

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

Project Title: MoTAC Cultural Resources Management Compliance

Which PM&E measure(s) in the Project 2188 License will this proposal enhance or support?

NA – This project is designed to ensure NWE-funded projects comply with the 1997 Cultural Resources Management Plan. NWE-funded projects will be screened at annual meetings to determine if they support P,M&E measures.

Proposal Submitted by: Grant Grisak

Date Submitted: November, 2020

Location of Proposed Project: Missouri River from Canyon Ferry Dam to headwaters of Fort Peck Reservoir.

Total Project Cost: TBD at annual meeting.

TAC Funds (Cost-Share) Requested: TBD at annual meeting

I. Introduction.

NorthWestern Energy-funded projects are required to comply with the Cultural Resources Management Plan (1997) filed with FERC for License 2188.

The plan states "...In all actions, direct effects are those that may occur to cultural resources located at the specific sites of proposed actions. Indirect effects are those that may arise from actions removed in time or space from the primary action, but are essential to the primary action...NWE will be responsible for all studies and costs in cultural resources management (CRM) for all actions it proposes... Studies will be undertaken by NWE, under the four step plan detailed hereinafter, unless another party involved in an action agrees to undertake CRM studies..."

TAC applicants would traditionally integrate the costs of a CRM inventory in their applications, then facilitate having a NWE CRM consultant perform the inventory. Afterwards, NWE would forward the results of those inventories to SHPO for concurrence in findings, thus complying with the 1997 CRM Plan. TAC applicants, such as Federal Government Agencies who have CRM personnel on staff, would generally have their staff perform the CRM inventories for their projects and forward to NWE to file with SHPO for concurrence.

This proposal is to formalize the process by identifying the projects needing CRM inventories during the annual TAC meetings. Upon approval of an application, the CRM funds would be removed and integrated into one proposal (this proposal) to aid the NWE CRM consultant for tracking purposes and ease in contracting. Those Federal partners who continue to perform their own CRM inventories and reports will remain separate, except when seeking SHPO concurrence.

In 2019, the average cost of an individual CRM inventory performed by NWE consultant was \$2,300 (range \$1,100-\$3,800).

II. Objectives. Comply with the Cultural Resources Management Plan (1997) filed with FERC for License 2188.

III. Methods. Identify projects needing CRM inventories at annual meeting. Determine if CRM will be performed by another party or NWE consultant. Integrate CRM funds into one proposal for ease in tracking and contracting with NWE CRM consultant. Ensure all projects funded by NWE comply with 1997 CRM Plan.

IV. Schedule. This work is done throughout the entire field season.

V. Personnel. Grant Grisak is the NWE project leader. Assistance is provided by NWE CRM consultant, Federal staff credentialed in CRM and Any Welch, NWE, Hydro Compliance Leader.

VI. Requested Budget

TBD at annual meeting.

TOTAL

List all other funding (cost-share) sources and amounts for this project: NWE provides staff time to file CRM reports with SHPO and tracks that processes and responses through communication with a consultant and a document repository. Estimated annual cost to NWE is \$10,000 through staff time and consulting fees.

VII. Deliverables. CRM inventory reports on NWE-funded projects. SHPO concurrence for each of those reports.

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:

This proposal is specifically designed to ensure all projects funded by NWE in 2020 will comply with the 1997 CRM Plan.

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 9 March 2016.

Summarize here how you will comply with Montana water rights laws, policies and guidelines: No water rights are associated with this project.

No water rights are 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
- 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; 406-444-8115 (office); 406-565-7549 (cell); Andrew.Welch@northwestern.com.

2021 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: 2021 Annual Monitoring Project

Date: October 15, 2020

Explain how this Project addresses a specific Project 2188 License Article(s): This is a Priority 1 project because it meets License Article requirements and PM&E for fisheries populations or their habitats within the Missouri River system from Hauser Reservoir to Fort Peck Reservoir as required by FERC license 2188.

Provide justification for Priority 1, 2 or 3 (above) that you selected: PM&E is required by the FERC license. The 9 year agreement ensures consistent and reliable monitoring to fulfill FERC license requirements.

Project Sponsor (submitted by): Jason Rhoten, Montana Fish, Wildlife & Parks

Location of Proposed Project: Missouri River from Hauser Reservoir to Fort Peck Reservoir.

Total Project Cost: Estimated \$593,206 per year.

TAC Funds Requested for Project: \$243,206 in 2021.

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

Throughout most of the 2188 project area in the mainstem Missouri River drainage, the FERC license requires annual fish population monitoring, evaluation, and development of measures to reduce hydroelectric project impacts on fisheries and aquatic habitats (see list of conditions above). Fisheries monitoring is critical to: 1) determine the influence of hydroelectric projects operations on river and reservoir fish populations; 2) to evaluate the need and type of protection mitigation and enhancement projects; and 3) to evaluate the success of protection, mitigation and enhancement activities. Montana Department of Fish, Wildlife and Parks (MFWP) has conducted periodic monitoring in many areas of the drainage, but due to changing priorities and fiscal conditions there is no long-term guarantee that current monitoring activities will continue. The intent of this proposal is to forge a long-term cooperative agreement that ensures NorthWestern Energy (NWE) is able to meet FERC-mandated fisheries monitoring and evaluation requirements as well as to facilitate MFWP participation in the development and implementation of mitigation and enhancement measures in a cost-effective manner.

Montana FWP and NWE entered into a long-term monitoring agreement intended to enable NWE to meet the requirements of FERC license 2188 and to provide valuable information necessary for the effective management of the states' fisheries resources. The contract spans January 1, 2018 through December 30, 2026.

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

Monitoring, reporting and recommendations as identified in the 2018-2026 agreement.

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

Work will be performed using standard methods currently employed by MFWP in similar surveys. Methods are subject to change pending discussion and approval by Technical Advisory Committee.

IV. Schedule; when the Project work will begin and end. Work will be conducted from January 1, 2021 through December 31, 2021.

Seasonal schedule of activities is provided for each item in Section II. Several elements in the monitoring plan will require assistance from existing NWE Hydro Compliance personnel. Specific areas requiring assistance include Hauser & Holter tailwater electrofishing, Cascade section electrofishing, Great Falls reservoirs monitoring, and monitoring of Missouri River downstream from Morony Dam. Deviations from seasonal and annual schedules may occur if approved by Technical Advisory Committee.

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

Project Leader: Jason Rhoten, Region 4 Fisheries Manager, MFWP
Project Biologists: Adam Strainer, Helena, MFWP
Jason Mullen, Great Falls, MFWP
Luke Holmquist, Lewistown, MFWP
Project Technicians: Troy Humphrey, Helena, MFWP
Chris Hurley, Helena, MFWP
Adam Geik, Great Falls, MFWP
Jacob Williams, Lewistown, MFWP
Daniel Madel, Great Falls, MFWP
Other temporary and seasonal technicians

VI. Project budget must include amounts for the following:

Direct Labor = \$182,463
Travel and Living = \$31,561
Materials - NA
Other Direct Expenses - trammel net cleaning paid directly to vendor = \$3,500
Direct Overhead = \$25,683
All contribution amounts

A. NorthWestern Energy estimated personnel and operations:

The budget from last year has been modified and updated with new salary levels, operations, and overhead as shown below. Salaries have been adjusted to actual cost levels for specific personnel, as provided by MFWP Human Resources department on October 26, 2020. The State overhead rate is 12% for state FY20/21.

Operations amounts are based on the amounts negotiated in the fish monitoring agreement for 2018 through 2026 between NWE and MFWP. This amount increases by 2.0% each year. In January 2016 the federal Patient Protection and Affordable Care Act mandates all Montana state employees receive health care insurance benefits. The 2020 proposal reflects benefit rates as mandated by the Act. The proposed 2020 budget is as follows:

	Item	FTE	Hours	Pay rate including benefits	Amount
<u>Hauser and Holter Reservoirs and Tail waters</u>					
93474-CH	F&W Tech	0.29	606	\$28.12	\$17,025
93472-RS	Creel Survey Tech	0.35	731	\$23.64	\$17,274
93473-Vacant	F&W Tech	0.2	418	\$23.04	\$9,623
93472-RS	F&W Tech (012-07)	0.3	626	\$23.64	\$14,806
	Operations (\$11,365 + 2%)				\$11,592
	Subtotal				\$70,320
	Overhead (12%)				\$8,438
	Total	1.14	2,380		\$78,759
<u>Missouri River Below Holter Dam</u>					
93474-DM	F&W Tech	0.3	626	\$27.79	\$17,408
	Operations (\$4,546 + 2%)				\$4,637
93474-DM	NWE Fieldwork Tech	0.05	104	\$27.79	\$2,901
	Subtotal				\$24,946
	Overhead (12%)				\$2,994
	Total	0.35	731		\$27,940
<u>Great Falls Reservoirs and Tailwaters</u>					
37340-LH	F&W Biologist	0.5	1044	\$37.56	\$39,218
37341-JW	F&W Tech	0.5	1044	\$30.57	\$31,918
93474-MS	F&W Tech	0.4	835	\$28.12	\$23,483
	Operations (\$15,031 + 2%)				\$15,332
93474-MS	F&W Tech Trammel Net Repair	0.1	209	\$28.12	\$5,871
93474-MS	NWE Fieldwork Tech	0.05	104	\$28.12	\$2,935
	Subtotal				\$118,757
	Overhead (12%)				\$14,251
	Trammel Net Cleaning				\$3,500
	Total	1.55	3,236		\$136,508
	Grand Total	3.04	6,365		\$243,206

B. Montana FWP Contribution:

MFWP will be contributing personnel time, equipment, operations, and other assets to this project. The value of this contribution is valued at over \$350,000 per year. This includes the Helena, Great Falls, and Lewistown offices.

In addition, MFWP will continue habitat protection and enhancement activities throughout the system and will monitor other biological parameters in the system, such as the status of fish diseases, aquatic invasive species and westslope cutthroat trout. MFWP fisheries improvements will be funded primarily through the Future Fisheries Program, grants or donations which are likely cost-share for 2188 fisheries PM&E projects. MFWP specialists in water rights and allocation, habitat protection and enhancement, engineering, and land acquisition/easement will be available on a case-by-case basis for specific projects. MFWP fisheries staff in northcentral Montana will participate in the 2188 Technical Advisory Committee and will be key personnel for identification and implementation of PM&E projects, including fisheries research, habitat protection and enhancement projects. MFWP also conducts a statewide biennial fishing pressure survey, which provides useful fishing pressure information for the Missouri River and reservoirs. The exact value of these additional contributing resources cannot presently be valued but is substantial and will vary year-to-year.

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?

The main products of this project will be: 1) annual reports based on sound scientific procedures which describe the current trends of key fish populations and fish species of special concern in the Missouri River and reservoirs, and 2) effective fisheries and aquatic habitat PM&E projects in northcentral Montana. Reports will satisfy FERC requirements for annual monitoring of fish populations for the purposes listed in 2188 license. The information generated by this project will be critical for determining the effects of project operations on fisheries resources and will also be the primary method for determining the effectiveness of fisheries PM&E measures.

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: There are no ground breaking activities associated with fisheries monitoring.

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: There are no water rights associated with fisheries monitoring.

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

- Grant.Grisak@northwestern.com
- andrew.welch@northwestern.com

2021 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: Middle Missouri River Radio Telemetry Study

Date: February 10, 2022

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: \$127,901

Other associated funding: \$72,752

- \$43,752 annual USBOR funds (5-year contract; 2016-2021)
- \$20,000 by USFWS Section 6 funding personnel on this project
- \$5,000 WAPA funding for Pallid Sturgeon radio transmitters
- \$4,000 approximate – WAPA funds to Bozeman Fish Technology Center for blood plasma steroid analysis

TAC Funds Requested for Project: **\$55,149**

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 and temperature, on federally endangered species and species of concern. In 2021, 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 of fish includes five wild pallid sturgeon, sixty-three HOPS (fifty-three 1997 year-class, six 2005 year-class, two 2007 year-class, and two 2009 year-class), twenty-four shovelnose sturgeon, seventeen smallmouth buffalo, eight bigmouth buffalo, two walleye, and two freshwater drum. In addition to tracking and tagging additional fish, we need began replacing radio tags that were implanted into pallid sturgeon prior to 2014 or 2015. These tags are advertised to have an 8-year battery life, however are only guaranteed to last ~6.5 years. In 2019, many of the transmitters implanted in 2013 and 2014 were not relocated, and it is suspected that battery life expired over winter, making it impossible to target those individuals for tag replacement. During the 2020 field season transmitters were replaced in fourteen 1997 year-class pallid sturgeon, including six mature females. Many of the pallid sturgeon containing expiring tags have been serially sampled in successive years for information about spawning periodicity and age/size at first maturity. Keeping active transmitters in fish is vital to improving and increasing knowledge regarding fish sexual maturity and spawning ecology for this endangered species. Transmitters that have been removed from pallid sturgeon and still have at least a year of battery remaining were re-implanted into other species of interest, including two freshwater drum, two walleye, and two bigmouth buffalo. New transmitters were also implanted into one smallmouth buffalo, four bigmouth buffalo, and eight 1997 year-class pallid sturgeon.

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 2020, 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. Many of these stations have been maintained for over a decade and antennas, cables, and in some cases the telemetry receiver and switch box are the showing signs of and experiencing the effects of aging. We typically service one receiver a year when problems arise (bad batteries, decreased detection efficiency, etc.), however as the current SRX400 receivers continue to age, they are malfunctioning more frequently. Keeping this array functioning allows for many more telemetry contacts at a much lower cost than if we relied on boat relocations alone. We plan to begin slowly phasing out the SRX400 receivers in favor of the more feature rich SRX800 units. 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.

