Cost-Share Proposal Form for NorthWestern Energy Project 2188 TAC Funds

Project 2188 (Madison-Missouri River) License proposed Protection, Mitigation and Enhancement (PM&E) projects should relate to an effect from the continued operation of one or more of NorthWestern Energy's (NorthWestern) nine hydro developments (Hebgen, Madison, Hauser, Holter, Black Eagle, Rainbow, Cochrane, Ryan and Morony Dams). PM&E projects are required to reduce or offset impacts to river resources from the continued operation of the hydro developments. 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: Middle Missouri River Radio Telemetry Study

Date: 9/3/2026

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

Article 417: 1) Protect and provide for the recovery of Threatened and Endangered species and other species of special concern in the Missouri River downstream of Morony Dam. 2) Monitor the relative abundance of the most common fish species in the Missouri River downstream of Morony Dam. 3) Provide assistance to FWP for ongoing evaluation of pallid sturgeon recovery in the Missouri River downstream of Morony Dam.

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

This radio telemetry project monitors fish movements in the Missouri River (Priority 1) and tributaries such as the Marias River, Teton River, and Judith River (Priority 2).

Project Sponsor (submitted by): Luke Holmquist, Biologist, MTFWP

Location of Proposed Project:
Narrative; Missouri River from Morony Dam to Fort Peck Reservoir; Lower Marias River (Below Tiber Dam); Lower Teton River

Geocode (in decimal degrees ex 46.89743)

Site: Morony Dam	Lat: 47.58159	Lon: -111.05972
Site: Tiber Dam	Lat: 47.58159	Lon: -111.09705
Site: Fort Peck Headwaters	Lat: 47.55384	Lon: -107.92449

Total Project Cost: $187,972

Other associated funding: $121,621 for 2027

- Breakdown of contribution sources shown below in Section VI.

TAC Funds (Cost-Share) Requested for Project: $66,351

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

Radio telemetry has been an invaluable tool for advancing our understanding of fish movements in the Missouri River above Fort Peck Reservoir. The Missouri River between Morony Dam and Fort Peck Reservoir is a semi-regulated system, and movements of several fish species in relation to environmental conditions are of particular interest. This includes the impacts of anthropogenically altered discharge, temperature, and sediment regimes, on federally endangered species and species of concern. An ongoing radio telemetry program has been ongoing since 2006 with significant funding commitments from MTFWP, USBoR, USFWS, and NorthWestern Energy during the program history.

In 2027, efforts will focus on relocating fish that are currently tagged throughout the year and also implanting additional radio tags into wild and older year-class hatchery-origin pallid sturgeon (HOPS). Currently the radio-tagged population includes 5 wild pallid sturgeon, 112 HOPS (83 1997 year-class, 12 2005 year-class, 13 2006 year-class, 1 2008 year-class, and 3 individuals awaiting genetic results to assign origin and year class), 1 bigmouth buffalo, 9 shorthead redhorse, 5 goldeye, and 5 river carpsucker. Pilot tagging and tracking efforts of shorthead redhorse, river carpsucker, and/or goldeye (10 of each species) was funded in 2024 and the work was initiated in 2025. Monitoring movements of those species occurred in 2026 and will continue into 2027 (excluding goldeye). Some mortality/emigration has occurred for these species. One shorthead redhorse transmitter was reimplanted after the initially tagged individual became deceased, possibly from avian predation.

In addition to tracking and tagging new fish, we also emphasized replacing pallid sturgeon radio tags that were expected to expire soon. Tags are advertised to have an 8-year battery life, however are only guaranteed to last ~6.5 years. During the 2026 field season twelve 1997 year-class pallid sturgeon were reimplanted. Many of the pallid sturgeon containing expiring tags have been serially sampled in successive years for over a decade. Serially sampling the same individuals generates important information about spawning periodicity and age/size at first maturity, metrics that have importance to recovery objectives. Keeping active transmitters in fish is vital to improving and increasing knowledge regarding fish sexual maturity and spawning ecology for this endangered species. In 2026, new transmitters were also implanted in eleven previously untagged HOPS including four 2006 year-class, four 1997 year-class, and three unknown year-class individuals. In recent years, these younger year classes of HOPS have started to reach sexual maturity and are important for the future of this research effort.

The number of non-pallid sturgeon individuals in the active tag portfolio has dwindled in recent years as the batteries have expired in transmitters implanted into bigmouth buffalo, smallmouth buffalo, freshwater drum, and shovelnose sturgeon the past 8 years. Much has been learned regarding movements of these species that was unknown prior to inclusion in the radio telemetry program, including extensive annual migrations back and forth from Fort Peck Reservoir for some bigmouth buffalo, smallmouth buffalo, and freshwater drum.

