

**FUTURE FISHERIES IMPROVEMENT PROGRAM GRANT APPLICATION***All sections must be addressed, or the application will be considered invalid***I. APPLICANT INFORMATION**A. Applicant Name: George Grant Chapter Trout Unlimited, Forrest Jay, PresidentMailing Address: P.O. Box 563City: Butte State: MT Zip: 59703Telephone: 406-565-1623 E-mail: president@ggtu.orgB. Contact Person (if different than applicant): Jim OlsenAddress: 1820 Meadowlark LaneCity: Butte State: MT Zip: 59701Telephone: 533-8451 E-mail: jimolsen@mt.govC. Landowner and/or Lessee Name (if different than applicant): US Forest Service, Beaverhead Deerlodge National ForestMailing Address: 300 Forest Service Rd 71233City: Wisdom State: MT Zip: 59761

Telephone: _____ E-mail: _____

II. PROJECT INFORMATIONA. Project Name: Bryant Creek Fish BarrierRiver, stream, or lake: Bryant CreekLocation: Township: 1N Range: 12W Section: 22Latitude: 45.85696 Longitude: -113.10563 *Within project (decimal degrees)*County: Beaverhead

B. Purpose of Project:

The purpose of this project is to construct a fish barrier on Bryant Creek to expand an extant population of westslope cutthroat trout located in the headwaters of the stream.

C. Brief Project Description (attach additional information to end of application):

Westslope cutthroat trout (WCT) in the upper Missouri River drainage occupy less than 5% of their historically occupied 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. If conservation actions are not taken, more populations will be lost. 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 (Upper Missouri River Basin upstream from and including the Judith River) is to restore WCT to 20% of the historic distribution (FWP Statewide Fisheries Management Plan 2019). 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. The first objective in the Memorandum of Understanding for the Conservation of Cutthroat Trout and the Upper Missouri Westslope Cutthroat Trout Strategy is to conserve existing non-hybridized populations of WCT in their natal habitat.

Bryant Creek is located 9 miles northwest of Wise River, MT. It is home to a native, 100% pure population of westslope cutthroat trout that is isolated in the upper 1 mile of the stream in what is known as Trident Meadows (Figure 1). The cutthroat trout exists in this small reach in isolation due to a natural cascade fish barrier. Brook trout are also present in the stream downstream of the cascade and have eliminated the native cutthroat in the rest of the drainage. Cutthroat numbers in Trident Meadows are limited because of the small size of the stream and are at risk because of potential inbreeding and stochastic events such as fire or flood that could eliminate the population. A fire burned through most of the drainage including Trident Meadows in 2021. The impacts of this fire on the fishery are yet to be determined.

The goal of this project is to conserve the native cutthroat in Bryant Creek through the construction of a fish barrier approximately 1.5 miles upstream from the confluence of the Big Hole River (Figure 1). The barrier would be constructed of treated lumber like the barrier installed on Bender Creek in 2017 (Figure 2 and Figure 3) and several other similar barriers across southwest Montana. The pond created upstream of the barrier would be small (0.09 acres) due to the higher gradient nature of the stream and the incised nature of the floodplain in this area (Figure 4). Fill and riprap for the barrier would be obtained on site along Bryant Creek which has abundant scree slopes just upstream of the barrier site. Riprap would be placed downstream of the structure and a riprap apron will be placed in the bed of the stream immediately downstream of the barrier to prevent undercutting. The expected lifespan of a treated wood fish barrier is 30-40 years. Once the barrier is in place, brook trout upstream would be removed using rotenone. After brook trout are removed the native westslopes would be used to recolonize to Bryant Creek from Trident Meadows. It may also be necessary to import non-hybridized westslope cutthroat from nearby Papoose Creek and/or Christiansen Creek (nearest neighbors) to aid in the repopulation of the stream downstream of Trident Meadows and to genetically augment the population. The amount of habitat occupied by westslope cutthroat trout in Bryant Creek will increase from approximately 1 mile 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.

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

The habitat in the Bryant Creek drainage is in good shape for the most part but a significant wildfire burned through much of the drainage in 2022. The watershed has had an extensive mining and logging history. The reason for westslope cutthroat trout decline and may have been related to past habitat degradation, but the current reason for the population remaining at low abundance is competition from non-native brook trout.

- 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 upstream of fish barrier

F. Project Budget Summary:

Grant Request (Dollars): \$ 15,000

Matching Dollars: \$ 19,000

Matching In-Kind Services:* \$ 1,000

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

Other Contributions (not part of this app) \$ _____

Total Project Cost: \$ 35,000

- 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=36110>)

- J. Attach letters or statements of support (e.g., landowner consent, community or public support, and fish biologist support). List any other project partners:

Jim Olsen the Big Hole fish biologist is working closely with GGTU on this project proposal and FWP will conduct the actual fish removal and cutthroat restoration.