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 2000 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 data from stations every 5-6 weeks and summarize data and prepare report.
 February Download data from stations every 5-6 weeks and summarize data and prepare report.
 March Download data from stations every 5-6 weeks and summarize data and prepare report.
 April Prep gear, install stations, manually track fish, download data from stations, and maintain stations.
 May Manually track fish, download data from stations, install new radios, and maintain stations.
 June Manually track fish, download data from stations, install new radios, and maintain stations.
 July..... Manually track fish, download data from stations, install new radios, and maintain stations.
 August Manually track fish, download data from stations, install new radios, and maintain stations.
 September..... Manually track fish, download data from stations, install new radios, and maintain stations.
 October..... Manually track fish, download data from stations, install new radios, and maintain stations.
 November..... Download data from 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 Michael Schilz (\$17.61/hour plus with benefits)

-Additional Staff;

Luke Holmquist – Project Lead; Biologist funded by NWE and FWP
 Jacob Williams- Conservation Technician funded by NWE and FWP
 Nate Beckman - Fish Technician funded by NWE and USFWS

VI. Project budget must include amounts for the following:

Materials

-Supplies & Materials \$3,500
 -Boat Gas (\$500/month for 8 months)..... \$4,000
 -SRX400 Telemetry Receiver Service Fees \$1,300
 -(2 receivers @ \$100 shipping, \$350 service fee, \$200 replace battery)
 -Iridium Satellite network data fees (10,000 credits).....\$ 800

 -MATERIALS TOTAL..... **\$ 9,600**

Direct Labor

-NWE funded Wages/Benefits for Tech II (0.45 FTE) \$25,433
 -Science Technician (Band 4) \$17.61/hour plus benefits
 -Position Currently held by Michael Schilz

 -DIRECT LABOR TOTAL..... **\$25,433**

Travel and Living

-Trailer Pad at Loma (7 months at \$150/month)..... \$1,050
 -Entire Day Per Diem (\$30.5/day; 13 days/month; 8 months)..... \$3,172
 -Partial Day Per Diem (\$23/day; 6 days/month; 8 months)..... \$1,104
 -Vehicle Mileage (1700 miles/month; \$0.358/mile; 250.80 a month; 7 months..... \$6,016
 -Vehicle Mileage (900 miles/month; \$0.358/mile; 250.80 a month; 5 months).....\$2,865

 -TRAVEL AND LIVING TOTAL..... **\$ 14,207**

Project funds to FWP..... **\$49,240**
 Direct Overhead (12.0%):..... **\$ 5,909**
TOTAL NWE FUNDING REQUESTED..... \$55,149

All contribution sources–

Materials

-USBOR funded Boat Gas	\$ 1,200
-WAPA funded steroid analysis materials to BFTC (approximate).....	\$ 1,000
-WAPA funded radio tags to FWP.....	\$ 5,000
-USBOR Field Gear.....	\$ 300
-MATERIALS TOTAL.....	\$ 7,500

Direct Labor

-WAPA funded blood steroid analysis at BFTC.....	\$ 3,000
-USBOR funds to FWP for personnel services	
- Science Tech (Band 4); 0.55 FTE (\$17.61/hour plus benefits).....	\$32,000
-USFWS funds (Section 6) to FWP for personnel services	
- Science Tech (Band 4; 0.35 FTE (\$17.61/hour plus benefits).....	\$20,000
-DIRECT LABOR TOTAL.....	\$55,000

Travel and Living

-USBOR Funded Mileage.....	\$ 1,680
-USBOR Funded Travel	\$ 1,472
-TRAVEL AND LIVING TOTAL.....	\$ 3,152

Overhead

-USBOR Annual Overhead.....	\$ 7,100
-CONTRIBUTION OVERHEAD TOTAL.....	\$ 7,100

TOTAL FUNDS (Overhead included) = \$72,752

VII. Deliverables: Annual Report submitted September 2022

How will “success” for this project be monitored or demonstrated?

–Annual Report submitted September 2022

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:

-No ground disturbance is associated with this project

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 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
- 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, 1315 N Last Chance Gulch, Helena, MT 59601; 406-444-8115 (office); 406-565-7549 (cell); Andrew.Welch@northwestern.com.

Project Title: Habitat Project Consultant Assistance 2021

Which PM&E measure(s) in the Project 2188 License will this proposal enhance or support?

This project is Priority #1 because it typically involves habitat restoration projects on the mainstem Missouri River. Some elements of this project are Priority #2 because they involve restoration work on primary tributaries to the Missouri River. The project supports FERC license articles 414, 415 and 416, which specify enhancement of tributary spawning and mitigation for impacts of operation of Hauser, Holter, and the Great Falls dams.

Proposal Submitted by: Grant Grisak (NorthWestern Energy)

Date: November, 2020

Location of Proposed Project: Upper Missouri River Watershed

Total Project Cost: \$20,000

TAC Funds (Cost-Share) Requested: \$20,000

I. Introduction.

Habitat projects addressed in the FERC license agreement (Articles 414-9 and 416-7) have been proposed and funded since the inception of the PM&E funding program. Viable habitat projects have sometimes been difficult to identify and implement. This proposal is to continue a contract with McNeal Resources (Allen McNeal) to continue working on habitat restoration projects in the Great Falls area and in the Helena Valley. Consultant may also work on identifying and development of projects on other streams and rivers in the FERC Project 2188 project area as opportunities arise. This project will cover the cost of project design and permitting and also will defray construction oversight costs including mileage, lodging and per diem, as necessary.

II. Objectives. Depending on availability, investigate feasibility and initiate design of restoration projects on Missouri River and reservoir tributaries.

III. Methods. A contract would be established between NWE and McNeal Resources to complete this work.

IV. Schedule. Investigative and scoping work on other projects will proceed during the year as time allows.

V. Personnel. Work on this project will be accomplished by McNeal Resources Inc. (Allen McNeal) in cooperation with private landowners, construction contractors, MDFWP staff, and staff from other organizations and agencies.

VI. Budget must include amounts for the following items:

Direct Labor	Consultant and contractors will design and construct. FWP biologists and staff will provide oversight.
Direct Overhead	N/A – claims will be submitted directly from consultant to NWE for payment
Travel and Living	N/A
Materials	Raw materials required for stream reconstruction will be incorporated into stream specific proposals.

VII. Deliverables. This proposal is designed to design and complete habitat projects in the MoTAC project area. Success will be measured in habitat projects completed and stream/river length that has been restored. Project completion reports will be prepared by project partners.

VIII. Cultural Resources. Cultural resource surveys will be conducted and SHPO clearance will be obtained prior to the initiation of any ground disturbing activities on habitat improvement projects funded by MoTAC.

IX. Water Rights. This project requires no new water rights or changes to existing rights. Water rights issues will be handled on a case-by-case basis by trained experts as the need arises.

2021 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: Middle Missouri River Fisheries Trammel Nets Purchase - 2021

Date: February 10, 2022

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

Article 417: 1) Monitor the relative abundance of the most common fish species in the Missouri River downstream of Morony Dam. 2) 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. This is a priority one (Missouri) and two (Marias).

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

Trammel nets are the main sampling gear used to evaluate long term trends of Pallid Sturgeon and Shovelnose Sturgeon. Trammel nets also are the primary sampling gear for targeted recapture of Pallid Sturgeon for reproductive

Project Sponsor (submitted by): Luke Holmquist

Location of Proposed Project: Missouri River between Morony Dam and Fort Peck Reservoir and the lower Marias River.

These trammel nets will be used on the Missouri River from Carter Ferry to Fort Peck Reservoir (Priority 1) and in the lower Marias River (Priority 2).

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: **\$15,650**

TAC Funds Requested for Project: **\$15,650**

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

Sampling with a trammel net is necessary to assess the populations of target deep-water fish species as required by the monitoring plan. Also, trammel net sampling is integral for evaluating the pallid sturgeon stocking program and for capture of fish for radio tagging. We complete approximately 140 - 400 sets/year. Trammel nets are used to maximize pallid sturgeon collections and obtain shovelnose sturgeon information. River conditions are not always conducive (submerged logs), and nets can be severely torn and even destroyed during standard sampling process thus some nets must be replaced each year. More nets have been used in recent years to maximize river field work time. This year we are requesting 25 new 1-inch mesh nets and 25 new 4-inch mesh nets. The 1-inch nets are to replace nets torn beyond repair during standardized sturgeon sampling efforts. The additional ask of 25 new 4-inch

nets are to be used for recapture of reproductively active pallid sturgeon from the 1997 year-class and for use during broodstock collection efforts. These efforts have needed to expand in recent years as the number of reproductive fish has increased. We expect to have approximately eight high priority females to recapture during the 2021 sturgeon spawning season and 4-inch mesh nets are the most efficient gear to recapture pallid sturgeon in the 1997 year-class.

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

These nets will be used in the monitoring of the fish communities in the Middle Missouri River and for pallid sturgeon investigations.

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

IV. Schedule; when the Project work will begin and end. Purchase 50 nets for use during 2020 field season.

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

VI. Project budget must include amounts for the following:

Materials Only:	25 – 150 x 6 x 10 x 1”	@ \$340/net.....	\$8,500.00	
	25 – 150 x 6 x 10 x 4”	@ \$278/net.....	\$6,950.00	
		Shipping:	\$200	
		Total:	\$15,650.00	

Direct Labor NA
Travel and Living NA
Other Direct Expenses NA
Direct Overhead NA – Purchase by NWE
All contribution sources and amounts

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? NA

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: No ground disturbance associated with this project.

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 water rights 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
- 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, 1315 N Last Chance Gulch, Helena, MT 59601; 406-444-8115 (office); 406-565-7549 (cell); Andrew.Welch@northwestern.com.

Project Title: Field Operations – NWE 2021

Which PM&E measure(s) in the Project 2188 License will this proposal enhance or support?

This is a Priority #1 project because it involves work completed on the mainstem Missouri River. The project supports FERC 2188 license Articles 414, 416, and 417. NWE staff provide assistance on Hauser and Holter reservoirs and tailwaters, the Great Falls reservoirs, and the Missouri River downstream from the Great Falls reservoirs.

Proposal Submitted by: Grant Grisak

Date Submitted: November, 2020

Location of Proposed Project: Missouri River from Canyon Ferry Dam to headwaters of Fort Peck Reservoir.

Total Project Cost: \$20,000

TAC Funds (Cost-Share) Requested: \$10,000

I. Introduction.

This is an ongoing annual proposal to offset some of NWE’s operating costs for implementation of the Missouri River fisheries Protection Mitigation & Enhancement (PM&E) program. Project proposal includes: operation and maintenance of NWE electrofishing boat; purchase of fish tagging and surgical supplies; purchase of basic field monitoring supplies; vehicle operation and travel expenses; and operation and maintenance of the Holter boat house including utilities (electricity).

II. Objectives. Support Montana Department of Fish, Wildlife and Parks and other agencies and organizations in the implementation of the Missouri River 2188 fisheries PM&E program.

III. Methods. Methods vary depending on project and area.

IV. Schedule. This work is done throughout the entire field season.

V. Personnel. Grant Grisak is the NWE project leader. Assistance is provided by FWP technicians and biologists, NWE employees, and other individuals depending on project and area.

VI. Requested Budget

Direct Labor.....	\$ 0
Direct Overhead.....	\$ 0
Travel and Living.....	\$2,000
Materials	
Boat gas, oil, maintenance.....	\$3,000
Supplies & equipment.....	\$2,000
Vehicle operation & maintenance	\$3,000
Other Direct Expenses.....	\$ 0
	TOTAL
	\$10,000

List all other funding (cost-share) sources and amounts for this project: Total NWE operations costs are approximately \$20,000/year for this project. NWE will provide \$10,000 of the total amount required for this project from other Company accounts.

VII. Deliverables. Completion reports are provided by partner agencies and organizations.

VIII. Cultural Resources. This proposal does not include any ground-disturbing activities in need of cultural clearance.

IX. Water Rights. No water rights issues associated with this project.

2021 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: **Marias River PIT Tag Antenna Array Additions - 2021**

Date: October 21, 2020

Explain how this Project addresses a specific Project 2188 License Article(s): Article 417: 1) Monitor the spawning migrations of Threatened and Endangered species, species of special concern, and popular sportfish in the Missouri River downstream of Morony Dam. 2) 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. This is priority one (Missouri) and two (Marias) since it evaluates movement between the two systems.

Provide justification for Priority 1, 2 or 3 (above) that you selected: The PIT tag arrays in the Marias and Teton allow us to evaluate movement of fish between the Missouri (Priority 1) and these two tributaries (Priority 2).

Project Sponsor (submitted by): Jake Williams, Fisheries Technician, MTFWP

Location of Proposed Project: These readers will be installed in the Marias River and distributed between the confluence with the Teton River and Tiber Dam at approximately RM 30 and RM 60.

Narrative: These PIT stations will be used on the Lower Marias River (Below Tiber Dam).

Geocode (in decimal degrees ex 46.89743) Lat; 48.14399

Lon:-110.65045

Total Project Cost: \$21,373 plus installation by FWP personnel

TAC Funds Requested for Project: **\$21,373**

I. Introduction:

Blue Suckers (Species of Concern) and Shovelnose Sturgeon (Threatened due to similarity of appearance to Pallid Sturgeon) use the Marias and Teton Rivers for spawning when flows are sufficient. PIT tags provide a less expensive alternative to radio telemetry to evaluate spawning migrations into these tributaries, thereby improving and increasing knowledge of the environmental conditions that influence tributary spawning for these species.

