FUTURE FISHERIES IMPROVEMENT PROGRAM GRANT APPLICATION

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

I. APPLICANT INFORMATION

A. Applicant Name: Custer Gallatin National Forest, Yellowstone Ranger District

Mailing Address: 5242 Highway 89 South

City: Livingston State: MT Zip: 59047

Telephone: (406) 222-1892 E-mail:

B. Contact Person (if different than applicant): Clint Sestrich

Address: 5242 Highway 89 South

City: Livingston State: MT Zip: 59047

Telephone: (406) 539-4923 E-mail: clint.sestrich@usda.gov

C. Landowner and/or Lessee Name (if different than applicant): Alex Sienkiewicz, District Ranger

Mailing Address: 5242 Highway 89 South

City: Livingston State: MT Zip: 59047

Telephone: (406) 930-2544 E-mail: alex.sienkiewicz@usda.gov

II. PROJECT INFORMATION

A. Project Name: Mill Creek Fish Barrier

River, stream, or lake: Mill Creek (Tributary to Yellowstone River in Paradise Valley)

Location: Township: 6S Range: 10E Section: 33

Latitude: 45.268556° Longitude: -110.48908° *Within project (decimal degrees)*

County:

B. Purpose of Project:

This is a supplemental proposal to acquire necessary funds for the construction of the Mill Creek fish barrier which will conserve aboriginal (naturally occurring) Yellowstone cutthroat trout conservation populations in the Mill Creek headwaters by preventing the invasion of nonnative trout.

Mill Creek is the largest watershed within the Upper Yellowstone River Subbasin encompassing over 160 square miles. The Mill Creek watershed upstream from the national forest boundary has 210 stream miles (National Hydrography Dataset), 45 miles of which are occupied by Yellowstone Cutthroat Trout (YCT). The Mill Creek watershed is one of the few remaining areas where gene flow potentially occurs between distinct populations of YCT inhabiting most streams throughout the watershed. This is what conservation biologists refer to as a "metapopulation". Metapopulations are crucial to species conservation in that the connectivity between populations promotes genetic diversity and resilience to catastrophic events such as fires and debris flows.

Unfortunately, connected streams present a pathway for nonnative fish species to spread and establish new populations. Prior to 1995, Mill Creek below the national forest boundary was dewatered due to irrigation practices, effectively isolating the Mill Creek drainage from the Yellowstone River and protecting it from nonnative fish species. In 1995 a new irrigation system was put into place which allowed year-round flows in lower Mill Creek. Concern about nonnative salmonids entering the system prompted the building of a boulder fish barrier at the national forest boundary to preclude nonnative species from invading upstream. Despite these precautions, rainbow trout were found above the barrier in 1997, likely a result of fish escaping from a private pond. Genetic testing of YCT in East Fork Mill Creek in 1997 and mainstem Mill Creek above the barrier in 1999 confirmed that hybridization of YCT with rainbow trout was occurring. In 2019, genetic testing of YCT below the confluence with Passage Creek raised the alarm that rainbow trout hybridization is spreading further up into the drainage than expected (see attached map). Three of 28 YCT genetic samples had rainbow trout admixture ranging from 7% to 39%. The spread of hybridization in the watershed has corresponded with increasing angler reports and photos of large Yellowstone River-size rainbow trout upstream from the forest boundary barrier.

In 1997, the same year hybridization was detected in East Fork Mill Creek, brook trout were found concentrated in a spring creek tributary to Mill Creek on private land upstream from the forest boundary fish barrier. That year 560 brook trout were removed with electrofishing to reduce potential for expansion of the population. Nineteen years later in 2016, MFWP electrofished the stream and captured 334 brook trout ranging from 2.4 to 13.9 inches. Environmental DNA (eDNA) collection from sites further upstream in the watershed did not detect brook trout. However, warming stream temperatures associated with climate change could create environmental conditions suitable for brook trout spread and establishment in upstream YCT waters. This would be detrimental, because there are local examples where brook trout have entirely displaced YCT populations through competition.

The upstream expansion of rainbow trout hybridization combined with potential for brook trout invasion into connected YCT habitats presents a significant threat to the long-term persistence of YCT populations in the Mill Creek watershed. Therefore, the most immediate conservation action is to construct a fish barrier to secure YCT conservation populations in the Upper Mill Creek subwatershed from nonnative fish hybridization and competition (Figures 1-3). Maintaining habitat free from nonnative fish, prevents the need for future nonnative fish removal projects in upper Mill Creek.

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

The Custer Gallatin National Forest and the Montana Department of Fish, Wildlife and Parks are proposing to construct a permanent fish barrier on upper Mill Creek to maintain the current level of genetic purity and preserve the genetic legacy of this native YCT population. Large log jams in this stream reach have created a stepped gradient that has temporarily limited upstream invasion of nonnative fish. However, these log jams are temporary, and the proposed concrete fish barrier would prevent nonnative fish invasion fish for many years to come. The barrier will secure YCT conservation populations in 10.3 stream miles encompassing upper Mill Creek and its tributaries Anderson Creek and Colley Creek.

A suitable fish barrier site has been identified on mainstem Mill Creek in the canyon above the Passage Creek confluence (Photos 1 and 2). The left bank is confined by a bedrock outcrop and the right bank is confined by the rocky fill slope below the road prism. A preliminary elevation survey indicates that the road surface elevation is sufficiently high above the final barrier elevation to prevent inundation during a 100-year flood event or resulting from large woody debris accumulation on the barrier weir.