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.*

These fish barriers require little maintenance. The barrier will be inspected annually. The main potential maintenance issue will be clearing of trees that may fall on the fish barrier or into the barrier pool upstream that could constrict the barrier opening and this will be done by FWP and FS crews.

- 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.*

There is a grazing allotment in Bryant Creek but because of the heavily forested nature of the drainage there are few impacts to riparian areas or stream habitats.

- 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?

The project will be monitored by FWP. They have established fish population monitoring sections in Bryant Creek and will monitor the restoration of cutthroat trout in the drainage. They will also conduct the fish removals and EDNA test the stream after 2 treatments to ensure all brook trout are removed. Annual monitoring of the fish barrier will be done by FWP and USFS fisheries crews.

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 project will make an additional 10 miles of wild fish habitat available for cutthroat trout. The fish barrier will isolate habitat for westslope cutthroat trout which are currently isolated in the headwaters of the stream. These fish will expand to fill the habitat in the drainage and thus be conserved for generations to come. The habitat will be protected from future invasion by brook trout by the fish barrier.

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

There will be short term elimination of the fishery in Bryant Creek as brook trout are removed upstream of the fish barrier. It will likely take 2 years to completely remove brook trout from the stream and cutthroat from Trident Meadows will be used to repopulate the stream downstream to the fish barrier. It will likely take an additional 3-4 years for the cutthroat population to expand and begin to fill the habitat in Bryant Creek. Recent studies have shown that cutthroat trout generally equal the density of brook trout post restoration and cutthroat trout maximum size often exceeds that of brook trout. Brook trout tend to overpopulate in streams and lakes with adequate spawning habitat resulting in a fishery with abundant but small fish. Therefore, the long-term quality of the fishery in Bryant Creek is expected to exceed that of the current brook trout fishery. Additionally cutthroat trout are generally easier to catch than brook trout so the project should lead to greater angler catch rates and angler success. It should be noted that Bryant Creek is a small stream and does not receive significant angling pressure.

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

There will be no net increase in the public fishing for wild fish as a result of this project because there is an existing wild brook trout fishery in the stream. The project will increase opportunity to catch wild cutthroat trout which is a rare in the Missouri River drainage. The entire project location is on the Beaverhead-Deerlodge National Forest and is open to year-round access and angling as per the Central Fishing District Regulations.

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

This project will conserve a native, non-hybridized population of westslope cutthroat trout. Cutthroat trout in the Missouri River drainage exist in only a small fraction of their historic habitat and continue to decline due to hybridization and competition with non-native fish. Projects such as this one conserve the long-term genetic integrity of the species and ensure that anglers will have native cutthroat to catch in their original habitat for generations to come. Conservation of cutthroat trout will also ensure that the fish is not listed as Threatened under the Endangered Species Act which could have significant ramifications for public and private property and existing uses of these lands and water.