Pit tag readers were installed in the Marias (2017) and Teton Rivers (2018) to evaluate fish migrations from the Missouri River. These readers were extremely effective at detecting tagged fish in 2020. As of August 1, 2020, 750 Shovelnose Sturgeon were detected on the Marias readers and 109 on the Teton reader. There was a 69% increase in individuals detected in 2020 from the previous year. Detection data from 2020 provides evidence that stationary PIT readers are an effective method for studying movements of sturgeon and other species of concern in large prairie rivers. Installing additional PIT tag readers further upstream will allow biologist to further evaluate spawning migrations into these tributaries for multiple species including Shovelnose Sturgeon and Blue Suckers.

Additionally, the lower Marias River has seen use by juvenile and reproductive Pallid Sturgeon in the recent years. In August 2020, a proposal was submitted to the Upper Basin Pallid Sturgeon Tagging and Handling Committee to investigate additional tagging

procedures on Pallid Sturgeon using 134 kHz HDX tags. Moving forward all Pallid Sturgeon captured in 2021 and beyond will be implanted with a 134 kHz HDX tag in addition to a smaller FDX tag that will serve as the primary identifier. The PIT tag readers installed in the Marias and Teton will help us better understand Pallid Sturgeon use in both rivers.

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

- Install 4 additional PIT tag readers in the Marias River.
- Continue to download stations a minimum of once per month.
- Perform maintenance as needed.

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

- Equipment will be purchased and stations will be installed in Spring 2021

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

April 2021

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

- NWE will purchase the supplies
- FWP will redeploy the stations, continue tagging fish, and download the stations.

FWP Personnel

- Luke Holmquist, Biologist, FWP
- Jacob Williams, Fisheries Technician, FWP
- Nate Beckman, Fisheries Technician, FWP
- Mike Schilz, Fisheries Technician, FWP

VI. Project budget must include amounts for the following:

Materials

-OregonRFID ORSR-1 Single Antenna Reader x 4.....	\$8,600
-OregonRFID manual tuners x 4.....	\$900
-OregonRFID RTS2 Antenna Tuning Indicator	\$195
-OregonRFID 23mm HDX RFID tags x 2000.....	\$3,100
-OregonRFID 32mm HDX RFID tags x 1000.....	\$1,600
-Ritter Designs Remote monitoring satellite interface receiver x 2.....	\$3,750
-Renogy 100 watt solar panel x 4.....	\$400
-Morningstar SunSaver 10L power controller x 4.....	\$308
-#2 AWG welding wire x 800ft.....	\$1,232
-Super Start 27M deep cycle battery x 8.....	\$735
-Belden 9207 Twinaxial Cable x 80ft.....	\$153
-Arrowhead earth anchors x 50.....	\$400

MATERIALS TOTAL.....\$21,373

Direct Labor: NA; Travel and Living: NA; Other Direct Expenses: NA;
Direct Overhead: NA—NW Energy is purchasing the materials

FWP contribution - FWP will conduct the work to install the readers and antenna.

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?

Success of this project will be NWE purchasing the equipment and FWP successfully installing it, thereby allowing more detailed monitoring of PIT tagged fish utilization of the Marias and Teton Rivers.

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:
No ground disturbance associated with this project.

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.

No water rights 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
- 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, 1315 N Last Chance Gulch, Helena, MT 59601; 406-444-8115 (office); 406-565-7549 (cell); Andrew.Welch@northwestern.com.

Oregon RFID, Inc
 Portland, OR 97206

Quote

Date 9/15/20

Ph: 503-788-4380, ext 606

Quote for:

Montana Fish, Wildlife and Parks
 333 Airport Road, Suite 1
 Lewistown, MT 59457

Qty	Description	US \$ Price Ea.	Merchandise Total
4	ORSR-1 Single Antenna Reader	2,150.00	8,600.00
4	Manual Tuner	225.00	900.00
1	RTS2 Antenna Tuning Indicator	195.00	195.00
2,000	23 mm HDX RFID Tags	1.55	3,100.00
1,000	32 mm HDX RFID Tags	1.60	1,600.00
1	Shipping to:	0.00	0.00
	Jake Williams 205 W. Aztec Drive Lewistown, MT 59457		
		Total	\$14,395.00



REMOTE MONITORING SATELLITE INTERFACE

FOR

PIT ORFID STATIONS

MONTANA FISH, WILDLIFE & PARKS

18624 67th Ave W
 Lynnwood, WA 98037
 Phone: 443.340.5168
 Email: chris@ritterdesigns.com

Prepared For:
 Luke Holmquist
 Montana Fish, Wildlife & Parks
 333 Airport Road
 Lewistown, MT 59457
 Phone: (406) 538-2445
 Email: lholmquist@mt.gov

DATES THIS WORK COVERS: N/A
 QUOTE #: 2020_09_005
 DATE PREPARED: 9/17/2020
 TERMS: N/A

PROJ.	DESCRIPTION/SERVICES RENDERED	QTY	SUBTOTAL (\$)	TOTAL (\$)
MTFWP Region 4 Radiotelemetry Satellite Interface for PIT ORFID Stations	Remote monitoring satellite interface for Lotek radiotelemetry receiver			
	<ul style="list-style-type: none"> - Satellite modem, antenna, and cable - Power cable - Enclosure - Initial system installation 	2	\$1,875	\$3,750
TOTALS:			\$	3,750.00

2021 Cost-Share Proposal for NorthWestern Energy (NWE) Project 2188 TAC Funds

Project Title: Beaver Creek Phase II Stream and Wetland Restoration Project
Construction Implementation

Date: 11/2/2020

Applicability to Project 2188 License Article(s):

Beaver Creek Phase II will offset impacts to river resources associated with Project 2188 (Madison-Missouri River). The project meets the purpose and intent of License Article 416, which supports spawning and rearing habitat enhancement projects on Holter Reservoir and in tributaries to the reservoir and tailwaters. Specifically, Project 2188 license for Holter reservoir identifies Beaver Creek as a primary spawning tributary to Holter where potential habitat enhancement could likely contribute to natural reproduction of the Holter Reservoir fishery. This proposal addresses wildlife, fisheries, and floodplain habitat in a primary tributary that enters the Missouri River between Hauser Dam and Upper Holter lake and would be designated a Priority 2 measure.

Priority Classification:

Beaver Creek Phase II Restoration Project classifies as a Priority 2 2188 license project. The project is located on Beaver Creek, a major spawning tributary to large adfluvial rainbow and brown trout that migrate from Holter Reservoir. Restoration efforts would improve fisheries resources by reconstructing the stream channel and floodplain to more natural conditions, improving habitat and riparian complexity, addressing sediment impairments and restoring hydrologic processes.

Project Sponsor (submitted by): USFS Helena-Lewis and Clark National Forest, Helena Ranger District
Contact: Alli Russell

Location of Proposed Project:

The project located in Lewis and Clark County approximately 14 miles northeast of Helena, MT. Beaver Creek is a large watershed originating on National Forest lands flowing 18 miles to the confluence of the Missouri River just below Hauser Dam. The project area lies entirely on FS lands on the Helena Ranger District approximately 1.3 miles upstream from its mouth at the Missouri River. The area was originally homesteaded by Charles Cochran in 1909 and the Helena National Forest later acquired the land from Chester French in 1974. The legal description of the project area is NW1/4 and NE1/4 Section 20, Township 12 North, Range 2 West; SE1/4 Section 17, Township 12 North, Range 2 West; refer to Figure 1.



Figure 1. Beaver Creek Restoration Project vicinity map.

Geocode (in decimal degrees) Lat; 46.797

Lon: -111.877

Total Project Cost: \$507,907

TAC Funds (Cost-Share) Requested for Project: \$220,000

I. Introduction

Beaver Creek and the Missouri River (Hauser tailrace) provide the majority of spawning habitat for the large adfluvial rainbow and brown trout that migrate from Holter Reservoir, which are the aquatic focal species of this restoration project. Beaver Creek is within the Holter Lake system and supports a very popular recreational fishery for both rainbow and brown trout. Holter Lake ranked 6th in the state for fishing pressure and observed approximately 96,103 angler days from March 2017- February 2018. The Missouri River just above and below Beaver Creek observed over 18,800 angler days during this time frame (Strainer, MT FWP). The project proposes to restore 1.2 miles of lower Beaver Creek to improve instream habitat for fish and enhance riparian areas to provide nesting and foraging habitat for migratory songbirds and wetland areas for amphibians.

Beaver Creek Phase I was implemented Fall 2020 in partnership with the Helena-Lewis and Clark NF, Pat Barnes Trout Unlimited Chapter, and Montana Fish Wildlife and Parks Future Fisheries Improvement Program. 2016-2020 MoTAC funds supported an alternative analysis, final designs and in part, construction of Phase I.



Figure 2. The River Design Group and TNT Excavating started Beaver Creek construction October 2020. Anticipated date of completion will be December 2020. Work will include reconstruction of 0.6 miles of stream channel and approximately 7 acres of reconstructed floodplain and wetland habitat. Volunteers and FS personnel have collected over 20,000 willow for streambank construction and floodplain revegetation.



Phase II proposes to restore the remaining 0.6 miles of Beaver Creek and associated floodplain and wetland habitat. The lower reaches of Beaver Creek are also highly impaired from past agricultural, grazing practices, and rip-rap stabilization that resulted in stream channelization, and removal of riparian vegetation, refer to Figure 2. These impacts have led to degradation of the channel form, bank stability and eventual channel incision and substantial loss of floodplain connectivity.

Similar to Phase I, restoration goals are to restore hydrologic processes, reconstruct the stream channel and floodplain to more natural conditions that emulate historic stream sinuosity and morphology, improve water quality, and increase habitat complexity to provide spawning and rearing habitat, restore riparian areas and create additional wetland habitat. Proposed restoration work will improve connectivity to the Missouri River

2021 Cost-Share Proposal for NorthWestern Energy (NWE) Project 2188 TAC Funds

and provide for more consistent access for spawning runs. Rearing habitat would also be created, with the goal of increasing natural recruitment and supplementing the reduced hatchery plants in the Missouri River Reservoir system. New floodplain surfaces would support emergent, forested, and scrub-shrub wetland communities. The project is designed to raise the groundwater table to support riparian/wetland habitat enhancement.



Figure 3. Pictures display channel incision and bank instability and lack of floodplain connectivity in Reach 3. Rip-rap streambank modification/stabilization is common throughout the project area, implemented in response to the 1975 flood events. Beaver Creek is listed for sediment impairments (MT DEQ).

II. Objectives

The final plan set for Phase II needs further refinement with field verification but, will be finalized winter 2020/2021. The new channel and floodplain design was developed to provide a landscape capable of sustaining geomorphic processes to support desired aquatic habitat and riparian conditions. The proposed design would reduce channel entrenchment, establish pools, address stream flows and ponding, and modify channel hydraulics to produce flows that would support a mobile gravel bed i.e. functional and naturally maintained spawning areas. The shape of the new channel and adjacent floodplain work was determined through hydrologic analysis, terrain model development, earthwork analysis and hydraulic modeling. To achieve the desired condition of floodplain connectivity and habitat complexity, a combination of restoration strategies would be applied:

- Re-connect former abandoned floodplain surfaces.
- Reconnect abandoned oxbows to increase stream length and reduce channel slope, and create aquatic habitat.
- Construct new channel characteristic of a riffle-pool C4 stream type, within a terraced valley and broadly connected floodplain.
- Transition to Reach 4 with a moderately entrenched B4 stream type by increasing floodplain width and placement of 3 log weirs/step pools.
- Convert the existing channel to emergent wetlands (0.45 acres) and construct and preserve approximately 0.3 acres of shallow open water and scrub/shrub wetlands. Constructed side channel habitat (100 linear feet) would connect a portion of the emergent wetland habitat to the main channel. Beaver dam analog placement (6 each) on side channel habitat would facilitate the development of wetland habitat.

2021 Cost-Share Proposal for NorthWestern Energy (NWE) Project 2188 TAC Funds

- Install naturalized streambank structures to allow bank vegetation to become established while also improving habitat complexity. Approximately 37 large wood structures would be constructed and 5,445 linear feet of vegetated/wood matrix streambank treatment.
- Riparian and upland revegetation which would increase the coverage of woody shrubs and trees.
- Reconstruct floodplain surface with microtopography grading and placement of coarse wood material (7.2 acres).
- Dispersed campsite reclamation/improvements at dispersed campsite #2 and #3.

III. Methods

Construction will be implemented using a qualified, experienced stream restoration contractor (TNT Excavating). Given the sensitive resource conditions, construction specifications will utilize low-pressure ground equipment including off-road articulated trucks (minimum 14 cubic yard), tracked excavators with hydraulic thumb minimum bucket volume of 1 cubic yard, an All Surface Vehicle (ASV), D5 dozer or equivalent, and harrow for de-compacting soils and construction access roads. The excavators will be GPS compatible to ensure the project is implemented in accordance with the design specifications and drawings. The ASV will be equipped with sod tracks to minimize disturbance and one tree spade to transplant large vegetative material. RDG will provide construction oversight and ensure compliance with permits drawings and specifications. The contractor will also be responsible for seed bed preparation and both riparian and upland broadcast seeding.