The barrier will be constructed of cast-in place concrete with a double drop design (Photo 3 and attached drawings). The upper drop is perched above a concrete splash pad that prevents fish from jumping while the lower drop prevents the splashpad from being backwatered under flood conditions or from downstream bedload or debris accumulation. The barrier design is in progress. However, Dale White, the Custer Gallatin National Forest Hydrologist, who is preparing the design indicates that the Cabin Creek fish barrier (which he also designed) is an accurate surrogate for the Mill Creek design and cost estimate. According to White, modeling indicates that the Cabin Creek 100-year flood design-flow (750 cfs) is similar to the projected 100-year flow for Mill Creek. Both sites have a bedrock outcrop on the left bank with a barrier weir width of 25 feet. In lieu of a completed Mill Creek fish barrier design, the Cabin Creek design is attached as well as a budget modified from the Cabin Creek FFIP budget.

Upon completion, the barrier will separate the native fishery in upper Mill Creek and its tributaries Anderson and Colley Creek from the non-native fisheries in lower Mill Creek and the Yellowstone River, thus preventing future genetic contamination and nonnative fish competition within the headwaters.

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

Credible angler reports with photos have documented an increased presence of large-Yellowstone River-sized rainbow trout in Mill Creek upstream from the non-functional fish barrier at the Forest Service boundary. These reports coincide with the FWP documented expansion of rainbow trout/YCT hybridization in the watershed downstream from Passage Creek. FWP sampling has also documented a large brook trout source population upstream from the Forest Boundary. This project proposes to construct a fish barrier upstream from existing hybridization and brook trout distribution to protect 10.3 miles of YCT habitat from nonnative fish threats before it is too late.

E. Length of stream or size of lake that will be treated (project extent): 0.15 acre
Length/size of impact, if larger than project extent (e.g., stream miles opened): 10.3 stream miles

F. Project Budget Summary: ***Please note the budget reflects increased costs from the 2021 application based on preliminary design and need for contracted design.***

Grant Request (Dollars):	**$**	**62,977** (12% of construction cost)
Matching Dollars:	**$**	**$463,176** not including $50k FFIP already granted.
Matching In-Kind Services:*	**$**	**24,000** contracted design

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

Other Contributions (not part of this app)	**$**	**$150,000** (project recommended for funding by WNTI Steering Committee)
Total Project Cost:	**$**	**576,153.46**

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

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

- [x] Extent of the project, including context (relation to major landmark or town) (**Figure 1 Page 8)**
- [x] Indication of public and private property (**Figure 2 Page 8)**
- [ ] Riparian buffer locations and widths (if applicable) and grazing locations **NA**

I. Attach project plans:

- [x] Detailed sketches or plan views with the location and proposed restoration (**Typcals-Cabin Creek-Page 12-14)**
- [x] Pre-project photographs (GPS location strongly recommended) **Page 10**
- [ ] If water leasing or water salvage is involved, attach a supplemental questionnaire *(https://myfwp.mt.gov/getRepositoryFile?objectID=36110)* **NA**

J. Attach letters or statements of support (e.g., landowner consent, community or public support, and fish biologist support). List any other project partners: **Pages 15-17**

See attachments pages 15-17

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 project will be maintained throughout its lifespan by the Forest Service. Routine maintenance will be conducted in conjunction with road maintenance in the vicinity. The CGNF will inspect the barrier annually before, during, and after spring runoff to ensure that it is structurally sound and functioning as designed. This will require removal of any large woody debris accumulation on and around the barrier. Any structural maintenance will be performed by the CGNF or by a contractor acting on its behalf.

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.*

No. There are no livestock grazing allotments in the upper Mill Creek watershed.

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?

Project success will be assessed by evaluating the effectiveness of the barrier in excluding all nonnative fish from the upper Mill Creek drainage. FWP and the CGNF will cooperatively monitor connected waters upstream from the barrier to facilitate early detection of nonnative fish species and initiation of rapid response removal measures.

eDNA:
For the first five years after barrier construction, environmental DNA (eDNA) samples will be collected and analyzed for the presence of brook, rainbow, and brown trout DNA. Samples will be collected at 250-meter intervals within one-kilometer-long reaches located: a) immediately upstream from the barrier; b) in Anderson Creek starting at the Mill Creek confluence; and b) in Colley Creek starting at the Mill Creek confluence. This will yield 12 samples per year and 60 samples over five years. Any positive eDNA hits will be followed up with intensive electrofishing to confirm nonnative species presence and inform targeted mechanical or chemical nonnative fish removal efforts.

Genetic testing:
Genetic testing of the YCT population(s) upstream from the barrier will be conducted annually for the first five years after construction then at a frequency of once every five years to monitor genetic purity and detect any rainbow trout hybridization. Fin clips will be collected from 20 fish in each of the three eDNA monitoring reaches for a total of 60 samples. The fin clips will be submitted to the Montana Conservation Genetics Lab for genetic testing. Detection of hybridized fish would trigger more extensive genetic testing and could result in targeted removal of hybridized fish with electrofishing.

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

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

Yellowstone cutthroat trout

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

By excluding hybridizing nonnative rainbow trout and competing nonnative brook trout, this project will secure over ten miles of high-quality stream habitat for wild, native Yellowstone cutthroat trout.

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

Because the project is located within a high gradient canyon with two natural, but temporary drops, it will not affect the existing fish population or the fishery. Instead, it will protect the existing native fish populations in the Mill Creek headwaters from nonnative fish competition and hybridization. This will ensure that angler success for native Yellowstone cutthroat trout is maintained for many years to come.

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.

The entire upper Mill Creek drainage is on National Forest and is readily accessible to the public via a Forest Road. The project will have no effect, positive or negative, on public fishing opportunity for wild fish. But, by excluding nonnative fish it would ensure the unique opportunity to catch wild, native YCT in the basin is maintained over the long-term, which provides among the best easily accessible small stream YCT fisheries in Montana.