- 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: _____

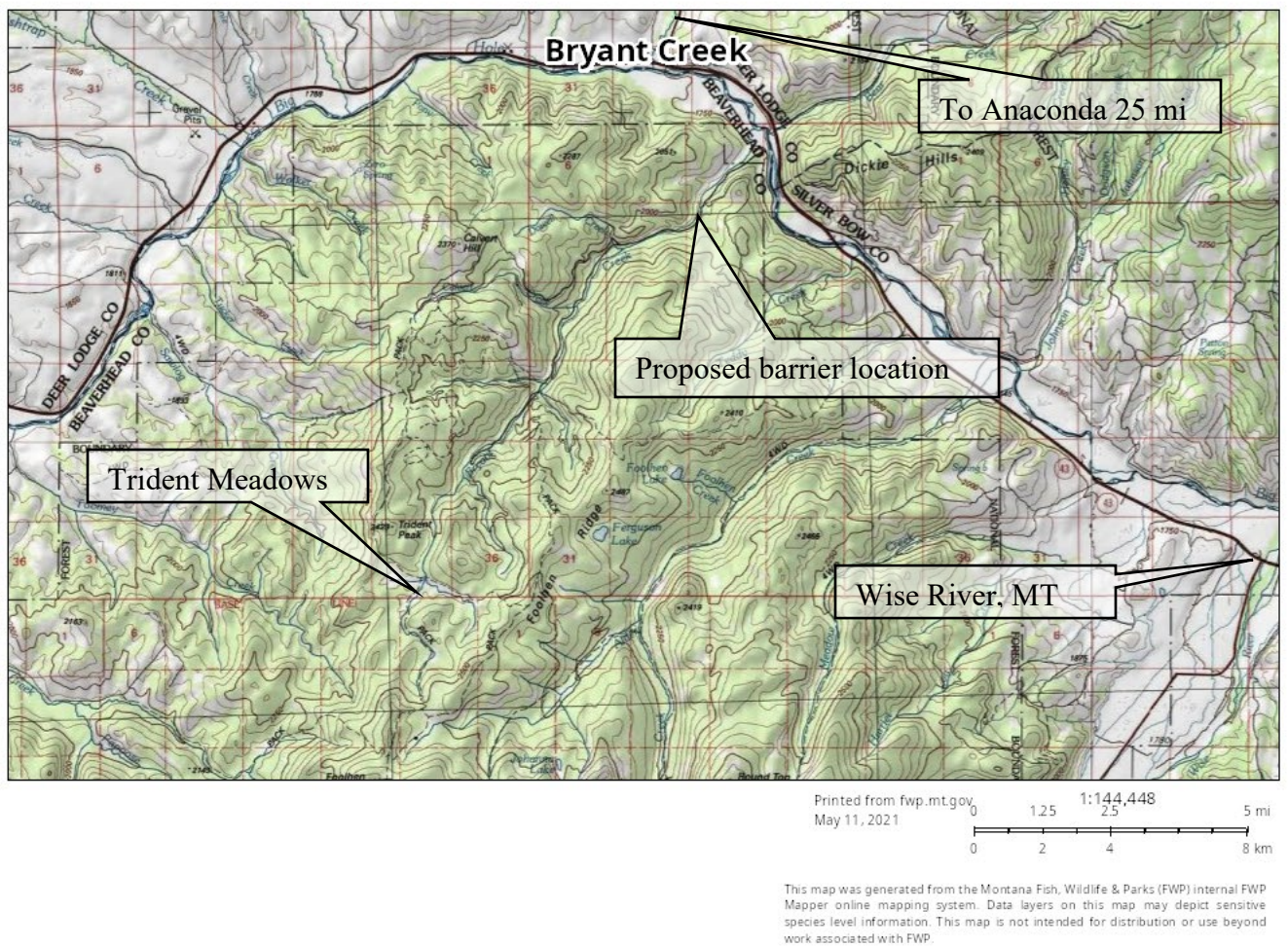
Date: _____

3/24/22

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



Some layers may not appear in the legend due to page size limitations.

Figure 1. Map of Bryant Creek showing the location of the proposed fish barrier and the location of the existing WCT in the drainage in Trident Meadows.