- Streambed treatments will consist of complex aquatic habitat including riffle, run, pool, and glide features
- Streambank treatments will be composed of wood, alluvium, native rock and vegetation.
- Floodplain treatments will include the use of swales, side channels, off-channel wetlands, microtopography and placement of course wood material.
- Existing vegetation would be salvaged and transplanted into constructed floodplain surfaces and streambanks.
- Native weed free seed will be used onsite; existing vegetation will be preserved or salvaged for floodplain construction.

IV. Schedule

The following project schedule had been developed. The Helena Ranger District signed the Decision Memo for the Beaver Creek Restoration Project on June 10, 2019. All regulatory permitting is complete, 124 stream permits/318 authorizations will be renewed winter 2021. A cultural resource investigation with SHPO clearance was completed by the USFS September 2019.

Table 1. Project Schedule for the Beaver Creek Phase II Restoration Project					
Task	Jan-March	April-July			August-November
Finalize Phase II designs					
Task 1. Pre-construction Services					
Task 2. Construction Implementation, includes wood material procurement					
Task 3. Direct Costs					

2021 Cost-Share Proposal for NorthWestern Energy (NWE) Project 2188 TAC Funds

V. Personnel

The Beaver Creek Restoration Project Phase II will be implemented under the sponsorship of a diverse group of stakeholders including the USFS Helena-Lewis and Clark National Forest, Montana Fish Wildlife and Parks, Pat Barnes Trout Unlimited Chapter, and RDG. RDG is an approved consultant on NorthWestern Energy’s Qualified Vendor’s List for stream and wetland restoration services. RDG prepared the preliminary analysis and alternative development and final designs for the Beaver Creek project including Phases 1 and 2. Mr. John Muhlfeld will serve as the project manager and technical lead on behalf of the design team. Mr. Nate Wyatt, P.E., with RDG, will serve as the project engineer. Alli Russell will be the principle USFS contact for the project.

VI. Project budget

Table 2 below includes a cost estimate to perform the Scope of Work (SOW). The total cost to perform the SOW is \$507,907. As noted, project partners have \$30,250 committed in cost-share and an additional \$38,460 in-kind services (willow collection). The potential total cost-share match accounts for 33% of the total project cost. This proposal is requesting TAC funds in the amount of \$220,000.

VII. Deliverables

Task	Cost
1. Pre-Construction Services and Construction Management, and Direct Cost	\$66,248.84
2. Construction	
Clear and Grub site, Floodplain and Upland Seeding	\$ 6,250
Construct and Decommission Diversions	\$ 4,000
Salvage, Preserve and Transplant Existing Vegetation	\$11,000
Construct and Improve Roads and Staging Areas	\$ 5,500
Excavate, Haul and Place Floodplain backfill	\$ 48,622.20
Excavate, Haul and Place Fill in Repositories	\$ 20,687.70
Furnish Wood	\$ 25,000
Furnish Streambed fill	\$ 55,880
Construct Channel Streambed	\$ 44,550
Construct Large Wood Structures	\$ 50,875
Construct Log Step Pool	\$ 3,600
Construct Vegetated Matrix Type 1	\$ 43,890
Construct Vegetated Matrix Type 2	\$ 27,324
Construct Vegetated Matrix Type 3	\$ 3,330
Install Beaver Dam Analogs	\$ 1,980
Furnish Willow Cuttings	\$ 38,460
Construct Side Channels	\$330
Install Floodplain Roughness and wetlands	\$11,880
3. Mobilization, GPS Equipment, Crew Per Diem	\$38,500
Estimated Project Cost	\$507,907
Cost-Share Future Fisheries Improvement Program-June 2021 request, not secured	\$50,000
Cost-Share PBCTU-Secured	\$4,000
Cost-Share USFS-Secured	\$64,710

2021 Cost-Share Proposal for NorthWestern Energy (NWE) Project 2188 TAC Funds

Cost-Share MT DNRC-not secured	\$53,418
Funding request to WildTAC -not secured	\$130,000
Total TAC Funds Requested	\$220,000

VIII. Cultural Resources.

The Helena Ranger District received SHPO concurrence on the Beaver Creek Restoration Project on 9/17/2019 (R#2018011700047). Montana SHPO concurred there were No Adverse Effects and no properties on or eligible for NRHP appear likely to exist within project impact area. A copy of the SHPO memo is available upon request.

IX. Water Rights

Appropriate analysis will be performed to demonstrate that the project complies with the intent of Montana DNRC's "*Guidance for Landowners and Practitioners Engaged in Stream and Wetland Restoration Activities*", issued by the Water Resources Division on March 9, 2016.

DNRC guidelines state that "any wetland project (restoration) whose final design approximates the natural characteristics of adjacent natural wetlands or approximates something smaller in magnitude does not require a water right". The guidelines also state that restored wetlands should have characteristics similar to other natural wetlands in the area and should function entirely in the absence of artificial controls and diversions of water that intentionally appropriate water for wetland use.

The Beaver Creek project intends to restore wetland habitat by lowering floodplain surfaces to more natural conditions, converting 0.2 acres of existing stream channel habitat to ephemeral wetlands and the development of 1.0 acres of shallow open water wetland features and development of shrub/scrub wetlands. Wetland development will not involve the construction of any berms, dams, or dikes; and will not involve any diversion of water; wetland and new channel construction will offset the loss of riverine wetland habitat; and will not increase water consumption. The proposed project complies with the intent of Montana DNRC's "*Guidance for Landowners and Practitioners Engaged in Stream and Wetland Restoration Activities*".

2021 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: Radio Telemetry Remote Monitoring Equipment

Date: October 26, 2020 February 10, 2022

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:

These satellite modems and modern receivers will allow more efficient use of resources while tracking fish on the Missouri River (Priority 1) and into the Marias and Teton Rivers (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:

TAC Funds Requested for Project: \$ 9,895

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

A network of solar powered land based Lotek telemetry receivers have been used to monitor fish movements throughout the Missouri River and associated tributaries since 2006. Retrieving the data has required FWP personnel to travel to those sites via boat or vehicle and manually download the data. In 2020, we installed four SRX800 receivers with Satellite Modems from Ritter Designs, purchased by NWE. The newer SRX800 receivers and host software allowed for satellite modems to be utilized to remotely download data without needing to go into the field, a capability that proved very useful. As more and more of the hatchery-origin pallid sturgeon

become reproductively active and utilize new reaches of river, monitoring spawning movements will become more challenging. By having the ability to remotely monitor movement past stations of interest (such as the Marias Confluence station) we are able to deploy mobile tracking crews more effectively for collecting spawning movements of reproductive female pallid sturgeon and narrowing down spawning dates and locations. We currently have four SRX800 receivers with satellite communication deployed along the Missouri River in addition to nine SRX400 receivers without remote capabilities (first available in 1991). We would like to purchase two of the newest model (SRX1200-D2) to improve the capabilities of our receiver network (Lotek quote attached). Additionally, the attached invoice shows a quote from Ritter Designs for the production and installation of two additional complete satellite interface kits that will work with the SRX1200 receivers. We currently have satellite remote capabilities at the Marias Confluence, Power Plant Ferry, Coal Banks Landing, and Judith Landing (Figure 1). We plan to deploy the two new units at King Island and Bird Rapids to get better coverage of the lower reach where the bulk of pallid sturgeon spawning activity has been documented.

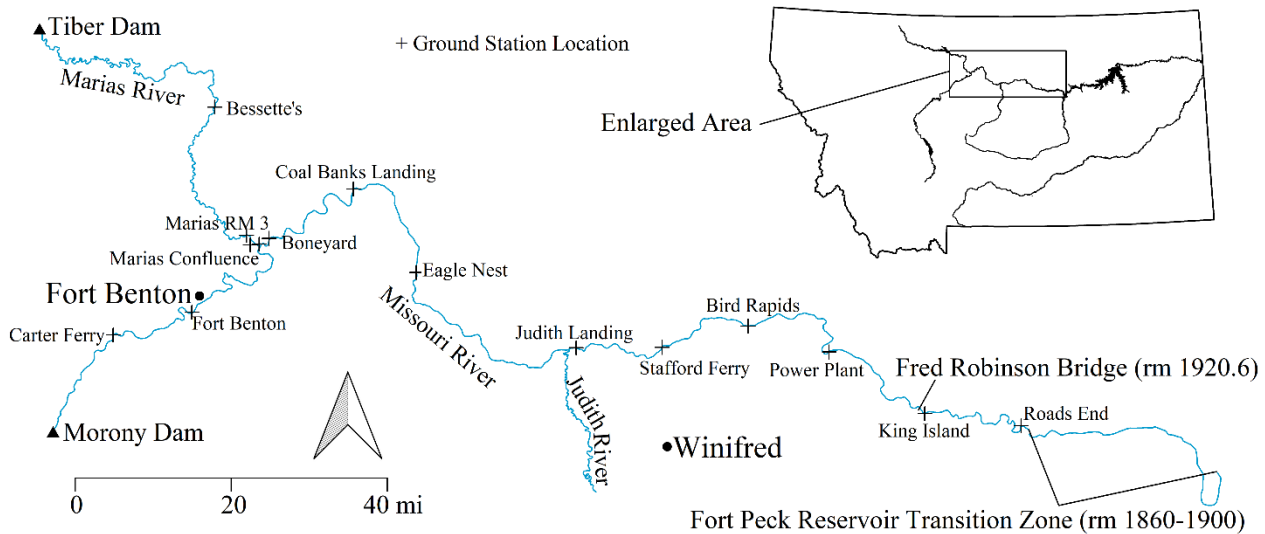


Figure 1. Map of the Middle Missouri River and current network of solar powered land based telemetry stations. The Eagles Nest Station was not deployed in 2020.

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

- Purchase RockFish equipment from Ritter Designs
- Assist Ritter Designs with installation at 2 additional locations (King Island and Bird Rapids or Roads End)
- Successfully remotely access the receivers and download telemetry data

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

- Equipment will be purchased and modems will be deployed in Spring 2021
- Receivers will autonomously download daily during the sturgeon spawning season (late-May through early-July)
 - Data will inform mobile tracking efforts
- Receivers will be manually downloaded monthly during the rest of the year.

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

- Project will begin spring 2021 and continue into the future for unknown amount of time

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

- NWE will purchase the supplies from Ritter Designs and Lotek Wireless.
- FWP and Ritter Designs staff will install the satellite modems

FWP Personnel

- Luke Holmquist, Biologist, FWP (Project Leader)
- Jacob Williams, Fisheries Technician, FWP
- Mike Schilz, Fisheries Technician, FWP
- Nathan Beckman, Fisheries Technician, FWP

VI. Project budget must include amounts for the following:

Direct Labor	\$ 00.00
Travel and Living	\$ 00.00
Materials	\$ 9,895.00
SRX1200-D2 receivers (Quantity = 2 @ \$2995 w/\$155 for shipping).....	\$ 6,145.00
Remote Monitoring Interface (Quantity = 4).....	\$ 3,750.00
Other Direct Expenses	\$ 00.00
Direct Overhead	\$ 00.00
-*NA --NWE will purchase the equipment	

All contribution sources and amounts

Other funding associated with this Telemetry Project: \$127,763

- \$55,149 proposed from NWE in 2021
- \$43,752 annual USBOR funds (5-year contract; 2016-2021)
- \$20,000 by USFWS Section 6 funding personnel on this project
- \$5,000 WAPA funding for Pallid Sturgeon radio transmitters
- \$4,000 approximate – WAPA funds to Bozeman Fish Technology Center for blood plasma steroid analysis

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?

Success of this project will be demonstrated by NWE purchasing the equipment and FWP successfully installing RockFish satellite modems at 4 sites on the Missouri and Marias Rivers that allow for remotely downloading fish movement data.

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:

No ground disturbance is associated with this project

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 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
- 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, 1315 N Last Chance Gulch, Helena, MT 59601; 406-444-8115 (office); 406-565-7549 (cell); Andrew.Welch@northwestern.com.