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

This project proactively excludes nonnative fish from the upper basin as opposed to letting them invade which would require chemical removal with rotenone within the Absaroka Beartooth Wilderness. Chemical fish removal in wilderness is controversial with wilderness advocacy groups.

This project protects a key stone species within an intact aquatic ecosystem and helps contribute to the range-wide conservation of Yellowstone cutthroat trout. This helps ensure that the species is not listed under the Endangered Species Act.

Members of the public enjoy viewing spawning cutthroat trout. My own family enjoys snorkeling the crystal-clear pools of upper Mill Creek and its tributary Anderson Creek to view native Yellowstone cutthroat trout.

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

No, the nearest private in-holding is approximately three miles from the project site (Figure 2).

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

No. The entire project area is on National Forest System lands.

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: 5/11/2022

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

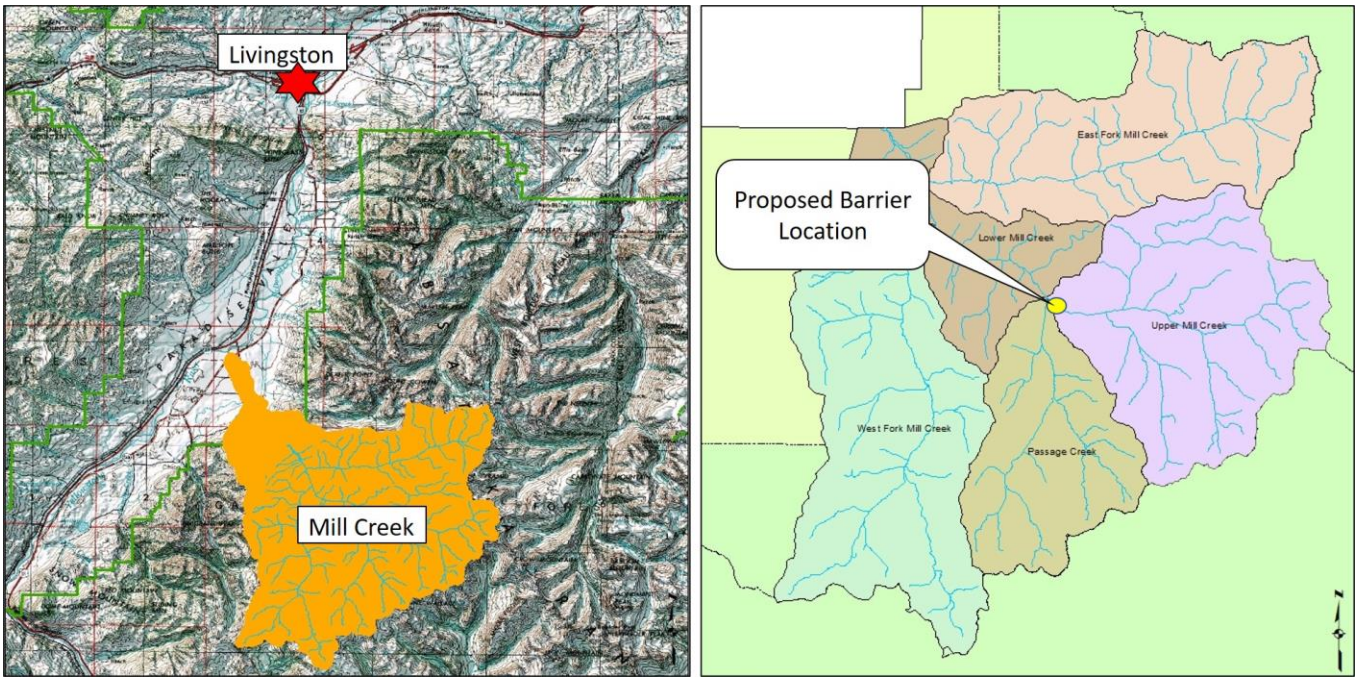


Figure 1. Left: Vicinity map showing the Mill Creek drainage relative to the community of Livingston, MT. Right: Map showing the location of the proposed fish barrier site within the Mill Creek drainage relative to the Upper Mill Creek Subwatershed.

