2019 Cost-Share Proposal Form for NorthWestern Energy (NWE) Project 2188 TAC Funds

Project 2188 (Madison-Missouri River) License Protection, Mitigation and Enhancement (PM&E) projects are required to offset impacts to river resources from the continued operation of one or more of NWE's nine hydro developments (Hebgen, Madison, Hauser, Holter, Black Eagle, Rainbow, Cochrane, Ryan and Morony Dams). PM&E projects need to be prioritized toward in-river or on-the-ground measures that directly benefit fisheries and/or wildlife populations and their habitats:

Priority 1: 2188 License projects which meet License Article requirements and PM&E for fisheries or wildlife populations or their habitats within the main stem Madison River (Hebgen Reservoir to Three Forks) or Missouri River (Hauser Reservoir to Fort Peck Reservoir)

Priority 2: 2188 License projects which meet License Article requirements and PM&E for fisheries or wildlife populations or their habitats in primary tributaries or on adjacent lands and, in doing so, provide PM&E for Madison River (Hebgen Reservoir to Three Forks) or Missouri River (Hauser Reservoir to Fort Peck Reservoir) resources.

Priority 3: 2188 License PM&E projects which meet License Article requirements by providing scientific or other tangible PM&E benefits to Madison-Missouri River fisheries or wildlife populations or their habitats. These projects must be located in the greater Missouri River drainage upstream from Fort Peck Reservoir, but not necessarily located on the main stem Madison River or Missouri River or their adjacent lands or primary tributaries.

All TAC project proposals must include the following information:

Project Title: Carpenter Creek Fish Barrier Construction

Date: October 14, 2021

Explain how this Project addresses a specific Project 2188 License Article(s):

Project addresses Article 417, #4. Protect and provide for the recovery of threatened and endangered fish species and other aquatic species of special concern in the Great Falls reservoirs and below Morony Dam.

Provide justification for Priority 1, 2 or 3 (above) that you selected:

Priority 3 - This project aims to protect native westslope cutthroat trout (WCT) located in Carpenter Creek, which is part of the Belt Creek drainage. Belt Creek enters the Missouri River downstream of Moroney Dam. Belt Creek and its tributaries were historically connected to the Missouri River. This project would mitigate for the loss of WCT across their range, which were historically present in the Missouri River. The project to build a barrier to isolate the WCT would prevent competition and hybridization from nonnative species.

Project Sponsor (submitted by): Alex Poole – Montana Fish, Wildlife and Parks (FWP)

Location of Proposed Project:

Carpenter Creek is a small 2nd order stream that enters Belt Creek just downstream of Neihart, MT. The proposed barrier site would be located on Lewis and Clark National Forest land approximately 1.5 miles upstream of the Belt Creek confluence (46.96065, -110.72753).

Geocode (in decimal degrees ex 46.89743) **Lat:** 46.96065 **Lon:** -110.72753

Total Project Cost: $430,800*

*Preliminary cost estimate with 10% construction cost contingency provided by design consultant

Other secured funding: Future Fisheries……. $75,000
USDA Forest Service…… $50,000

TAC Funds (Cost-Share) Requested for Project:

Request for $75,000

I. Introduction; brief statement of project to be completed with pertinent background information.

Carpenter Creek is a 2nd order stream that enters Belt Creek just downstream of Neihart, MT. The Carpenter Creek drainage currently supports two non-hybridized populations of WCT. Carpenter Creek contains a nonhybridized WCT population that occupies 1.5 miles of stream upstream of Sih-mem Creek. Haystack Creek is a small tributary to Carpenter Creek and supports a small (less than 20 spawning pairs) nonhybridized population of WCT. Both of these populations became isolated from Belt Creek over 60 years ago when mining resulted in a stream reach incapable of supporting fish because of poor water quality, extending from Sih-mem Creek down to the confluence of Carpenter Creek and Belt Creek. These two populations are genetically distinct and important in terms of genetic conservation. Current and future efforts to clean up the mine will improve water quality, thereby removing the current chemical barrier that protects the native WCT from nonnative species in Belt Creek. Removal of this chemical barrier will ultimately result in increased competition and hybridization with invading nonnative trout. Monitoring efforts from 2014-2021 in Carpenter Creek have found several rainbow trout and brook trout in lower Carpenter Creek near the confluence with Belt Creek, where no fish had been observed from 2011 through 2013.

Given the future loss of the chemical barrier, a plan was developed to construct a fish barrier on Carpenter Creek. The barrier was designed in 2015 at a location 1.6 river miles upstream from the confluence with Belt Creek, which was determined to be the best location for a barrier. However, the site selected was located half on Amax Exploration, Inc. property and half on Forest Service property. After substantial discussion with Amax Exploration, Inc. to develop an agreement to construct the barrier, FWP has decided to pursue other barrier options due to the inability to develop an acceptable agreement.

MoTAC initially approved $80,000 for fish barrier construction on Carpenter Creek in 2016 (Project # 2016-11). However, the original project for $80,000 was cancelled in 2017 and the TAC approved $25,200 for a new barrier design following the inability to reach an agreement with Amax Exploration in the construction of the original barrier design. In May of 2021, MoTAC approved an additional $3,000 for the survey and design of a fish barrier at a new location entirely on Forest Service land.

FWP is requesting MoTAC approve $75,000 for the construction of a fish barrier on Carpenter Creek.