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

Telephone: 905-836-6680
Email: info.ca@lotek.com
Website: www.lotek.com
Fax: 905-836-6455

SALES QUOTE

Invoice Address:

Montana Fish Wildlife & Parks
 333 Airport Road
 Lewistown , MT 59457
 United States
 Luke Holmquist

Delivery Address:

Montana Fish Wildlife & Parks
 333 Airport Road
 Lewistown , MT 59457
 United States
 Luke Holmquist

Quote Number: SQ14532
Quote Date: 13/Oct/2020
Expiry Date: 13/Dec/2020
Account No.: C06955
VAT Reg. No.:
Page: 1

Contact: Luke Holmquist

Contact: Luke Holmquist

Salesperson: Matthew Knoff

Item No.	Description	Unit	Quantity	Unit Price	Total Price
SRX1200-D	SRX1200-D2 Receiver	Each	2	2,995.00	5,990.00
	Product Type : VHF Receiver	Product Class : Standard			
	Warranty : Standard	Warranty Life : 2Y			
FREIGHT	Freight Charges	Each	1	155.00	155.00

Payment Information:
 Please remit to Newmarket Address
 Cheque or Draft payable to Lotek Wireless Inc., remittance address above

Subtotal: 6,145.00
 Invoice Discount: 0.00
 UK VAT: 0.00

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
 Harris Trust & Savings Bank Main
 111 W. Monroe
 Chicago, IL 60603
 Routing Transit Number 071025661
 Account Number 2910018601

Total: USD 6,145.00



REMOTE MONITORING SATELLITE INTERFACE

FOR

LOTEK RECEIVERS

MONTANA FISH, WILDLIFE & PARKS

18624 67th Ave W
 Lynnwood, WA 98037
 Phone: 443.340.5168
 Email: chris@ritterdesigns.com

Prepared For:
 Luke Holmquist
 Montana Fish, Wildlife & Parks
 333 Airport Road
 Lewistown, MT 59457
 Phone: (406) 538-2445
 Email: lholmquist@mt.gov

DATES THIS WORK COVERS: N/A
 QUOTE #: 2020_09_004
 DATE PREPARED: 9/17/2020
 TERMS: N/A

PROJ.	DESCRIPTION/SERVICES RENDERED	QTY	SUBTOTAL (\$)	TOTAL (\$)
MTFWP Region 4 Radiotelemetry Satellite Interface for Lotek Receivers	Remote monitoring satellite interface for Lotek radiotelemetry receiver			
	<ul style="list-style-type: none"> - Satellite modem, antenna, and cable - Power cable - Enclosure - Initial system installation 	2	\$1,875	\$3,750
TOTALS:			\$	3,750.00

2021 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: Middle Missouri River Radio Telemetry Study

Date: November 5, 2020

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: \$127,901

Other associated funding: \$72,752

- \$43,752 annual USBOR funds (5-year contract; 2016-2021)
- \$20,000 by USFWS Section 6 funding personnel on this project
- \$5,000 WAPA funding for Pallid Sturgeon radio transmitters
- \$4,000 approximate – WAPA funds to Bozeman Fish Technology Center for blood plasma steroid analysis

TAC Funds Requested for Project: **\$55,149**

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 and temperature, on federally endangered species and species of concern. In 2021, 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 of fish includes five wild pallid sturgeon, sixty-three HOPS (fifty-three 1997 year-class, six 2005 year-class, two 2007 year-class, and two 2009 year-class), twenty-four shovelnose sturgeon, seventeen smallmouth buffalo, eight bigmouth buffalo, two walleye, and two freshwater drum. In addition to tracking and tagging additional fish, we need began replacing radio tags that were implanted into pallid sturgeon prior to 2014 or 2015. These tags are advertised to have an 8-year battery life, however are only guaranteed to last ~6.5 years. In 2019, many of the transmitters implanted in 2013 and 2014 were not relocated, and it is suspected that battery life expired over winter, making it impossible to target those individuals for tag replacement. During the 2020 field season transmitters were replaced in fourteen 1997 year-class pallid sturgeon, including six mature females. Many of the pallid sturgeon containing expiring tags have been serially sampled in successive years for information about spawning periodicity and age/size at first maturity. Keeping active transmitters in fish is vital to improving and increasing knowledge regarding fish sexual maturity and spawning ecology for this endangered species. Transmitters that have been removed from pallid sturgeon and still have at least a year of battery remaining were re-implanted into other species of interest, including two freshwater drum, two walleye, and two bigmouth buffalo. New transmitters were also implanted into one smallmouth buffalo, four bigmouth buffalo, and eight 1997 year-class pallid sturgeon.

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 2020, 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. Many of these stations have been maintained for over a decade and antennas, cables, and in some cases the telemetry receiver and switch box are the showing signs of and experiencing the effects of aging. We typically service one receiver a year when problems arise (bad batteries, decreased detection efficiency, etc.), however as the current SRX400 receivers continue to age, they are malfunctioning more frequently. Keeping this array functioning allows for many more telemetry contacts at a much lower cost than if we relied on boat relocations alone. We plan to begin slowly phasing out the SRX400 receivers in favor of the more feature rich SRX800 units. 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.

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 2000 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 data from stations every 5-6 weeks and summarize data and prepare report.
February Download data from stations every 5-6 weeks and summarize data and prepare report.
March Download data from stations every 5-6 weeks and summarize data and prepare report.
April Prep gear, install stations, manually track fish, download data from stations, and maintain stations.
May Manually track fish, download data from stations, install new radios, and maintain stations.
June Manually track fish, download data from stations, install new radios, and maintain stations.
July..... Manually track fish, download data from stations, install new radios, and maintain stations.
August Manually track fish, download data from stations, install new radios, and maintain stations.
September..... Manually track fish, download data from stations, install new radios, and maintain stations.
October..... Manually track fish, download data from stations, install new radios, and maintain stations.
November..... Download data from 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 Michael Schilz (\$17.61/hour plus with benefits)

-Additional Staff;

Luke Holmquist – Project Lead; Biologist funded by NWE and FWP
Jacob Williams- Conservation Technician funded by NWE and FWP
Nate Beckman - Fish Technician funded by NWE and USFWS

VI. Project budget must include amounts for the following:

Materials

-Supplies & Materials \$3,500
-Boat Gas (\$500/month for 8 months)..... \$4,000
-SRX400 Telemetry Receiver Service Fees \$1,300
 -(2 receivers @ \$100 shipping, \$350 service fee, \$200 replace battery)
-Iridium Satellite network data fees (10,000 credits).....\$ 800

-MATERIALS TOTAL..... **\$ 9,600**

Direct Labor

-NWE funded Wages/Benefits for Tech II (0.45 FTE) \$25,433
 -Science Technician (Band 4) \$17.61/hour plus benefits
 -Position Currently held by Michael Schilz

-DIRECT LABOR TOTAL..... **\$25,433**

Travel and Living

-Trailer Pad at Loma (7 months at \$150/month)..... \$1,050
-Entire Day Per Diem (\$30.5/day; 13 days/month; 8 months)..... \$3,172
-Partial Day Per Diem (\$23/day; 6 days/month; 8 months)..... \$1,104
-Vehicle Mileage (1700 miles/month; \$0.358/mile; 250.80 a month; 7 months)..... \$6,016
-Vehicle Mileage (900 miles/month; \$0.358/mile; 250.80 a month; 5 months).....\$2,865

-TRAVEL AND LIVING TOTAL..... **\$ 14,207**

Project funds to FWP..... **\$49,240**
Direct Overhead (12.0%):..... **\$ 5,909**
TOTAL NWE FUNDING REQUESTED..... \$55,149

All contribution sources–

Materials

-USBOR funded Boat Gas	\$ 1,200
-WAPA funded steroid analysis materials to BFTC (approximate).....	\$ 1,000
-WAPA funded radio tags to FWP.....	\$ 5,000
-USBOR Field Gear.....	\$ 300
-MATERIALS TOTAL.....	\$ 7,500

Direct Labor

-WAPA funded blood steroid analysis at BFTC.....	\$ 3,000
-USBOR funds to FWP for personnel services	
- Science Tech (Band 4); 0.55 FTE (\$17.61/hour plus benefits).....	\$32,000
-USFWS funds (Section 6) to FWP for personnel services	
- Science Tech (Band 4; 0.35 FTE (\$17.61/hour plus benefits).....	\$20,000
-DIRECT LABOR TOTAL.....	\$55,000

Travel and Living

-USBOR Funded Mileage.....	\$ 1,680
-USBOR Funded Travel	\$ 1,472
-TRAVEL AND LIVING TOTAL.....	\$ 3,152

Overhead

-USBOR Annual Overhead.....	\$ 7,100
-CONTRIBUTION OVERHEAD TOTAL.....	\$ 7,100

TOTAL FUNDS (Overhead included) = \$72,752

VII. Deliverables: Annual Report submitted September 2022

How will “success” for this project be monitored or demonstrated?

–Annual Report submitted September 2022

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:

-No ground disturbance is associated with this project

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 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
- 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, 1315 N Last Chance Gulch, Helena, MT 59601; 406-444-8115 (office); 406-565-7549 (cell); Andrew.Welch@northwestern.com.

2021 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: Equipment – Holter/Hauser Reservoir gillnets (sinkers) and Hydrolab Surveyor 4a

Date: 10/21/2020

Explain how this Project addresses a specific Project 2188 License Article(s): *Article 414, 8) Monitor the effects of project operations on Hauser Reservoir fish populations; and Article 416, 6) Monitor the effects of project operation on Holter Lake fish populations.* This proposal is to purchase three gillnets and a Hydrolab Surveyor 4a for sampling fisheries population trends and water quality conditions on two Missouri River reservoirs (Holter and Hauser).

Provide justification for Priority 1, 2 or 3 (above) that you selected: Given the nets and Hydrolab Surveyor would be used to conduct fisheries population and limnology surveys on two Missouri River reservoirs (Holter and Hauser), this proposal is considered priority 1.

Project Sponsor (submitted by): Montana Fish, Wildlife & Parks

Location of Proposed Project: Two Missouri River reservoir (Holter and Hauser)
Narrative

Geocode (in decimal degrees ex 46.89743) Lat: NA Lon: NA

Total Project Cost: \$3,254

TAC Funds Requested for Project: \$3,254

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

This proposal is to buy 3 experimental gillnets (sinkers) and one Hydrolab Surveyor 4a handheld device. Reservoir fish populations are monitored annually in spring and fall using experimental floating and sinking gillnets set in 30 locations in Holter Reservoir and 33 standardized locations in Hauser Reservoir. These netting surveys have been conducted annually since 1986 and are the best indicators of fish population changes that may be caused by project operations. Normal operational life-span of a gillnet used for standardized sampling is typically 2-5 years. Reservoir limnology surveys are conducted annually, during open-water months, at three locations in each reservoir. These limnology surveys have been conducted annually since 1986 and are the best way to monitor fluctuating water quality conditions. The current handheld Hydrolab model was purchase new in 2001 and is no longer functional.

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

Purchase three gillnets and one Hydrolab Surveyor 4a handheld device for standardized fisheries population and limnology surveys on two Missouri River reservoirs (Holter and Hauser).

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

Gillnets and Hydrolab Surveyor 4a handheld device will be purchased prior to standardized field sampling in spring 2021.

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

Will purchase as soon as funds are available in 2021.

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

Adam Strainer – MTFWP Fisheries Biologist – Project Leader

VI. Project budget must include amounts for the following:

Direct Labor	\$	0.00
Travel and Living	\$	0.00
Materials	\$	3,220.00 (nets - \$717.00, Hydrolab Surveyor 4a - \$2,503.00)
Other Direct Expenses	\$	34.00 (freight; nets – TBD, Hydrolab Surveyor 4a - \$34.00)
<u>Direct Overhead</u>	\$	<u>0.00 (NA—NW Energy will purchase the equipment)</u>
	\$	3,254.00*

*Quotes for gillnets and Hydrolab Surveyor 4a are attached to this proposal.

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?

Results from standardized fisheries population monitoring surveys will be presented annually in a report to NWE.

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.

No ground-breaking activity. Not applicable.

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

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.

No water rights. Not applicable

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

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, 1315 N Last Chance Gulch, Helena, MT 59601; 406-444-8115 (office); 406-565-7549 (cell); Andrew.Welch@northwestern.com.



QUOTATION

Date 28 Sep 2020
Quotation Number 20-018110
Valid For 60 Days

Bill To:
Montana Fish, Wildlife and Parks
1420 E 6th P O Box 200701
Helena, Montana 59620
thumphrey@mt.gov

Ship To:
Montana Fish, Wildlife and Parks
1420 E 6th P O Box 200701
Helena, Montana 59620

No	Part #	Product Description	Qty	Unit Price (USD)	Ext. Price (USD)
1	SVR4AJBABASE	Surveyor4a with the following option Hydrolab Surveyor for Series 5 sondes	1.0	1,778.00	1,778.00
2	SVR4AMEMEXT	Extended Memory (approx. 375K readin Memory option for Hydrolab Surveyor for Series 5 sondes	1.0	725.00	725.00
Group Subtotal Price					2,503.00

Notes:

Payment Terms	Net 30
Freight Terms	EXW - Ex Works Origin
Expected Delivery Time	30 Days ARO
Sales Tax	Proof of tax exempt status or payment of sales tax is the responsibility of the buyer

USD

Total Price :	2,503.00
Tax :	TBD
Freight :	34.00
Grand Total Price :	2,537.00

If you have any questions or need further information, please don't hesitate to contact me. I look forward to hearing from you soon.

Sincerely,
John Humphreys
Email: john.humphreys@otthydromet.com, Phone:
Prepared by: John Humphreys

Terms and Conditions



Quote

Quote #	3360
Date	10/1/2020

Customer Information

MT DEPT. FISH, WILDLIF
 PO BOX 200701
 HELENA, MT 59620

Shipping Information

MT DEPT. FISH, WILDLIF
 1420 E. 6TH AVENUE
 HELENA, MT 59620
 Attn: Troy Humphrey

Rep:	
Reference	
Job Comments	

QTY	Product Description	Rate	Amount
1	125' Long x 6' Deep Multifilament Experimental Gill Net Sinking Style Regular -All netting in square measure -Five 25' panels of 3/4" 210/4, 1" 210/4, 1-1/4" 210/4, 1-1/2" 210/6, 2" 210/6 -Top Rope: 1/2" Foamcore Rope(20lb /600') -Bottom Rope: 50lb Leadcore Rope(50lb/600') -Side Lines: 1/8" Solid Braid Nylon -Tied and Spliced with #9 on an 8" Guideline	239.00	239.00
1	FedEx Parcel Shipping depends on quantity	0.00	0.00

THANK YOU!

Subtotal	\$239.00
Sales Tax (7.375%)	\$0.00
Total	\$239.00

Quotes Valid for 90 Days.

2021 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: Middle Missouri River Fisheries Trammel Nets Purchase - 2021

Date: November 5, 2020

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

Article 417: 1) Monitor the relative abundance of the most common fish species in the Missouri River downstream of Morony Dam. 2) 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. This is a priority one (Missouri) and two (Marias).