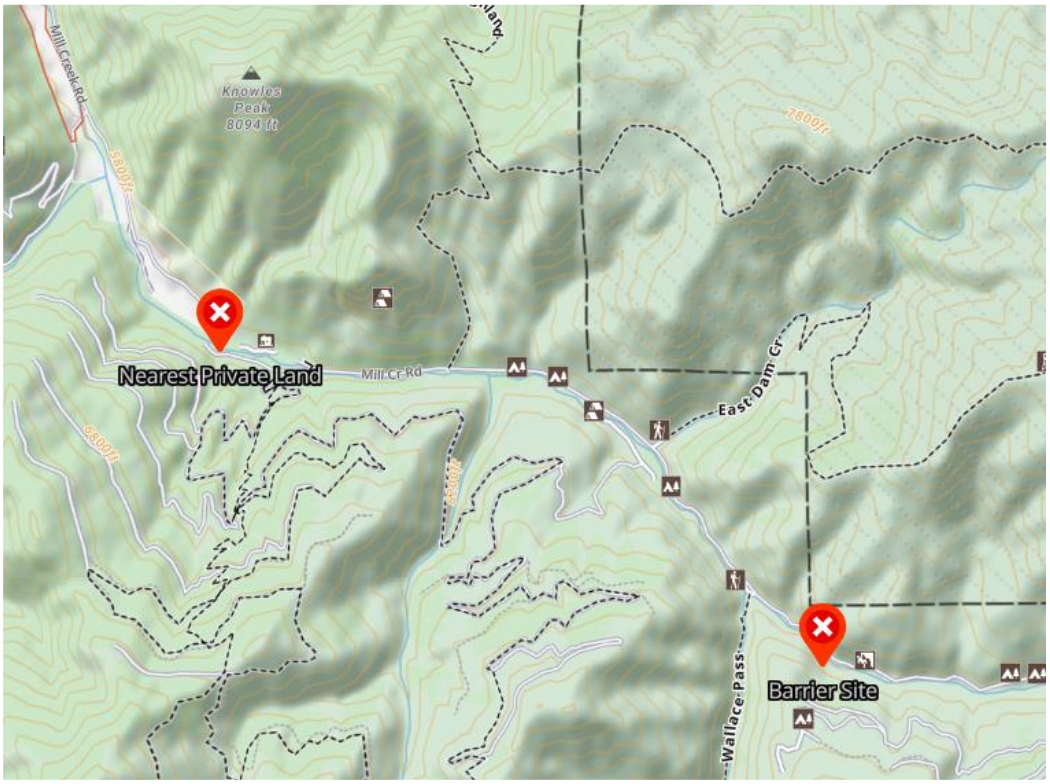


Figure 2. The closest private land parcel is approximately three miles downstream from the project site.

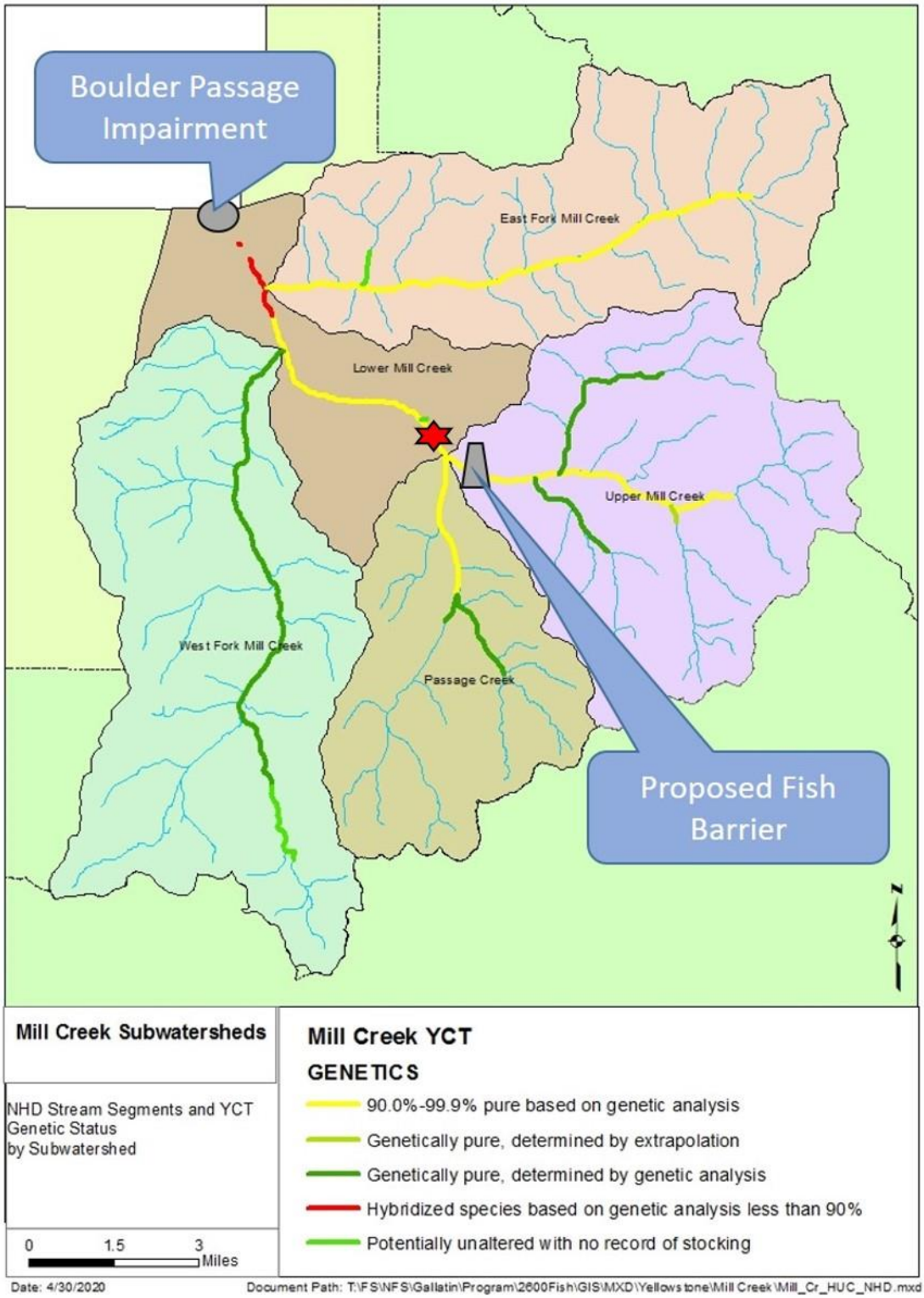
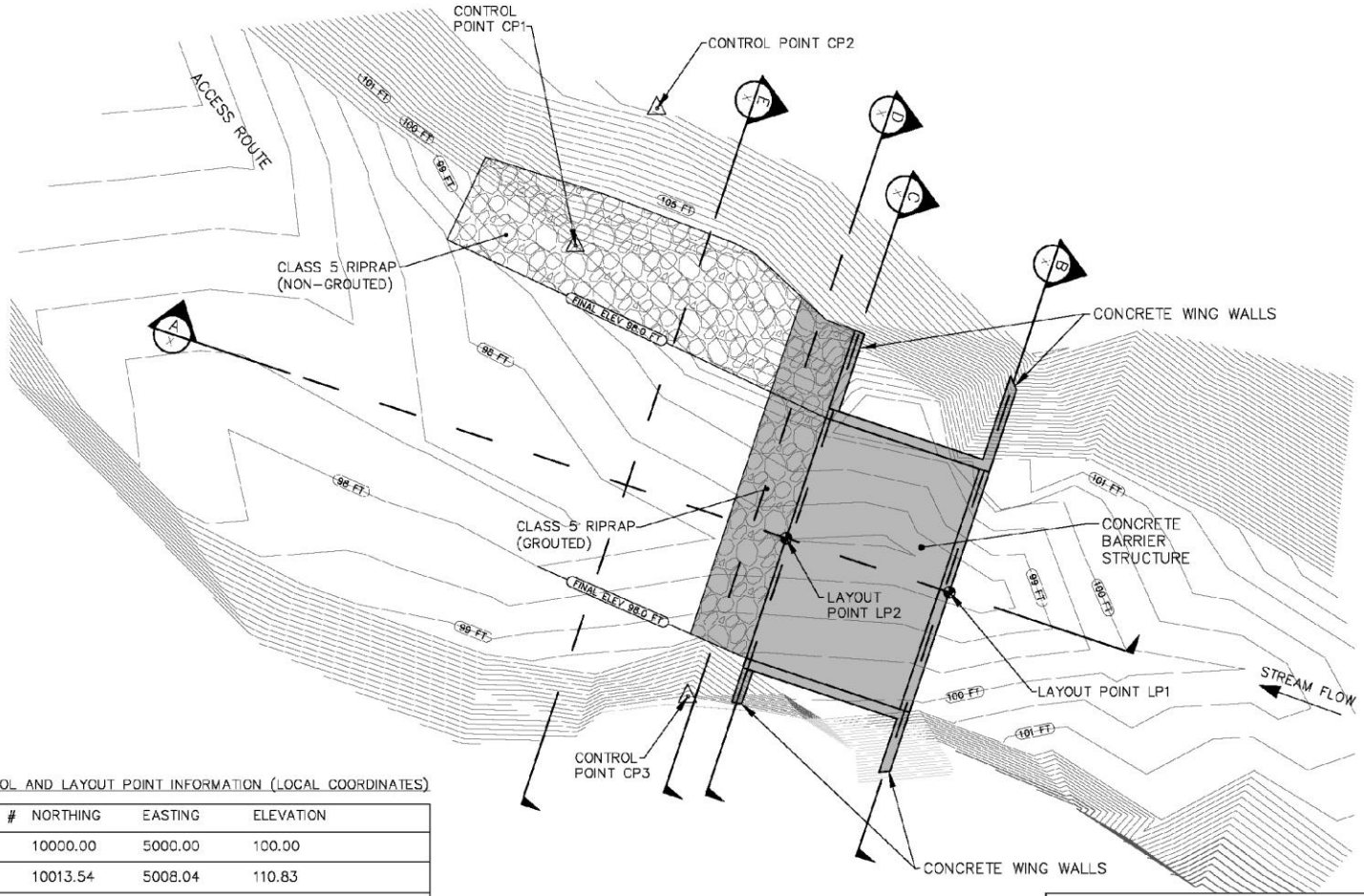


