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: Northern Pike telemetry study

Date: 10/19/2026

Explain how this Project addresses a specific Project 2188 License Article(s):
Provide justification for Priority 1, 2 or 3 (above) that you selected:

FERC License 2188, Article 416 (3), states NorthWestern Energy should "….Propose additional measures to minimize fish loss and to mitigate for avoidable and unavoidable impacts… These measures may include but will not be limited to: … 6. Determine impacts of introduced species, including aquatic nuisance species, and implement measures to limit impacts.

Northern pike have the potential to impact trout in the Missouri River below Holter through predation and competition of resources. This project will provide additional context for the trout population estimates, which are outlined in Article 416 (4) to "Evaluate the effect of short-term flow fluctuations on the resident fish community in the tailwaters."

This is a Priority 1 project as northern pike and their impacts are primarily located in the main stem Missouri River.

This project will use radio telemetry to monitor northern pike movement and habitat use between Holter Dam and Black Eagle Dam. This information will provide a better understanding of the potential impacts of northern pike on trout and walleye sportfish populations in that section.

Project Sponsor (submitted by):

Adam Geik – Montana Fish, Wildlife and Parks – Fisheries Biologist

Location of Proposed Project: Holter Dam to Black Eagle Dam

Narrative

The Missouri River below Holter Dam provides a popular trout and walleye fishery. Northern pike were presumably flushed into the tailwater below Holter Dam with high flows in 2018 and have since established a robust population. Nonnative northern pike have been linked to declines of sportfish populations across the North American west including Montana. Therefore, a thorough evaluation of the impacts of northern pike on the fishery below Holter Dam is warranted. As part of this evaluation, radio transmitters were implanted into 10 northern pike in 2026 to collect data on their movement and habitat use. We are asking for funds to purchase an additional 20 transmitters for implantation in 2027. Telemetered fish will be tracked for at least two years or until transmitter batteries expire.

Geocode (in decimal degrees ex 46.89743) **Lat:** 47.26927 **Long:** -111.69657

Total Project Cost: $128,704 (estimate from FWP research proposal including additional sampling and diet analyses)

TAC Funds (Cost-Share) Requested for Project: $4,853.00

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

The Missouri River below Holter Dam provides a trout fishery that is typically the most heavily fished water in the state with an estimated 189,00 angler days in 2023 (FWP statewide creel survey) and also provides a walleye fishery, particularly in the section downstream of Cascade. High flows in 2018 appear to have flushed northern pike into the tailwater section downstream of Holter Dam, with angler reports beginning in fall 2018 and evidence of natural reproduction since then. Most angler observations and FWP sampling have come from reaches downstream of Cascade; however, northern pike have been documented as far upstream as directly below Holter Dam, particularly in spring, and as far downstream as Rainbow Dam Reservoir. Their abundance has increased to the point that anglers can reliably target them in several areas downstream of Cascade, with some reporting high catch rates and large fish. Additional information is needed to better understand the threat that invasive northern pike pose to the Missouri River below Holter.

Ten northern pike were implanted with radio transmitters and tracked in 2026. We plan to telemeter 20 additional northern pike in 2027 and track them for at least two years to collect data on their movement and habitat use. This will provide foundational knowledge to inform a larger study on the impacts of nonnative pike to the fishery below Holter Dam.

Additional sampling of northern pike will be completed to evaluate sampling efficiency, abundance, age, growth, sex, maturity, fecundity, and diet. It is expected diet data will be collected using both gastric lavage of live northern pike and sampling fecal material for DNA metabarcoding analysis. These results may be used to inform a future more in-depth bioenergetics study.

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

1. Collect data on seasonal movement and habitat use, including use upstream and downstream of Cascade.
2. Evaluate the impacts of northern pike on the trout and walleye fishery below Holter Dam.

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

Twenty northern pike will be implanted with radio transmitters and tracked for at least two years or as long as the transmitter batteries last.

Between one and three receiver stations will be set up depending on availability of equipment. The highest priority station will be located near the town of Cascade with dual direction antennas to capture the direction of fish movement. Cascade is the general boundary between an upstream section that is primarily trout water and a downstream section with reduced trout densities.

Mobile tracking will occur at least every two weeks around the spawning period (including pre- and post-) of late-March – June, with weekly tracking during the peak spawning period. Tracking will occur monthly thereafter through October.

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

Transmitter implantation and tracking began in summer 2026. The additional 20 transmitters in this request will be implanted in 2027 and tracking will take place for at least two years.

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

Adam Geik – Fisheries biologist
Daniel Madel – fisheries technician
Staff – fisheries technician (currently open)
Additional fish staff as needed

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

Transmitters (20) – Lotek MCFT2-3LM 3V Coded Transmitter with ER 10450 battery: $237.00 each = $4,740.00
Shipping: $113.00

Total = $4,853.00

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?

Telemetry data will be analyzed and a report will be completed that includes northern pike movement and habitat use below Holter Dam. This data will provide foundational information to a larger study assessing the impacts of northern pike on the fishery below Holter Dam.

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 cultural resource management is required for 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 water rights will be affected by 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
Manager, Hydro License Compliance
Andrew.Welch@NorthWestern.com
O 406-444-8115
C 406-565-7549

Lotek
advancing wildlife science

Sales Quote

SQ23833

Lotek Wireless Inc.
115 Pony Drive
Newmarket, L3Y 7B5
Canada

Telephone: 905-836-6680
Email: info.ca@lotek.com
Website: www.lotek.com
GST/HST: 880209358RT0001
CABN: 880209358

Invoice Address:
Montana Fish, Wildlife & Parks
4600 Giant Springs Rd
Great Falls, MT 59405
United States

Contact: Daniel Madel

Delivery Address:
Montana Fish, Wildlife & Parks
4600 Giant Springs Rd
Great Falls, MT 59405
United States

Contact: Daniel Madel

Quote Date: 04 Sep 2026
Salesperson: Matthew Knoff
Account No.: C01996
Tax No.:
Terms of Delivery: DAP
Shipping Method: Air Courier
Shipping Agent: Federal Express
Payment Terms: NET 30 DAYS

Item No.	Description		Quantity	Unit Price	Total Price
MCFT2-3LM	3V Coded Transmitter (MCFT2) Uses ER 10450 battery		20	237.00	4,740.00
Product Type :	VHF Tag	Product Class :	Standard		
Warranty :	Standard	Warranty Life :	656D		
FREIGHT	Freight Charges		1	113.00	113.00

Please quote your Account No. C01996 and Quote No. SQ23833 when making payment.
Wire Transfer to Lotek Wireless Inc.
Bank of Montreal
2851 John St. Unit 300
Markham, ON L3R 5R7
Branch and Account: 29494607272
S.W.I.F.T. BOFMCAM2

OR

BMO Bank of N.A
111 W. Monroe
Chicago, IL 60603
Routing Transit Number 071025661
Account Number 2910018601
S.W.I.F.T. HATRUS44

Subtotal :	4,853.00
Tax :	0.00
Total USD :	**4,853.00**

Expiry Date: 3 Dec 2026