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

Trammel nets are the main sampling gear used to evaluate long term trends of Pallid Sturgeon and Shovelnose Sturgeon. Trammel nets also are the primary sampling gear for targeted recapture of Pallid Sturgeon for reproductive

Project Sponsor (submitted by): Luke Holmquist

Location of Proposed Project: Missouri River between Morony Dam and Fort Peck Reservoir and the lower Marias River.

These trammel nets will be used on the Missouri River from Carter Ferry to Fort Peck Reservoir (Priority 1) and in the lower Marias River (Priority 2).

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: **\$15,650**

TAC Funds Requested for Project: **\$15,650**

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

Sampling with a trammel net is necessary to assess the populations of target deep-water fish species as required by the monitoring plan. Also, trammel net sampling is integral for evaluating the pallid sturgeon stocking program and for capture of fish for radio tagging. We complete approximately 140 - 400 sets/year. Trammel nets are used to maximize pallid sturgeon collections and obtain shovelnose sturgeon information. River conditions are not always conducive (submerged logs), and nets can be severely torn and even destroyed during standard sampling process thus some nets must be replaced each year. More nets have been used in recent years to maximize river field work time. This year we are requesting 25 new 1-inch mesh nets and 25 new 4-inch mesh nets. The 1-inch nets are to replace nets torn beyond repair during standardized sturgeon sampling efforts. The additional ask of 25 new 4-inch

nets are to be used for recapture of reproductively active pallid sturgeon from the 1997 year-class and for use during broodstock collection efforts. These efforts have needed to expand in recent years as the number of reproductive fish has increased. We expect to have approximately eight high priority females to recapture during the 2021 sturgeon spawning season and 4-inch mesh nets are the most efficient gear to recapture pallid sturgeon in the 1997 year-class.

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

These nets will be used in the monitoring of the fish communities in the Middle Missouri River and for pallid sturgeon investigations.

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

IV. Schedule; when the Project work will begin and end. Purchase 50 nets for use during 2020 field season.

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

VI. Project budget must include amounts for the following:

Materials Only:	25 – 150 x 6 x 10 x 1”	@ \$340/net.....	\$8,500.00	
	25 – 150 x 6 x 10 x 4”	@ \$278/net.....	\$6,950.00	
		Shipping:	\$200	
		Total:	\$15,650.00	

Direct Labor NA
Travel and Living NA
Other Direct Expenses NA
Direct Overhead NA – Purchase by NWE
All contribution sources and amounts

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? NA

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: No ground disturbance associated with this project.

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 water rights 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
- 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, 1315 N Last Chance Gulch, Helena, MT 59601; 406-444-8115 (office); 406-565-7549 (cell); Andrew.Welch@northwestern.com.

2021 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: Equipment – Holter Reservoir Rainbow Trout Marking

Date: 10/21/2020

Explain how this Project addresses a specific Project 2188 License Article(s): *Article 416, 3) Propose additional measures to minimize fish loss and to mitigate for avoidable and unavoidable impacts.* Project allows efficient field identification of different strains of rainbow trout stock, which allows field staff to efficiently collect eggs to raise fish for stocking in Hauser and Holter reservoirs as well as other waters throughout the region.

Provide justification for Priority 1, 2 or 3 (above) that you selected: This proposal is considered priority 1.

Project Sponsor (submitted by): Montana Fish, Wildlife & Parks (FWP)

Location of Proposed Project: Two Missouri River reservoir (Holter and Hauser)
Narrative

Geocode (in decimal degrees ex 46.89743) Lat: NA Lon: NA

Total Project Cost: approximately \$60,000

TAC Funds Requested for Project: \$3,144

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

The Holter Reservoir rainbow trout fishery is sustained by stocking Eagle Lake and Arlee strains of rainbow trout. Since 2007, Holter Reservoir has also been used as an egg source for propagation of rainbow trout at Big Spring Hatchery. Distinctly marking the Arlee strain with a clipped adipose fin allows easy strain identification in the field and efficiently separate strains when sorting for spawning. Marked fish also simplify strain evaluation and recruitment to the angler creel. Fish are clipped at the fish hatchery, with approximately 125,000-150,000 fish expected to be marked in 2021.

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

Approximately 125,000-150,000 Arlee strain rainbow trout will be fin clipped (adipose fin) at Big Springs Hatchery in Lewistown, MT by FWP Staff over approximately 3-4 days in spring/early summer 2021.

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

FWP will provide staff and equipment required to fin clip approximately 125,000-150,000 Arlee strain rainbow trout.

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

Fin clipping is expected to occur late spring or early summer, 2021.

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

FWP Staff; Adam Strainer – MTFWP Fisheries Biologist – Project Leader

VI. Project budget must include amounts for the following:

Direct Labor	\$	0.00
Travel Expenses	\$	2,807.00
Materials	\$	0.00
Other Direct Expenses	\$	0.00
<u>Direct Overhead</u>	\$	<u>337.00</u>
	\$	3,144.00*

*

	Unit(s)	Cost	# per day	# of days	Total
Crew Lodging	1 night	\$94.95	6	3	\$1,709
Per Diem/Groceries	1 day	\$30.50	12	3	\$1,098
Subtotal					\$2,807
FWP Overhead (12%)					\$337
Total					\$3,144

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?

Arlee strain rainbow trout will be fin clipped and released into Holter Reservoir, and other waterbodies, from spring to summer, 2021.

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.

No ground-breaking activity. Not applicable.

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

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.

No water rights. Not applicable

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

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, 1315 N Last Chance Gulch, Helena, MT 59601; 406-444-8115 (office); 406-565-7549 (cell); Andrew.Welch@northwestern.com.

2021 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: **Marias River PIT Tag Antenna Array Additions - 2021**

Date: October 21, 2020

Explain how this Project addresses a specific Project 2188 License Article(s): Article 417: 1) Monitor the spawning migrations of Threatened and Endangered species, species of special concern, and popular sportfish in the Missouri River downstream of Morony Dam. 2) 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. This is priority one (Missouri) and two (Marias) since it evaluates movement between the two systems.

Provide justification for Priority 1, 2 or 3 (above) that you selected: The PIT tag arrays in the Marias and Teton allow us to evaluate movement of fish between the Missouri (Priority 1) and these two tributaries (Priority 2).

Project Sponsor (submitted by): Jake Williams, Fisheries Technician, MTFWP

Location of Proposed Project: These readers will be installed in the Marias River and distributed between the confluence with the Teton River and Tiber Dam at approximately RM 30 and RM 60.

Narrative: These PIT stations will be used on the Lower Marias River (Below Tiber Dam).

Geocode (in decimal degrees ex 46.89743) Lat; 48.14399

Lon:-110.65045

Total Project Cost: \$21,373 plus installation by FWP personnel

TAC Funds Requested for Project: **\$21,373**

I. Introduction:

Blue Suckers (Species of Concern) and Shovelnose Sturgeon (Threatened due to similarity of appearance to Pallid Sturgeon) use the Marias and Teton Rivers for spawning when flows are sufficient. PIT tags provide a less expensive alternative to radio telemetry to evaluate spawning migrations into these tributaries, thereby improving and increasing knowledge of the environmental conditions that influence tributary spawning for these species.

Pit tag readers were installed in the Marias (2017) and Teton Rivers (2018) to evaluate fish migrations from the Missouri River. These readers were extremely effective at detecting tagged fish in 2020. As of August 1, 2020, 750 Shovelnose Sturgeon were detected on the Marias readers and 109 on the Teton reader. There was a 69% increase in individuals detected in 2020 from the previous year. Detection data from 2020 provides evidence that stationary PIT readers are an effective method for studying movements of sturgeon and other species of concern in large prairie rivers. Installing additional PIT tag readers further upstream will allow biologist to further evaluate spawning migrations into these tributaries for multiple species including Shovelnose Sturgeon and Blue Suckers.

Additionally, the lower Marias River has seen use by juvenile and reproductive Pallid Sturgeon in the recent years. In August 2020, a proposal was submitted to the Upper Basin Pallid Sturgeon Tagging and Handling Committee to investigate additional tagging

procedures on Pallid Sturgeon using 134 kHz HDX tags. Moving forward all Pallid Sturgeon captured in 2021 and beyond will be implanted with a 134 kHz HDX tag in addition to a smaller FDX tag that will serve as the primary identifier. The PIT tag readers installed in the Marias and Teton will help us better understand Pallid Sturgeon use in both rivers.

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

- Install 4 additional PIT tag readers in the Marias River.
- Continue to download stations a minimum of once per month.
- Perform maintenance as needed.

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

- Equipment will be purchased and stations will be installed in Spring 2021

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

April 2021

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

- NWE will purchase the supplies
- FWP will redeploy the stations, continue tagging fish, and download the stations.

FWP Personnel

- Luke Holmquist, Biologist, FWP
- Jacob Williams, Fisheries Technician, FWP
- Nate Beckman, Fisheries Technician, FWP
- Mike Schilz, Fisheries Technician, FWP

VI. Project budget must include amounts for the following:

Materials

-OregonRFID ORSR-1 Single Antenna Reader x 4.....	\$8,600
-OregonRFID manual tuners x 4.....	\$900
-OregonRFID RTS2 Antenna Tuning Indicator	\$195
-OregonRFID 23mm HDX RFID tags x 2000.....	\$3,100
-OregonRFID 32mm HDX RFID tags x 1000.....	\$1,600
-Ritter Designs Remote monitoring satellite interface receiver x 2.....	\$3,750
-Renogy 100 watt solar panel x 4.....	\$400
-Morningstar SunSaver 10L power controller x 4.....	\$308
-#2 AWG welding wire x 800ft.....	\$1,232
-Super Start 27M deep cycle battery x 8.....	\$735
-Belden 9207 Twinaxial Cable x 80ft.....	\$153
-Arrowhead earth anchors x 50.....	\$400

MATERIALS TOTAL.....\$21,373

Direct Labor: NA; Travel and Living: NA; Other Direct Expenses: NA;
Direct Overhead: NA—NW Energy is purchasing the materials

FWP contribution - FWP will conduct the work to install the readers and antenna.

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?

Success of this project will be NWE purchasing the equipment and FWP successfully installing it, thereby allowing more detailed monitoring of PIT tagged fish utilization of the Marias and Teton Rivers.

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:
No ground disturbance associated with this project.

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.

No water rights 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
- 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, 1315 N Last Chance Gulch, Helena, MT 59601; 406-444-8115 (office); 406-565-7549 (cell); Andrew.Welch@northwestern.com.

Oregon RFID, Inc
 Portland, OR 97206

Quote

Date 9/15/20

Ph: 503-788-4380, ext 606

Quote for:

Montana Fish, Wildlife and Parks
 333 Airport Road, Suite 1
 Lewistown, MT 59457

Qty	Description	US \$ Price Ea.	Merchandise Total
4	ORSR-1 Single Antenna Reader	2,150.00	8,600.00
4	Manual Tuner	225.00	900.00
1	RTS2 Antenna Tuning Indicator	195.00	195.00
2,000	23 mm HDX RFID Tags	1.55	3,100.00
1,000	32 mm HDX RFID Tags	1.60	1,600.00
1	Shipping to:	0.00	0.00
	Jake Williams 205 W. Aztec Drive Lewistown, MT 59457		
		Total	\$14,395.00



REMOTE MONITORING SATELLITE INTERFACE

FOR

PIT ORFID STATIONS

MONTANA FISH, WILDLIFE & PARKS

18624 67th Ave W
 Lynnwood, WA 98037
 Phone: 443.340.5168
 Email: chris@ritterdesigns.com

Prepared For:
 Luke Holmquist
 Montana Fish, Wildlife & Parks
 333 Airport Road
 Lewistown, MT 59457
 Phone: (406) 538-2445
 Email: lholmquist@mt.gov

DATES THIS WORK COVERS: N/A
 QUOTE #: 2020_09_005
 DATE PREPARED: 9/17/2020
 TERMS: N/A

PROJ.	DESCRIPTION/SERVICES RENDERED	QTY	SUBTOTAL (\$)	TOTAL (\$)
MTFWP Region 4 Radiotelemetry Satellite Interface for PIT ORFID Stations	Remote monitoring satellite interface for Lotek radiotelemetry receiver	2	\$1,875	\$3,750
	<ul style="list-style-type: none"> - Satellite modem, antenna, and cable - Power cable - Enclosure - Initial system installation 			
TOTALS:			\$	3,750.00

2021 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: North Central Montana Westslope Cutthroat Trout Restoration

Date: 10/27/2020

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 whereas the project will be located in the greater Missouri River drainage upstream of Fort Peck Reservoir.

Project Sponsor (submitted by): Alex Poole, MT FWP

Location of Proposed Project: Majority of work is focused in the drainages of Highwood and Belt Creek. Other work may occur on headwater tributary drainages such as but not limited to Dearborn, Smith, Sun, Teton, Marias, and Judith rivers.

Geocode (in decimal degrees ex 46.89743) Lat; Lon:
NA

Total Project Cost: Estimated over \$80,000 per year

TAC Funds Requested for Project: \$16,034

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

Native Westslope Cutthroat Trout were historically the most widely distributed and only native trout species in the Great Falls Area. Significant population reductions have occurred, and it is estimated that Westslope Cutthroat Trout currently occupy less than 5% of their historic range in the Missouri River drainage. The reduction in populations has been attributed to nonnative species introductions, habitat degradation, fragmentation, and overexploitation.

This project will fund a fisheries technician that will work directly with the MT FWP native species biologist to complete field work implemented to maintain, protect, enhance, recover and monitor native Westslope Cutthroat Trout.