Figure 3. Yellowstone cutthroat trout distribution and genetic status relative to the proposed fish barrier location.

Photo 1. Cross section view of the proposed fish barrier site on upper Mill Creek (45.268556°, -110.48908°).

Photo 2. Upstream view of the proposed fish barrier site on upper Mill Creek (45.268556°, -110.48908°).

Photo 3. Upstream view of the Cabin Creek fish barrier. The cast-in-place structure utilizes a double drop design to prevent backwatering of the splashpad and wing walls to confine flood flows to the barrier. This ensures that the barrier prevents upstream fish passage during floods. Stream width and valley width and bedrock confinement are similar to the proposed Mill Creek fish barrier site.



CONTROL AND LAYOUT POINT INFORMATION (LOCAL COORDINATES)

POINT #	NORTHING	EASTING	ELEVATION
CP1	10000.00	5000.00	100.00
CP2	10013.54	5008.04	110.83
CP3	9955.46	5011.10	105.59
LP1	XXXXXX	XXXXXX	XXXX (TOP OF SLAB)
LP2	XXXXXX	XXXXXX	XXXX (TOP OF SLAB)

SCALE (FEET)
0 10 20
CONTOUR INTERVAL 0.5 FEET

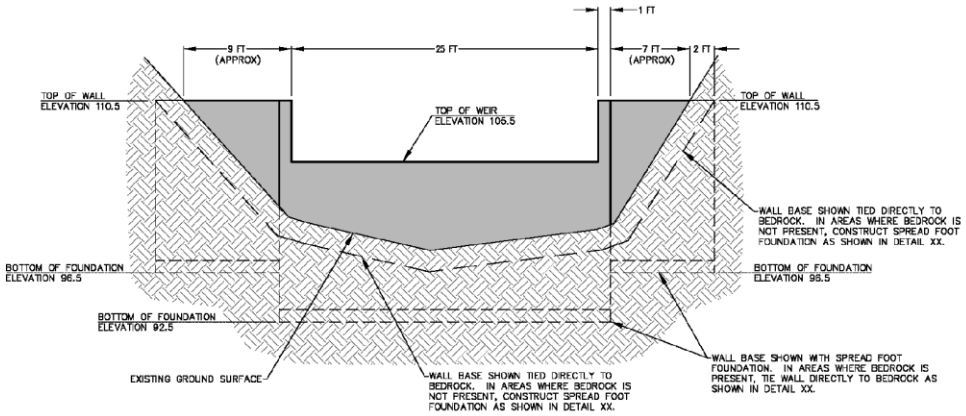
N

Cabin Creek Fish Barrier
(60%complete design)