A combination of boat and stationary telemetry receivers have been utilized in recent years. The land-based stationary receivers provide important spatial and temporal data regarding course movements and habitat used by tagged fish in this stretch of river. In 2026, we maintained and downloaded fifteen land-based stations between Carter Ferry and Fort Peck Reservoir, including four stations on the Marias River and one on the Teton River. The ten land-based stations on the Missouri River include: Carter Ferry, Fort Benton, Loma area, Coal Banks, Judith Landing, Stafford Ferry, Bird Rapids, Power Plant Ferry, King Island, and Roads End. Four additional stations were maintained as part of a Paddlefish research project, also funded by NWE under a different project. Many of the stations have been maintained for over a decade. Keeping this array functioning allows for many more telemetry contacts at a much lower cost than if we relied on boat relocations alone. In 2022 we secured State Wildlife Grant funds ($47,000) to completely upgrade our aging network by phasing out the SRX400 receivers in favor of the more feature rich SRX1200 units. The SRX1200 units were necessary to maintain continuous operation of the network while facilitating a transition between an older codeset (Lotek3) that is going to be phased out in the near future, and a new codeset (Lotek5) of transmitter. In most years, we estimate that roughly 40% of the fish relocations have been by boat; thus, the ground stations effectively more

than double our telemetry contacts. Furthermore, the array of land-based stations generates a continuous monitoring effort at multiple locations, which is not possible with boat-based tracking efforts. Additionally, in recent years NWE has funded the purchase and development of several Ritter Designs RockFish satellite modems that allow for remotely delivered data streams during important times of year. Those automated downloads have proven invaluable for deploying tracking, netting, and larval sampling crews more effectively.

NOTE—An additional telemetry related research project is planned to be initiated in 2027, where diet and movement data is collected for sauger and smallmouth bass simultaneously to better understand niche overlap. Smallmouth bass movements have never been monitored with radio telemetry in this reach and sauger telemetry was conducted for a brief period during 2007 and 2008. Since that time monitoring efforts have shown increasing relative abundance of smallmouth bass and declines in sauger over the past decade, particularly in the upper reaches. Managers have an interest in understanding habitat and diet utilization as it relates to sympatric native sauger. This project will take advantage of the existing radio telemetry station network that is maintained via this project and shared funding from the USBoR and SWG. Diet analysis funding will be provided elsewhere and a request for 60 transmitters has been submitted as an additional MoTAC Proposal this cycle.

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

1. Manually track from Fort Benton to Fort Peck Reservoir at least once per month from April through October.
    a. Enter data and combine with land-based telemetry network data in existing data file.
2. Increase telemetry effort to monitor spawning related movement and habitat use of reproductively-active pallid sturgeon in May and June.
    a. Identify pallid sturgeon spawning and aggregation sites.
    b. Use information collected to inform the timing and location of larval sampling efforts.
3. Continue to implant radio tags into HOPS and wild pallid sturgeon that exceed 3000 g.
    a. Replace any expiring radio tags in HOPS and wild pallid sturgeon.
4. Continue to conduct reproductive assessments, including gonadal biopsies and blood samples, in all wild, 1997 year-class, and other older age classes of HOPS.
    a. Assess known reproductively active female pallid sturgeon pre- and post- spawn
    b. Transfer samples to Bozeman Fish Technology Center in a timely manner so that maturity and sex will be known and can inform tracking efforts.
5. Maintain and improve the existing land-based telemetry station array and download stations at least once every 6 weeks.
    a. Enter and proof downloaded data using manual tracking and tagging data.

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

-See schedule below.

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

January……. Download stations every 5-6 weeks and summarize data and prepare report.
February …….. Download stations every 5-6 weeks and summarize data and prepare report.
March ……..…. Download stations every 5-6 weeks and summarize data and prepare report.
April ……...… Prep gear, reinstall stations, manually track, reproductive assessments, download and maintain stations.
May ……. Manually track, reproductive assessments, download stations, install new radios, and maintain stations.
June ……. Manually track, reproductive assessments, download stations, install new radios, and maintain stations.
July…..……. Manually track, reproductive assessments, download stations, install new radios, and maintain stations.
August ……. Manually track, reproductive assessments, download stations, install new radios, and maintain stations.
September……...… Manually track, reproductive assessments, download stations, install new radios, and maintain stations.
October……. Manually track, reproductive assessments, download stations, install new radios, and maintain stations.
November……. Download stations every 5-6 weeks and summarize data and prepare report.
December…….. Download data from stations every 5-6 weeks and summarize data and prepare report.