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

The MT FWP native species biologist will develop a work plan that has objectives including maintaining, protecting, recovering and monitoring native Westslope Cutthroat Trout. Majority of work will be focused in the drainages of Highwood and Belt Creek. Other work may occur on headwater tributary drainages such as but not limited to Dearborn, Smith, Sun, Teton, Marias, and Judith rivers.

This fisheries technician will utilize the FTE and operations budget to work directly with the native species biologist to carry out the field based workplan.

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

Work and methods of data collection will include various fisheries sampling gears including but not limited to electrofishing, environmental collection equipment, and other gear as necessary.

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

Fisheries technician will be brought on staff at the beginning of the field season in June 2021 and work until mid-October 2021.

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

Fisheries technician; position is currently filled by Katie Webster. Project lead/principal investigator is MT FWP native species biologist; position is currently filled by Alex Poole.

VI. Project budget must include amounts for the following:

Direct Labor \$13,816
 Travel and Living \$250
 Materials \$250
 Other Direct Expenses \$0
 Direct Overhead \$1,718
 All contribution sources and amounts

	Item	FTE	Hours	Pay rate including benefits	Amount
Westslope Cutthroat Trout Restoration					
Katie Webster	F&W Tech	0.30	626	\$22.06	\$13,816
	Operations (travel, fuel, equip)				\$500
	Subtotal				\$14,316
	Overhead (12%)				\$1,718
	Total	0.30	626		\$16,034

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?

An annual report will be submitted to NWE November 2021

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:

No ground disturbance associated with this project.

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 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
- 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, 1315 N Last Chance Gulch, Helena, MT 59601; 406-444-8115 (office); 406-565-7549 (cell); Andrew.Welch@northwestern.com.

2021 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: Radio Telemetry Remote Monitoring Equipment

Date: October 26, 2020 November 5, 2020

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:

These satellite modems and modern receivers will allow more efficient use of resources while tracking fish on the Missouri River (Priority 1) and into the Marias and Teton Rivers (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:

TAC Funds Requested for Project: \$ 9,895

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

A network of solar powered land based Lotek telemetry receivers have been used to monitor fish movements throughout the Missouri River and associated tributaries since 2006. Retrieving the data has required FWP personnel to travel to those sites via boat or vehicle and manually download the data. In 2020, we installed four SRX800 receivers with Satellite Modems from Ritter Designs, purchased by NWE. The newer SRX800 receivers and host software allowed for satellite modems to be utilized to remotely download data without needing to go into the field, a capability that proved very useful. As more and more of the hatchery-origin pallid sturgeon

become reproductively active and utilize new reaches of river, monitoring spawning movements will become more challenging. By having the ability to remotely monitor movement past stations of interest (such as the Marias Confluence station) we are able to deploy mobile tracking crews more effectively for collecting spawning movements of reproductive female pallid sturgeon and narrowing down spawning dates and locations. We currently have four SRX800 receivers with satellite communication deployed along the Missouri River in addition to nine SRX400 receivers without remote capabilities (first available in 1991). We would like to purchase two of the newest model (SRX1200-D2) to improve the capabilities of our receiver network (Lotek quote attached). Additionally, the attached invoice shows a quote from Ritter Designs for the production and installation of two additional complete satellite interface kits that will work with the SRX1200 receivers. We currently have satellite remote capabilities at the Marias Confluence, Power Plant Ferry, Coal Banks Landing, and Judith Landing (Figure 1). We plan to deploy the two new units at King Island and Bird Rapids to get better coverage of the lower reach where the bulk of pallid sturgeon spawning activity has been documented.

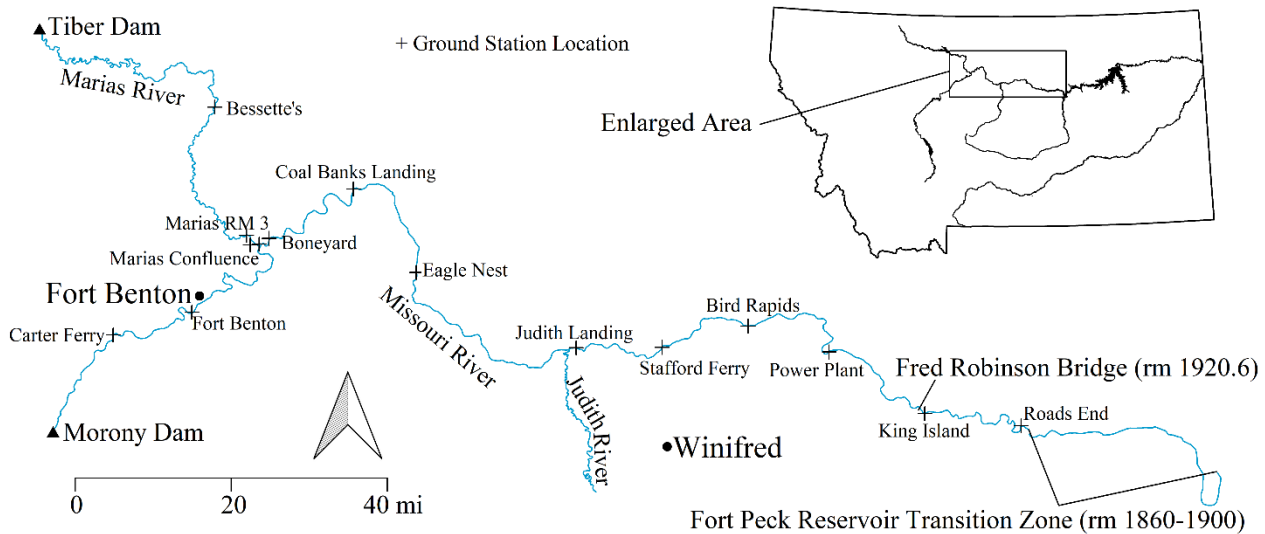


Figure 1. Map of the Middle Missouri River and current network of solar powered land based telemetry stations. The Eagles Nest Station was not deployed in 2020.

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

- Purchase RockFish equipment from Ritter Designs
- Assist Ritter Designs with installation at 2 additional locations (King Island and Bird Rapids or Roads End)
- Successfully remotely access the receivers and download telemetry data

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

- Equipment will be purchased and modems will be deployed in Spring 2021
- Receivers will autonomously download daily during the sturgeon spawning season (late-May through early-July)
 - Data will inform mobile tracking efforts
- Receivers will be manually downloaded monthly during the rest of the year.

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

- Project will begin spring 2021 and continue into the future for unknown about of time

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

- NWE will purchase the supplies from Ritter Designs and Lotek Wireless.
- FWP and Ritter Designs staff will install the satellite modems

FWP Personnel

- Luke Holmquist, Biologist, FWP (Project Leader)
- Jacob Williams, Fisheries Technician, FWP
- Mike Schilz, Fisheries Technician, FWP
- Nathan Beckman, Fisheries Technician, FWP

VI. Project budget must include amounts for the following:

Direct Labor	\$ 00.00
Travel and Living	\$ 00.00
Materials	\$ 9,895.00
SRX1200-D2 receivers (Quantity = 2 @ \$2995 w/\$155 for shipping)	\$ 6,145.00
Remote Monitoring Interface (Quantity = 4).....	\$ 3,750.00
Other Direct Expenses	\$ 00.00
Direct Overhead	\$ 00.00
-*NA --NWE will purchase the equipment	

All contribution sources and amounts

Other funding associated with this Telemetry Project: \$127,763

- \$55,149 proposed from NWE in 2021
- \$43,752 annual USBOR funds (5-year contract; 2016-2021)
- \$20,000 by USFWS Section 6 funding personnel on this project
- \$5,000 WAPA funding for Pallid Sturgeon radio transmitters
- \$4,000 approximate – WAPA funds to Bozeman Fish Technology Center for blood plasma steroid analysis

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?

Success of this project will be demonstrated by NWE purchasing the equipment and FWP successfully installing RockFish satellite modems at 4 sites on the Missouri and Marias Rivers that allow for remotely downloading fish movement data.

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:

No ground disturbance is associated with this project

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 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
- 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, 1315 N Last Chance Gulch, Helena, MT 59601; 406-444-8115 (office); 406-565-7549 (cell); Andrew.Welch@northwestern.com.



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

Telephone: 905-836-6680
Email: info.ca@lotek.com
Website: www.lotek.com
Fax: 905-836-6455

SALES QUOTE

Invoice Address:

Montana Fish Wildlife & Parks
 333 Airport Road
 Lewistown , MT 59457
 United States
 Luke Holmquist

Delivery Address:

Montana Fish Wildlife & Parks
 333 Airport Road
 Lewistown , MT 59457
 United States
 Luke Holmquist

Quote Number: SQ14532
Quote Date: 13/Oct/2020
Expiry Date: 13/Dec/2020
Account No.: C06955
VAT Reg. No.:
Page: 1

Contact: Luke Holmquist

Contact: Luke Holmquist

Salesperson: Matthew Knoff

Item No.	Description	Unit	Quantity	Unit Price	Total Price
SRX1200-D	SRX1200-D2 Receiver	Each	2	2,995.00	5,990.00
	Product Type : VHF Receiver	Product Class : Standard			
	Warranty : Standard	Warranty Life : 2Y			
FREIGHT	Freight Charges	Each	1	155.00	155.00

Payment Information:
 Please remit to Newmarket Address
 Cheque or Draft payable to Lotek Wireless Inc., remittance address above

Subtotal: 6,145.00
 Invoice Discount: 0.00
 UK VAT: 0.00

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 Harris Trust & Savings Bank Main
 111 W. Monroe
 Chicago, IL 60603
 Routing Transit Number 071025661
 Account Number 2910018601

Total: USD 6,145.00



REMOTE MONITORING SATELLITE INTERFACE

FOR

LOTEK RECEIVERS

MONTANA FISH, WILDLIFE & PARKS

18624 67th Ave W
 Lynnwood, WA 98037
 Phone: 443.340.5168
 Email: chris@ritterdesigns.com

Prepared For:
 Luke Holmquist
 Montana Fish, Wildlife & Parks
 333 Airport Road
 Lewistown, MT 59457
 Phone: (406) 538-2445
 Email: lholmquist@mt.gov

DATES THIS WORK COVERS: N/A
 QUOTE #: 2020_09_004
 DATE PREPARED: 9/17/2020
 TERMS: N/A

PROJ.	DESCRIPTION/SERVICES RENDERED	QTY	SUBTOTAL (\$)	TOTAL (\$)
MTFWP Region 4 Radiotelemetry Satellite Interface for Lotek Receivers	Remote monitoring satellite interface for Lotek radiotelemetry receiver			
	<ul style="list-style-type: none"> - Satellite modem, antenna, and cable - Power cable - Enclosure - Initial system installation 	2	\$1,875	\$3,750
TOTALS:			\$	3,750.00

2021 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: Equipment – Holter/Hauser Reservoir gillnets (sinkers) and Hydrolab Surveyor 4a

Date: 10/21/2020

Explain how this Project addresses a specific Project 2188 License Article(s): *Article 414, 8) Monitor the effects of project operations on Hauser Reservoir fish populations; and Article 416, 6) Monitor the effects of project operation on Holter Lake fish populations.* This proposal is to purchase three gillnets and a Hydrolab Surveyor 4a for sampling fisheries population trends and water quality conditions on two Missouri River reservoirs (Holter and Hauser).

Provide justification for Priority 1, 2 or 3 (above) that you selected: Given the nets and Hydrolab Surveyor would be used to conduct fisheries population and limnology surveys on two Missouri River reservoirs (Holter and Hauser), this proposal is considered priority 1.

Project Sponsor (submitted by): Montana Fish, Wildlife & Parks

Location of Proposed Project: Two Missouri River reservoir (Holter and Hauser)
Narrative

Geocode (in decimal degrees ex 46.89743) Lat: NA Lon: NA

Total Project Cost: \$3,254

TAC Funds Requested for Project: \$3,254

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

This proposal is to buy 3 experimental gillnets (sinkers) and one Hydrolab Surveyor 4a handheld device. Reservoir fish populations are monitored annually in spring and fall using experimental floating and sinking gillnets set in 30 locations in Holter Reservoir and 33 standardized locations in Hauser Reservoir. These netting surveys have been conducted annually since 1986 and are the best indicators of fish population changes that may be caused by project operations. Normal operational life-span of a gillnet used for standardized sampling is typically 2-5 years. Reservoir limnology surveys are conducted annually, during open-water months, at three locations in each reservoir. These limnology surveys have been conducted annually since 1986 and are the best way to monitor fluctuating water quality conditions. The current handheld Hydrolab model was purchase new in 2001 and is no longer functional.

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

Purchase three gillnets and one Hydrolab Surveyor 4a handheld device for standardized fisheries population and limnology surveys on two Missouri River reservoirs (Holter and Hauser).

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

Gillnets and Hydrolab Surveyor 4a handheld device will be purchased prior to standardized field sampling in spring 2021.

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

Will purchase as soon as funds are available in 2021.

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

Adam Strainer – MTFWP Fisheries Biologist – Project Leader

VI. Project budget must include amounts for the following:

Direct Labor	\$	0.00
Travel and Living	\$	0.00
Materials	\$	3,220.00 (nets - \$717.00, Hydrolab Surveyor 4a - \$2,503.00)
Other Direct Expenses	\$	34.00 (freight; nets – TBD, Hydrolab Surveyor 4a - \$34.00)
<u>Direct Overhead</u>	\$	<u>0.00 (NA—NW Energy will purchase the equipment)</u>
	\$	3,254.00*

*Quotes for gillnets and Hydrolab Surveyor 4a are attached to this proposal.

