$ -
				$ -				$ -
			Sub-Total	$ 60,395.00	$ 13,535.00	$ 46,660.00	$ -	$ 60,195.00
			TOTALS	$ 80,165.00	$ 23,420.00	$ 56,545.00	$ -	$ 79,965.00

OTHER REQUIREMENTS:

BUDGET TEMPLATE SHEET FOR FUTURE FISHERIES PROGRAM APPLICATIONS

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.

APPLICATION MATCHING CONTRIBUTIONS

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

CONTRIBUTOR	IN-KIND	CASH	TOTAL	Secured? (Y/N)
Montana FWP (Rotenone, Potassium Permanganate, eDNA, Genetics)	$ -	$ 31,545.00	$ 31,545.00	Y
State Wildlife Grant (For 51% of barrier cost)		$ 25,000.00	$ 25,000.00	N
	$ -		$ -	
	$ -		$ -	
	$ -		$ -	
	$ -		$ -	
	$ -		$ -	
TOTALS	$ -	$ 56,545.00	$ 56,545.00	

OTHER CONTRIBUTIONS

(contributions not associated with the application)

CONTRIBUTOR	IN-KIND	CASH	TOTAL	Secured? (Y/N)
FWP Biologist Wages (2 Bios x 3 weeks x 3 years)	$ 36,800.00	$ -	$ 36,800.00	Y
FWP Technician Wages (4 Technicians x 3 weeks x 3 years)	$ 51,840.00	$ -	$ 51,840.00	Y
USFS Wages (6 staff x 1 week x 3 years)	$ 50,000.00	$ -	$ 50,000.00	Y
	$ -	$ -	$ -	
	$ -	$ -	$ -	
	$ -	$ -	$ -	
	$ -	$ -	$ -	
	$ -	$ -	$ -	
TOTALS	$ 138,640.00	$ -	$ 138,640.00	

MONTANA FISH, WILDLIFE & PARKS

Future Fisheries Improvement Program

Appendix: FWP Statement

Project Title: Red Rock Creek Fish Removal Project

Please describe the potential impact of the project, including the priorities of the Fisheries Division and the importance to Montana's anglers.

The Red Rock Creek fish removal project is a Fisheries Division priority project as spelled out in the Westslope Cutthroat Trout Conservation Strategy for the Missouri River Headwaters in Southwest Montana. This strategy provides prioritization framework for conserving extant westslope cutthroat trout (WCT) with populations that are >99% WCT being the highest priority. Red Rock Creek supports a population of genetically unaltered WCT that is threatened by non-native trout. Genetic surveys from 2025 indicate there is a recent advancement of hybridizing species in Red Rock Creek, leading to heightened urgency to complete this conservation project. Red Rock Creek WCT have high genetic variation for UMR cutthroat trout so their conservation value is very high. Brook trout presence creates detrimental competition outcomes for WCT, while rainbow trout presence introduces the threat of hybridization. A fish barrier will isolate the WCT in Red Rock Creek and protect them from continuing hybridization. All the non-native fish in the system will be removed. Once restoration is complete, WCT in Red Rock Creek will likely be secured, accomplishing the primary goal of the strategy. The project will be another step in accomplishing the goal of restoring WCT to 20% of their historically occupied range as spelled out in the State-Wide Fish Management Plan.

Red Rock Creek is located almost entirely on the Beaverhead-Deerlodge National Forest. The upper tributaries are small, with high gradients and confined channels. Once the primary tributaries converge, the stream gains size, loses gradient, and flows through confined meadow habitat before joining the Boulder River. Red Rock Creek probably receives low angling pressure due to its size. However, once the project is complete, anglers will have access to catch non-hybridized WCT in a stream that is open to public fishing. Anglers also benefit because projects like these help ensure that WCT are not listed in the future as a threatened species which could bring angling restrictions.

Name of FWP Biologist Coltan Pipinich Date: 4/3/2026

Please attach to the FFIP application and materials and submit according to listed deadlines.

United States Department of Agriculture **Forest Service** **Beaverhead-Deerlodge National Forest**
Butte Ranger District
1820 Meadowlark
Butte, MT 59701
(406) 494-2147

Future Fisheries Improvement Program
FWP Fisheries Division
P.O. Box 200701
Helena, MT 59620

Dear Future Fisheries Improvement Program Review Panel:

The Butte Ranger District of the Beaverhead-Deerlodge National Forest would like to express our support for the proposed Red Rock Creek Fish Removal Project, a tributary to the Boulder River, north of Butte. This project will install a wooden barrier at river mile 3.4 on Red Rock Creek to exclude non-native fish on National Forest land. The project will also salvage westlsope cutthroat trout remaining upstream of the barrier, treat the stream with rotenone to remove all non-native fish, and return salvaged fish once treatment is complete.

This project is beneficial to the Beaverhead-Deerlodge National Forest, as the Forest Service is responsible for maintaining and improving fish habitat compatible with its Beaverhead-Deerlodge National Forest Plan which has goals of maintaining populations of native fish representative of historic conditions and conserving genetic integrity of native species. Forest staff will be completing environmental compliance for implementation of the fish barrier, as well as providing staff time for assisting Montana Fish, Wildlife and Parks with salvage and rotenone application.

We appreciate your consideration of this project. Implementation will provide benefits to westlsope cutthroat trout on the Butte Ranger District.

Sincerely,

TIMOTHY LAHEY
District Ranger