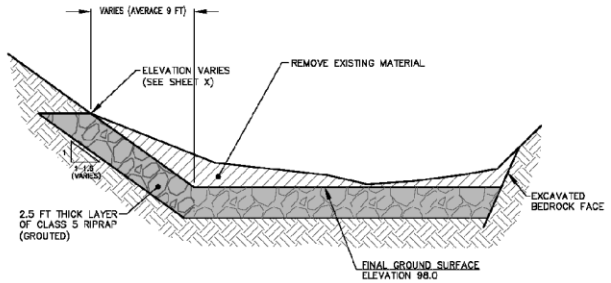
PLAN VIEW OF SITE

Drawn by: DW Date: 12/14/12
Revised: ____ Date: _____

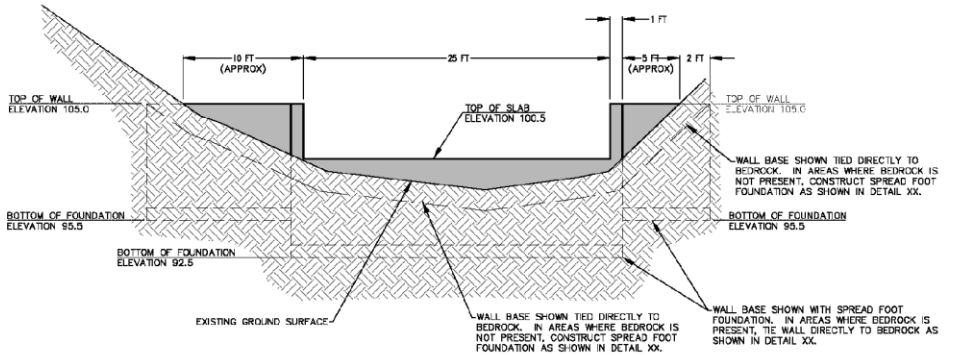
Sheet X of X



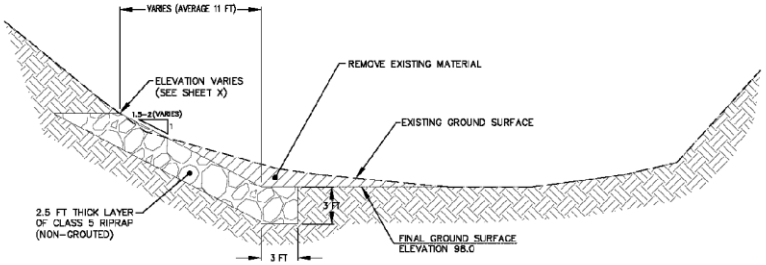
B/X SECTION
CROSS-SECTION THROUGH UPSTREAM WALL OF STRUCTURE
(NOT TO SCALE)



D/X SECTION
CROSS-SECTION THROUGH GROUTED RIPRAP APPROX 4 FT DOWNSTREAM FROM CONCRETE STRUCTURE
(NOT TO SCALE)



C/X SECTION
CROSS-SECTION THROUGH DOWNSTREAM WALL OF STRUCTURE
(NOT TO SCALE)



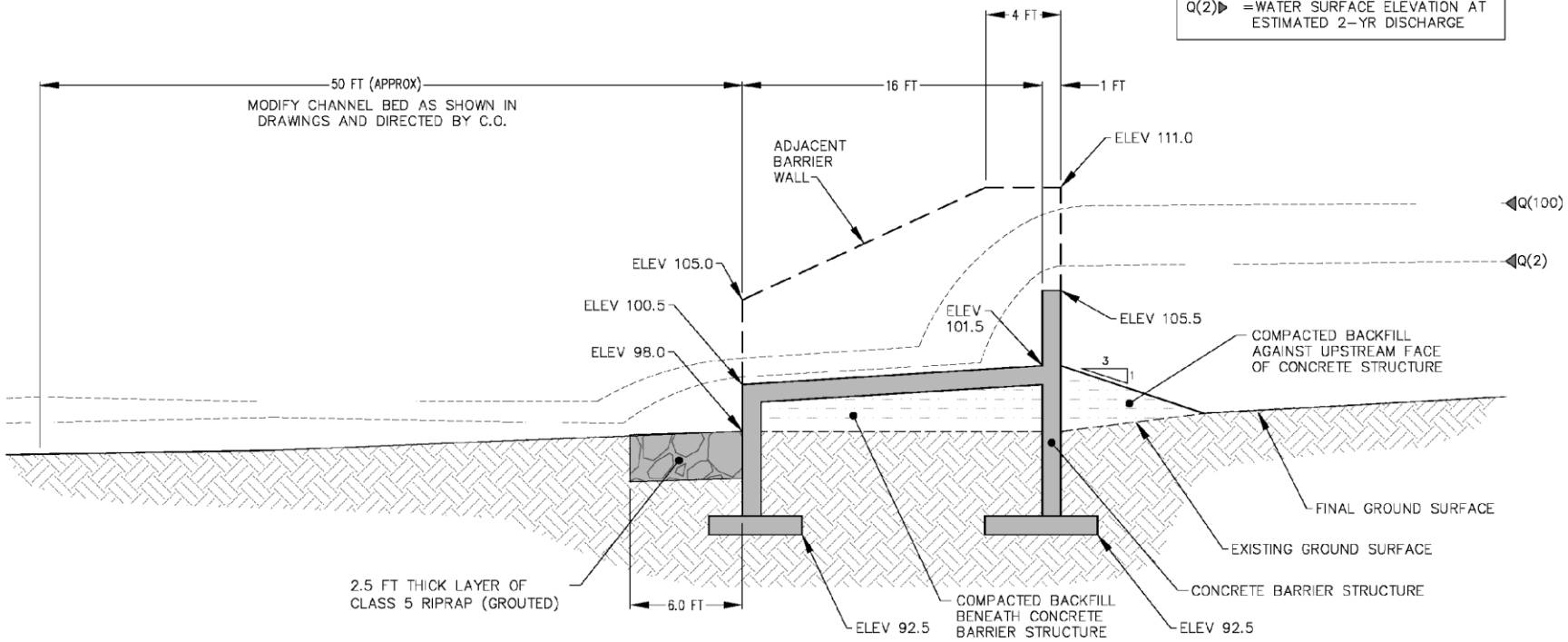
E/X SECTION
CROSS-SECTION THROUGH RIPRAP APPROX 10 FT DOWNSTREAM FROM CONCRETE STRUCTURE
(NOT TO SCALE)