II. Objectives; explicit statement(s) of what is intended to be accomplished.

Hire a contractor to construct a fish barrier thereby protecting the native westslope cutthroat trout from invasion of nonnative species.

III. Methods; description of how Project objectives will be accomplished.

A contractor will construct a fish barrier following the design provided by Pioneer Technical Services, Inc.

IV. Schedule; when the Project work will begin and end.

The goal is to construct the fish barrier in 2022. A request for bids and the hiring of a contractor for construction would be conducted by May 2022 and the project would be completed by December 2022. Some funding has already been secured. FWP will work to secure additional funds.

V. Personnel; who will do the work ? Identify Project leader or principal investigator.

FWP (Alex Poole – Project Lead) will coordinate with the design/construction oversight engineer, contractor, and US Forest Service
FWP will acquire funding for construction, and FWP Design & Construction Bureau would be responsible for construction bid packages and contracting.
FWP (Alex Poole) will coordinate with Ranger District personnel on NEPA compliance and other USFS requirements (if needed) related to construction of a fish barrier.

VI. Project budget must include amounts for the following:

Project: Carpenter Creek Fish Barrier
Date: 10/13/2021
Subject: Detailed Design Measurement and Pay Items - Engineers Cost Opinion

	Construction Costs					
Work Item	Desc.	Unit	Quantity	Unit Cost	Total Cost	Notes
1	Mobilization/Demobilization	LS	1	$ 28,960	$ 28,960	Includes bonding and all prep work for transport and movement of personal, equipment, supplies and incidentals to/from the project site.
2	Clearing and Grubbing	LS	1	$ 9,166	$ 9,166	Includes clearing and grubbing work areas and removal of existing woody debris, stripping and stockpiling of top soil
3	Water Management	LS	1	$ 49,696	$ 49,696	Includes stream flow diversion, work area dewatering, stormwater management and sediment control
4	Structure Construction[1]	LS	1	$ 151,971	$ 257,925	Includes general excavation, backfill, structural fill placement, all materials, placing any special subgrade materials, formwork, rebar, placing concrete, stripping forms and finishing concrete surfaces .
5	Final Grading and Site Revegetation	LS	1	$ 7,246	$ 7,246	Includes final grading, placing topsoil, seeding and mulching.
	Construction Subtotal				**$ 352,994**	
	Construction Contingency				**$ 70,599**	20% construction cost contingency
	Construction Total				**$ 423,593**	Total construction cost estimate with 20% contingency.

	Engineering Costs					
6	Contractor Procurement Support	T&M			$ 7,500	Includes finalizing (100%) construction drawings and specifcations, Bid package support, attendance at Pre-bid Meeting and issue clarifications\addenda to the bid documents as needed.
7	Construction Oversight	T&M			$ 35,000	Includes Design Engineer or Engineer Representative on-site inspections during river diversion, site dewatering, barrier site excavation, concrete structure and barrier backfill,(10 days total) substantial completion, submittal reviews, design clarifications\adjustments and pay request reviews.

1 Estimate assumes competent bedrock at proposed barrier structure boundaries
2 Rounded up to the nearest $100

Project Total[2] **$ 466,100**

VII. Deliverables; describe work product (reports, habitat restoration, etc.) which will result from this project. How will "success" for this project be monitored or demonstrated?

Work product will be summarized in an annual report. Construction of the fish barrier, before the chemical barrier has been removed, is the ultimate goal of this project. Additional monitoring of the aquatic resources in Carpenter Creek will continue periodically during and after mine cleanup activities.

VIII. Cultural Resources. Cultural Resource Management (CRM) requirements for any activity related to this Project must be completed and documented to NWE as a condition of any TAC grant. TAC funds may not be used for any land-disturbing activity, or the modification, renovation, or removal of any buildings or structures until the CRM consultation process has been completed. Agency applicants must submit a copy of the proposed project to a designated Cultural Resource Specialist for their agency. Private parties or non-governmental organizations are encouraged to submit a copy of their proposed project to a CRM consultant they may have employed. Private parties and non-governmental organizations may also contact the NWE representative for further information or assistance. Applications submitted without this section completed, will be held by the TAC, without any action, until the information has been submitted.

Summarize here how you will complete requirements for Cultural Resource Management:

A cultural survey of the site selected for barrier construction will be completed by an independent contractor prior to any construction activities.

IX. Water Rights. For projects that involve development, restoration or enhancement of wetlands, please describe how the project will comply with the Montana DNRC's "Guidance for Landowners and Practitioners Engaged in Stream and Wetland Restoration Activities", issued by the Water Resources Division on 9March2016.

Summarize here how you will comply with Montana water rights laws, policies and guidelines:

No Montana or Northwestern Energy water rights laws, policies, or guidelines apply for this project.

All TAC Project proposals should be 7 pages or less and emailed (as a WORD file) to each of:

- Andrew.Welch@Northwestern.com
- Jon.Hanson@Northwestern.com
- Grant.Grisak@Northwestern.com

Further questions about TAC proposals or Project 2188 license requirements or related issues may be addressed to: Andy Welch, Leader Hydro License Compliance, NorthWestern Energy, 208 N Montana Ave., Suite 205, MT 59601; 406-444-8115 (office); 406-565-7549 (cell); Andrew.Welch@northwestern.com.