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

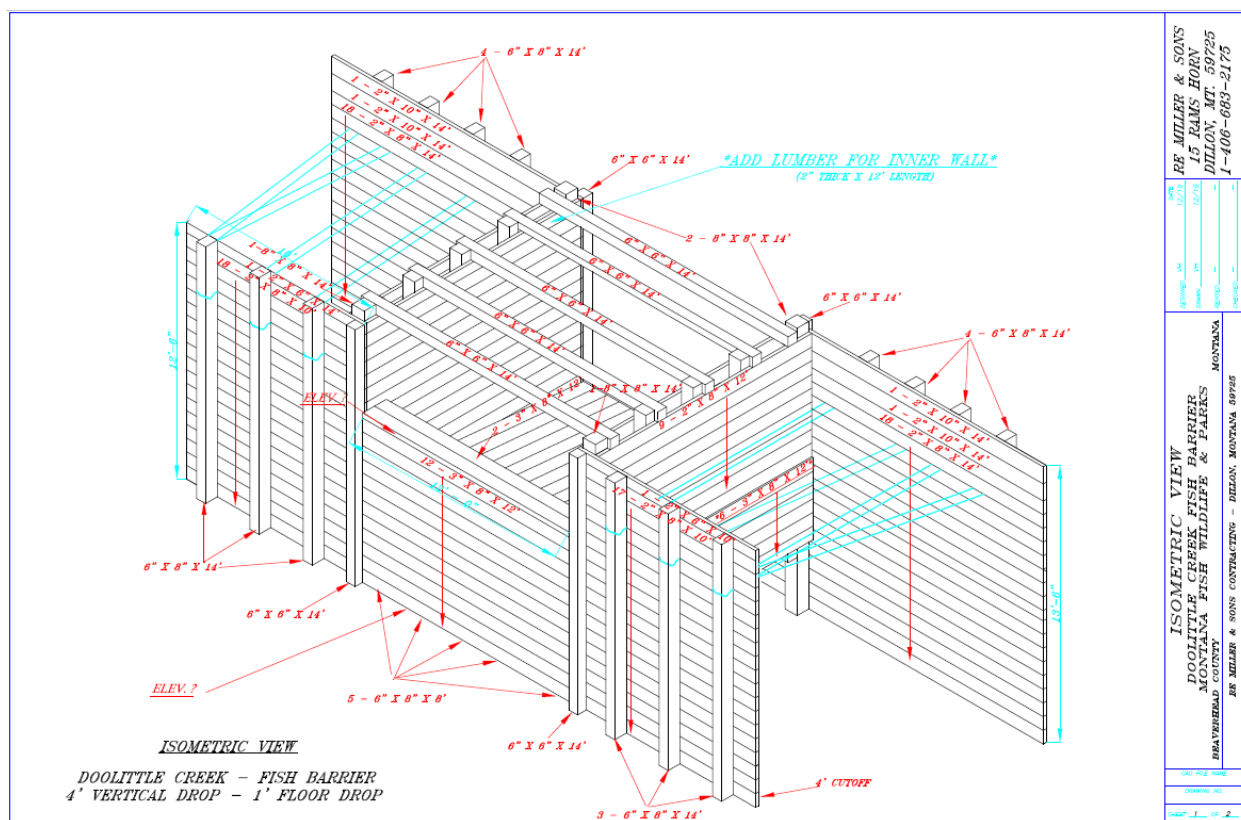


Figure 3. Fish barrier designs for the Doolittle fish barrier which is identical to the fish barrier being proposed for Bryant Creek.



Figure 4. Fish barriers site on Bryant Creek showing the incised nature of the stream and floodplain and the moderate gradient of the stream.

Bryant Creek fish barrier
BUDGET TEMPLATE SHEET FOR FUTURE FISHERIES PROGRAM APPLICATIONS

015-2022

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***								
Survey				\$ -				\$ -
Design				\$ -				\$ -
Engineering				\$ -				\$ -
Permitting				\$ -				\$ -
Oversight				\$ -				\$ -
				\$ -				\$ -
		Sub-Total		\$ -	\$ -	\$ -	\$ -	\$ -
Travel								
Mileage				\$ -				\$ -
Per diem				\$ -				\$ -
		Sub-Total		\$ -	\$ -	\$ -	\$ -	\$ -
Construction Materials****								
Lumber	1	total	\$12,000.00	\$ 12,000.00	10,000.00	2,000.00		\$ 12,000.00
Other hardware	1	Ea	\$300.00	\$ 300.00		300.00		\$ 300.00
Seeding	10000	Sqft	\$0.06	\$ 550.00		550.00		\$ 550.00
Riprap	10	Cubic yards	\$100.00	\$ 1,000.00		1,000.00		\$ 1,000.00
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
		Sub-Total		\$ 13,850.00	\$ 10,000.00	\$ 3,850.00	\$ -	\$ 13,850.00
Equipment, Labor, and Mobilization								
Mobilization	1	10% of total	\$3,534.00	\$ 3,534.00		3,534.00		\$ 3,534.00
Site preparation	18	Hours	\$300.00	\$ 5,400.00	1,000.00	4,400.00		\$ 5,400.00
Barrier installation	40.8	Hours	\$300.00	\$ 12,250.00	4,000.00	8,250.00		\$ 12,250.00
				\$ -				\$ -
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Bryant Creek fish barrier
BUDGET TEMPLATE SHEET FOR FUTURE FISHERIES PROGRAM APPLICATIONS

015-2022

			Sub-Total	\$	21,184.00	\$	5,000.00	\$	16,184.00	\$	-	\$	21,184.00
TOTALS				\$	35,034.00	\$	15,000.00	\$	20,034.00	\$	-	\$	35,034.00

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:

APPLICATION MATCHING CONTRIBUTIONS

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

CONTRIBUTOR	IN-KIND	CASH	TOTAL	Secured? (Y/N)
USFS RAC	\$ -	\$ 10,000.00	\$ 10,000.00	Y
George Grant TU	\$ -	\$ 5,000.00	\$ 5,000.00	Y
MT Trout Foundation	\$ -	\$ 5,000.00	\$ 5,000.00	Y
USFS	\$ 1,000.00	\$ -	\$ 1,000.00	Y
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
TOTALS	\$ 1,000.00	\$ 20,000.00	\$ 21,000.00	

OTHER CONTRIBUTIONS

(contributions not associated with the application)

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