Cabin Creek Fish Barrier
(60%complete design)

SECTIONS B, C, D, & E

Drawn by: DW Date: 12/14/12
Revised: ___ Date: _____

Sheet X of X



A/X SECTION
LONGITUDINAL SECTION THROUGH CENTERLINE OF STRUCTURE
(NOT TO SCALE)

Cabin Creek Fish Barrier
(60%complete design)

SECTION A - LONGITUDINAL PROFILE

Drawn by: DW Date: 12/14/12
Revised: ____ Date: _____

Sheet 3 of 4

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***								
Survey (FS)	2		$755.00	$ 1,510.00		1,510.00		$ 1,510.00
Design (FS)	1	Contractor	$24,000.00	$ 24,000.00		24,000.00		$ 24,000.00
Engineering (FS)	3	Review	$450.00	$ 1,350.00		1,350.00		$ 1,350.00
Permitting (FS)	3		$435.00	$ 1,305.00		1,305.00		$ 1,305.00
Oversight (FS)	30	Contracting	$490.00	$ 14,700.00		14,700.00		$ 14,700.00
Labor (FS)	15	NEPA, Including Specialists	$435.00	$ 6,525.00		6,525.00		$ 6,525.00
Labor (FS)	2	Arch review	$235.00	$ 470.00		470.00		$ 470.00
Labor (FS)	2	Sensitive Plant	$435.00	$ 870.00		870.00		$ 870.00
			Sub-Total	$ 50,730.00	$ -	$ 50,730.00	$ -	$ 50,730.00
Travel								
Mileage	1200		$0.51	$ 612.00		612.00		$ 612.00
Per diem				$ -				$ -
			Sub-Total	$ 612.00	$ -	$ 612.00	$ -	$ 612.00
Construction Materials****								
Construction Survey/Staking	1	Lump Sum	$3,250.00	$ 3,250.00	390.00		1,088.00	$ 1,478.00
Soil Erosion Control, Dewatering	1	Lump Sum	$58,500.00	$ 58,500.00	7,020.00		19,585.74	$ 26,605.74
Clearing & Grubbing	1	Lump Sum	$5,200.00	$ 5,200.00	624.00		1,740.95	$ 2,364.95
Temporary Road Constr. & Rehab	1	Lump Sum	$5,200.00	$ 5,200.00	624.00		1,740.95	$ 2,364.95
Structure Excavation	300	Cubic Yard	$52.00	$ 15,600.00	1,872.00		5,222.86	$ 7,094.86
Structural Backfill	300	Cubic Yard	$104.00	$ 31,200.00	3,744.00		10,445.73	$ 14,189.73
Bedding	35	Cubic Yard	$195.00	$ 6,825.00	819.00		2,285.00	$ 3,104.00
Riprap, Class 5	45	Cubic Yard	$325.00	$ 14,625.00	1,755.00		4,896.44	$ 6,651.44
Grouted Riprap, Class G	30	Cubic Yard	$520.00	$ 15,600.00	1,872.00		5,222.85	$ 7,094.85

BUDGET TEMPLATE SHEET FOR FUTURE FISHERIES PROGRAM APPLICATIONS

Steel Reinforced Concrete	70	Cubic Yard	$4,160.00	$ 291,200.00	34,944.00		97,493.47	$ 132,437.47
General Labor	8	Hour	$104.00	$ 832.00	99.84		278.00	$ 377.84
Indirect Overhead (2.0%)	1	Lump Sum	$8,378.66	$ 8,378.66	1,005.44			$ 1,005.44
				$ 456,410.66	$ 54,769.28	$ -	$ 150,000.00	$ 204,769.28
Equipment, Labor, and Mobilization								
Rental Equipment	4	Hour	$260.00	$ 1,040.00	124.80			$ 124.80
Mobilization, Overhead, & Bonding Costs (15%)	1	Lump Sum	$67,360.80	$ 67,360.80	8,083.30			$ 8,083.30
				$ -				$ -
				$ -				$ -
				$ -				$ -
				$ -				$ -
				$ -				$ -
				$ -				$ -
				$ -				$ -
				$ -				$ -
				$ -				$ -
				$ -				$ -
			Sub-Total	$ 68,400.80	$ 8,208.10	$ -	$ -	$ 8,208.10
			TOTALS	$ 576,153.46	$ 62,977.38	$ 51,342.00	$ 150,000.00	$ 264,319.38