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

Fish Tech IV; 0.45 FTE filled by incumbent Maggie Wallace ($36.51/hr loaded labor cost)

-Additional Staff;

Luke Holmquist – Project Lead; Biologist funded by FWP and NWE
Mike Schilz- Conservation Technician funded by FWP and NWE
Eli Vradenburg – Science Technician funded by NWE and USBoR

VI. Project budget with line items including amounts for the following:

Materials

-Supplies & Materials ……..…… $4,000
-Boat Gas (400 miles/trip; 4 mpg; $4.75/gallon, 8 months)..……..... $3,800
-Iridium Satellite network data fees (20,000 credits)…..……..……..……$ 3,000
-Iridium Satellite Line Rentals……$ 1,020
-MATERIALS TOTAL……...… **$11,820**

Direct Labor

-NWE funded Wages/Benefits for Tech II (0.45 FTE) ……..……. $34,320
-Science Technician (Band 4) $36.51/hr loaded labor cost
-Position Currently held by Maggie Wallace
-DIRECT LABOR TOTAL…… **$34,320**

Travel and Living

-Trailer Pad(s) at Loma (8 months at $250/month)……..…… $2,000
-Kipp Electric Bill (6 month and $75 per month) ……..…… $ 450
-Entire Day Per Diem ($44.10/day; 10 days/month; 8 months)..……..…..... $3,528
-Partial Day Per Diem ($32.90/day; 6 days/month; 8 months)..……..... $1,579
- Vehicle Mileage
-Single Tracking Run Month (900 mi; $0.48/mile; $399.00 fee; 5 months…...$5,295
-Double Tracking Run Months (1800 mi; $0.48/mile; $399.00 fee; 2 months...$3,162
-TRAVEL AND LIVING TOTAL…….. **$ 16,014**

Project funds to FWP……..…….. **$62,154**
Direct Overhead on Labor Only (12.23%):…….……**$ 4,197**
TOTAL NWE FUNDING REQUESTED…….……..... $66,351

All contribution sources–

Materials

-USBOR funded Boat Gas …… ……..... $ 1,575
-WAPA funded steroid analysis materials to BFTC (approximate)..... $ 1,000
-WAPA or SWG funded radio tags to FWP……..…..…….……...$ 8,000
-USBOR Field Gear…….$ 5,000
-USBOR Iridium credits……..$ 1,000
-FWP Section 6 Match funded materials…….……$ 2,000
-State Wildlife Grant Prairie Fish funds……..$ 6,000
-MATERIALS TOTAL……..……...… **$24,575**

Direct Labor

-WAPA funded blood steroid analysis at BFTC……..……..$ 3,000
-USFWS funded personnel services
-Science Tech (Band 4); 0.25 FTE …….……..…$15,334

-USBOR funds to FWP for personnel services
- Science Tech (Band 4); 0.45 FTE …….……..…$34,320
- Science Tech (Band 4); 0.31 FTE……..……..……..…$23,549
-DIRECT LABOR TOTAL……..…… **$73,203**

Travel and Living

-USBOR Funded Mileage……..…….$ 2,941
-USBOR Funded Travel ……..…..…….$ 2,504
-TRAVEL AND LIVING TOTAL……..…….. **$ 5,445**

Overhead

-USBOR Annual Overhead…….....$13,732
-USFWS Annual Overhead…….$ 4,666
-CONTRIBUTION OVERHEAD TOTAL…….$18,398

TOTAL CONTRIBUTED FUNDS (Overhead included) = $121,621

***NorthWestern Energy TAC funds will not be used for agency overhead on projects that do not fund personnel. Applications for materials and equipment should not contain overhead.**

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?

Annual Presentation at MoTAC Meeting and Annual Report

VIII. Cultural Resources. Cultural Resource Management (CRM) requirements for any activity related to this Project must be completed and documented to NorthWestern 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 NorthWestern representative for further information or assistance from NorthWestern's staff archeologist. 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:

-No ground disturbance is associated with this project

IX. Water Rights. For projects that involve development, restoration or enhancement of streams or 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 9 March 2016.

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

-No wetland development associated with 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

Further questions about TAC proposals or Project 2188 license requirements or related issues may be addressed to:

Andy Welch
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Andrew.Welch@NorthWestern.com
O 406-444-8115
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