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

BUDGET TEMPLATE SHEET FOR FUTURE FISHERIES PROGRAM APPLICATIONS

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

CONTRIBUTOR	IN-KIND	CASH	TOTAL	Secured? (Y/N)
Western Native Trout Iniative	$ -	$ 100,000.00	$ 100,000.00	Y-Recommended by WNTI Steering Committee
USDA Forest Service	$ 26,730.00	$ 24,000.00	$ 50,730.00	N
National Fish and Wildlife Foundation (Bring Back the	$ -	$ 75,000.00	$ 75,000.00	N
Jackson Hole One Fly	$ -	$ 30,000.00	$ 30,000.00	N
Montana Trout Unlimited	$ -	$ 50,000.00	$ 50,000.00	N
Future Fisheries Improvement Program 2021	$ -	$ 50,000.00	$ 50,000.00	Y
Future Fisheries Improvement Program 2022	$ -	$ 62,977.38	$ 62,977.38	N
Arthur M. Blank Family Foundation	$ -	$ 156,834.08	$ 156,834.08	N
TOTALS	$ 26,730.00	$ 548,811.46	$ 575,541.46	

OTHER CONTRIBUTIONS

(contributions not associated with the application)

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

Joe Brooks Chapter #25
P.O. Box 1378
Livingston, MT 59047
(406) 579-7734
www.joebrookstu.org

May 27, 2021

Michelle McGree
1620 East Sixth Avenue
Helena, MT 59620

RE: Letter of Support for the proposed USFS Fish Barrier Project on Mill Creek

Dear Ms. McGree,

The Joe Brooks Chapter of Trout Unlimited (JBTU) is one of the oldest continuously active chapters of Trout Unlimited in the United States and the oldest in Montana. Our mission is to Conserve, Protect, and Restore Park and Sweet Grass County's world-class cold-water fisheries and their watersheds. Within this mission, conservation of native fish is paramount. Clint Sestrich with the Custer Gallatin National Forest has submitted a proposal to the Future Fisheries Improvement Program requesting funds for the construction of a fish passage barrier on Mill Creek. This project is perfectly aligned with our mission.

The Mill Creek fish barrier project is to "…secure aboriginal (naturally occurring) Yellowstone cutthroat trout conservation populations in the Mill Creek headwaters from eminent hybridization with nonnative rainbow trout and competition with nonnative brook trout". Mr. Sestrich has provided our chapter with compelling documentation of a steady expansion of rainbow trout hybridization in the watershed and the presence of brook trout in a spring creek tributary of Mill Creek.

Given the documented expansion of non-natives and uncertain consequences of climate change, JBTU is writing this letter to enthusiastically support the USFS Mill Creek fish barrier project.

Thank You,

Tom Coleman
Joe Brooks Chapter Vice President

And

The JBTU Board of Directors

FWP.MT.GOV

THE **OUTSIDE** IS IN US ALL.

May 26, 2021

Michelle McGree
1620 East Sixth Avenue
Helena, Montana 59620

Dear Ms. McGree,

As a Yellowstone cutthroat trout conservation biologist for Montana Fish, Wildlife & Parks, and leader of the Yellowstone geographical management unit (GMU), I would like to express my enthusiastic support for the upper Mill Creek barrier project. Clint Sestrich with the Custer Gallatin National Forest submitted a proposal to the Future Fisheries Improvement Program requesting funds for this crucial component of Yellowstone cutthroat trout conservation in Mill Creek. This high priority project is aligned with priorities and conservation priorities established for conservation of Yellowstone cutthroat trout in this key watershed.

The upper Mill Creek watershed supports nonhybridized Yellowstone cutthroat trout and is within a climate shield designation, an area projected to remain cold enough to support Yellowstone cutthroat trout for the foreseeable future. Protecting core conservation populations, especially the genetically unaltered populations, is the highest priority for cutthroat trout conservation in Montana and throughout its native range (MCTSC 2007). Montana's plan for Yellowstone cutthroat trout conservation specifically identifies this population for protection (Endicott et al. 2013). Spread of rainbow trout genes, continued invasion of fluvial rainbow trout from the Yellowstone River, and presence of brook trout present dire threats to the persistence of the nonhybridized Yellowstone cutthroat trout that occupy most of the watershed.

This project is an essential component of the long-term approach to secure upper Mill Creek's Yellowstone cutthroat trout. The barrier will protect nonhybridized Yellowstone cutthroat trout, and the progeny of these fish will provide a source of locally adapted fish to repopulate other portions of the watershed after we remove the other threats to Yellowstone cutthroat trout. The long-term goal is 45 miles of protected habitat for Yellowstone cutthroat trout within a climate shield. The conservation benefit from protecting the nonhybridized Yellowstone cutthroat trout in Mill Creek is immeasurable.

I appreciate the FFIP panel considering this project for funding.

Best regards,

Carol Endicott
Yellowstone Cutthroat Trout Conservation Biologist
Fisheries Division
Montana Fish, Wildlife & Parks

1354 Highway 10 West
Livingston, MT 59047
Ph: (406) 222-3710
fwp.mt.gov

Citations

Endicott, C., S. Opitz, K. Frazer, M. Ruggles, J. Wood, B. Shepard, S. Shuler, S. Barndt, C. Sestrich, M. Ruhl, T. Koel, R. Wagner, and J. Mogen 2013. Yellowstone Cutthroat Trout Conservation Strategy for Montana. Montana Fish, Wildlife & Parks. Helena, Montana.

MCTSC 2007. Memorandum of understanding and conservation agreement for westslope cutthroat trout and Yellowstone cutthroat trout in Montana.