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?

Results from standardized fisheries population monitoring surveys will be presented annually in a report to NWE.

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.

No ground-breaking activity. Not applicable.

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

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.

No water rights. Not applicable

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

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, 1315 N Last Chance Gulch, Helena, MT 59601; 406-444-8115 (office); 406-565-7549 (cell); Andrew.Welch@northwestern.com.



QUOTATION

Date 28 Sep 2020
Quotation Number 20-018110
Valid For 60 Days

Bill To:
 Montana Fish, Wildlife and Parks
 1420 E 6th P O Box 200701
 Helena, Montana 59620
 thumphrey@mt.gov

Ship To:
 Montana Fish, Wildlife and Parks
 1420 E 6th P O Box 200701
 Helena, Montana 59620

No	Part #	Product Description	Qty	Unit Price (USD)	Ext. Price (USD)
1	SVR4AJBABASE	Surveyor4a with the following option Hydrolab Surveyor for Series 5 sondes	1.0	1,778.00	1,778.00
2	SVR4AMEMEXT	Extended Memory (approx. 375K readin Memory option for Hydrolab Surveyor for Series 5 sondes	1.0	725.00	725.00
Group Subtotal Price					2,503.00

Notes:

Payment Terms	Net 30
Freight Terms	EXW - Ex Works Origin
Expected Delivery Time	30 Days ARO
Sales Tax	Proof of tax exempt status or payment of sales tax is the responsibility of the buyer

USD

Total Price :	2,503.00
Tax :	TBD
Freight :	34.00
Grand Total Price :	2,537.00

If you have any questions or need further information, please don't hesitate to contact me. I look forward to hearing from you soon.

Sincerely,
 John Humphreys
 Email: john.humphreys@otthydromet.com, Phone:
 Prepared by: John Humphreys

Terms and Conditions



Quote

Quote #	3360
Date	10/1/2020

Customer Information

MT DEPT. FISH, WILDLIF
 PO BOX 200701
 HELENA, MT 59620

Shipping Information

MT DEPT. FISH, WILDLIF
 1420 E. 6TH AVENUE
 HELENA, MT 59620
 Attn: Troy Humphrey

Rep:	
Reference	
Job Comments	

QTY	Product Description	Rate	Amount
1	125' Long x 6' Deep Multifilament Experimental Gill Net Sinking Style Regular -All netting in square measure -Five 25' panels of 3/4" 210/4, 1" 210/4, 1-1/4" 210/4, 1-1/2" 210/6, 2" 210/6 -Top Rope: 1/2" Foamcore Rope(20lb /600') -Bottom Rope: 50lb Leadcore Rope(50lb/600') -Side Lines: 1/8" Solid Braid Nylon -Tied and Spliced with #9 on an 8" Guideline	239.00	239.00
1	FedEx Parcel Shipping depends on quantity	0.00	0.00

THANK YOU!

Subtotal	\$239.00
Sales Tax (7.375%)	\$0.00
Total	\$239.00

Quotes Valid for 90 Days.

4976 Arnold Rd Duluth MN 55803 office@duluthnets.com duluthnets.com

2021 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: Equipment – Holter Reservoir Rainbow Trout Marking

Date: 10/21/2020

Explain how this Project addresses a specific Project 2188 License Article(s): *Article 416, 3) Propose additional measures to minimize fish loss and to mitigate for avoidable and unavoidable impacts.* Project allows efficient field identification of different strains of rainbow trout stock, which allows field staff to efficiently collect eggs to raise fish for stocking in Hauser and Holter reservoirs as well as other waters throughout the region.

Provide justification for Priority 1, 2 or 3 (above) that you selected: This proposal is considered priority 1.

Project Sponsor (submitted by): Montana Fish, Wildlife & Parks (FWP)

Location of Proposed Project: Two Missouri River reservoir (Holter and Hauser)
Narrative

Geocode (in decimal degrees ex 46.89743) Lat: NA Lon: NA

Total Project Cost: approximately \$60,000

TAC Funds Requested for Project: \$3,144

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

The Holter Reservoir rainbow trout fishery is sustained by stocking Eagle Lake and Arlee strains of rainbow trout. Since 2007, Holter Reservoir has also been used as an egg source for propagation of rainbow trout at Big Spring Hatchery. Distinctly marking the Arlee strain with a clipped adipose fin allows easy strain identification in the field and efficiently separate strains when sorting for spawning. Marked fish also simplify strain evaluation and recruitment to the angler creel. Fish are clipped at the fish hatchery, with approximately 125,000-150,000 fish expected to be marked in 2021.

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

Approximately 125,000-150,000 Arlee strain rainbow trout will be fin clipped (adipose fin) at Big Springs Hatchery in Lewistown, MT by FWP Staff over approximately 3-4 days in spring/early summer 2021.

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

FWP will provide staff and equipment required to fin clip approximately 125,000-150,000 Arlee strain rainbow trout.

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

Fin clipping is expected to occur late spring or early summer, 2021.

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

FWP Staff; Adam Strainer – MTFWP Fisheries Biologist – Project Leader

VI. Project budget must include amounts for the following:

Direct Labor	\$	0.00
Travel Expenses	\$	2,807.00
Materials	\$	0.00
Other Direct Expenses	\$	0.00
<u>Direct Overhead</u>	\$	<u>337.00</u>
	\$	3,144.00*

*

	Unit(s)	Cost	# per day	# of days	Total
Crew Lodging	1 night	\$94.95	6	3	\$1,709
Per Diem/Groceries	1 day	\$30.50	12	3	\$1,098
Subtotal					\$2,807
FWP Overhead (12%)					\$337
Total					\$3,144

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?

Arlee strain rainbow trout will be fin clipped and released into Holter Reservoir, and other waterbodies, from spring to summer, 2021.

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.

No ground-breaking activity. Not applicable.

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

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.

No water rights. Not applicable

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

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, 1315 N Last Chance Gulch, Helena, MT 59601; 406-444-8115 (office); 406-565-7549 (cell); Andrew.Welch@northwestern.com.

2021 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: North Central Montana Westslope Cutthroat Trout Restoration

Date: 10/27/2020

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 whereas the project will be located in the greater Missouri River drainage upstream of Fort Peck Reservoir.

Project Sponsor (submitted by): Alex Poole, MT FWP

Location of Proposed Project: Majority of work is focused in the drainages of Highwood and Belt Creek. Other work may occur on headwater tributary drainages such as but not limited to Dearborn, Smith, Sun, Teton, Marias, and Judith rivers.

Geocode (in decimal degrees ex 46.89743) Lat; Lon:
NA

Total Project Cost: Estimated over \$80,000 per year

TAC Funds Requested for Project: \$16,034

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

Native Westslope Cutthroat Trout were historically the most widely distributed and only native trout species in the Great Falls Area. Significant population reductions have occurred, and it is estimated that Westslope Cutthroat Trout currently occupy less than 5% of their historic range in the Missouri River drainage. The reduction in populations has been attributed to nonnative species introductions, habitat degradation, fragmentation, and overexploitation.

This project will fund a fisheries technician that will work directly with the MT FWP native species biologist to complete field work implemented to maintain, protect, enhance, recover and monitor native Westslope Cutthroat Trout.

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

The MT FWP native species biologist will develop a work plan that has objectives including maintaining, protecting, recovering and monitoring native Westslope Cutthroat Trout. Majority of work will be focused in the drainages of Highwood and Belt Creek. Other work may occur on headwater tributary drainages such as but not limited to Dearborn, Smith, Sun, Teton, Marias, and Judith rivers.

This fisheries technician will utilize the FTE and operations budget to work directly with the native species biologist to carry out the field based workplan.

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

Work and methods of data collection will include various fisheries sampling gears including but not limited to electrofishing, environmental collection equipment, and other gear as necessary.

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

Fisheries technician will be brought on staff at the beginning of the field season in June 2021 and work until mid-October 2021.

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

Fisheries technician; position is currently filled by Katie Webster. Project lead/principal investigator is MT FWP native species biologist; position is currently filled by Alex Poole.

VI. Project budget must include amounts for the following:

Direct Labor \$13,816
 Travel and Living \$250
 Materials \$250
 Other Direct Expenses \$0
 Direct Overhead \$1,718
 All contribution sources and amounts

	Item	FTE	Hours	Pay rate including benefits	Amount
Westslope Cutthroat Trout Restoration					
Katie Webster	F&W Tech	0.30	626	\$22.06	\$13,816
	Operations (travel, fuel, equip)				\$500
	Subtotal				\$14,316
	Overhead (12%)				\$1,718
	Total	0.30	626		\$16,034

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?

An annual report will be submitted to NWE November 2021

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:

No ground disturbance associated with this project.

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 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
- 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, 1315 N Last Chance Gulch, Helena, MT 59601; 406-444-8115 (office); 406-565-7549 (cell); Andrew.Welch@northwestern.com.

2021 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: Shovelnose Sturgeon Movement Trends and Environmental Cues in the Middle Missouri River Analysis

Date: November 2, 2020

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

Article 417, Task 4) 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.

Shovelnose Sturgeon are often used as a surrogate species for endangered Pallid Sturgeon. Information about movement patterns and cues to movement, particularly attraction to flows following flow modifications to Tiber Dam, of Shovelnose Sturgeon would be useful to enhance management decisions for Pallid and Shovelnose Sturgeon. Given that sample sizes are often small for Pallid Sturgeon, but larger for Shovelnose Sturgeon, evaluating the responses of Shovelnose sturgeon can help to "...determine the influence of spring discharge patterns from Canyon Ferry and Tiber reservoirs on spawning migrations and reproductive success of pallid sturgeon...". Furthermore, identification of Shovelnose Sturgeon spawning sites will be useful for evaluating the potential for hybridization with Pallid Sturgeon, a concern that will continue to grow as hatchery-reared Pallid Sturgeon reach sexual maturity.

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

Priority 1 – The majority of Shovelnose Sturgeon relocations are from the mainstem Missouri.

Priority 2 – Shovelnose Sturgeon relocations also occurred in the Marias and Teton rivers.

Project Sponsor (submitted by): Luke Holmquist, Montana Fish, Wildlife & Parks

Brian Tornabene, University of Montana (current affiliation), Montana Cooperative Fishery Research Unit (affiliation for this proposed project)

Location of Proposed Project:

Office work focused on Shovelnose Sturgeon relocations from the Middle Missouri River and its major tributaries. The study will analyze previously collected Shovelnose Sturgeon telemetry data to evaluate movement patterns, movement cues, and attraction flows to enhance management of sturgeon species in the Middle Missouri River.

Geocode (in decimal degrees ex 46.89743

Lat; 47.73581

Lon: -109.64404

Total Project Cost:

\$47,356

TAC Funds Requested for Project:

\$23,862

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

Shovelnose Sturgeon make long-distance annual migrations in the Missouri River in Montana as well in other large rivers throughout North America. Shovelnose Sturgeon are often used as a surrogate species for Pallid Sturgeon because they make similar annual spawning movements and may have the same attraction to flows for spawning. Shovelnose sturgeon were once the most widely distributed and common sturgeon species in North America, but populations have experienced localized declines in North America because of flow and habitat alteration and overfishing.

In collaboration with Northwestern Energy (NWE), Montana Fish, Wildlife & Parks conducted a ~14-year radio telemetry study of Shovelnose Sturgeon on a 200-mile reach of the Middle Missouri River from Carter Ferry to Fort Peck Reservoir. Nearly 200 individuals were tagged at four locations: Marias Confluence (river mile [RM] 2050), Coal Banks Landing (RM 2031), Judith Landing (RM 1982), and Fred Robinson Bridge (RM 1921). Fish were monitored with manual boat relocations that were conducted monthly and biweekly during the spawning seasons. Fish were also monitored with a network of remote radio-receiving stations located at about 10 sites between RM 1901–2089 with additional stations at the confluence of the Marias and Teton rivers to monitor entry into these tributaries. Nearly 15,000 relocations were made. Some habitat measurements were collected during spawning, but not every year (~2,300 relocations). Additionally, some hormone and biopsy data were collected to assess reproductive status.

The objectives of the original study were to identify spawning areas, spawning cues, and movement patterns. However, the original analysis was limited. Preliminary analyses primarily investigated individual fish movements, but did not include the entire data set and did not include statistical analyses to identify relationships and trends. The proposed work would provide additional insight into Shovelnose Sturgeon movements and critical habitat areas as intended in the original study. The ultimate goal is to inform management decisions for Shovelnose and Pallid sturgeon in the Missouri and other large river systems and enhance our understanding of the ecology of sturgeon in Montana.

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

The objective of this study is to analyze ~15,000 Shovelnose Sturgeon relocations for ~200 telemetered fish to:

- a. Describe seasonal and annual home ranges
- b. Identify seasonal movement patterns including rates, distance, and direction
- c. Identify the influence of hypothesized movement and spawning cues such as temperature and discharge
- d. Identify attraction flows of, and entry into, tributaries
- e. Identify potential spawning areas and critical habitats
- f. Analysis will also include evaluation of movements in relation to tagging site and sex

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

This request is for data analysis and a formal report. FWP would supply data files with relocation information including date, latitude, longitude, river mile, and collected habitat data. FWP staff will work with Brian Tornabene to amend the existing records with discharge and temperature data. Brian Tornabene will use program R to analyze data and evaluate the objectives listed above. Analyses would be similar to those Brian Tornabene completed in published studies of blue sucker and softshell turtle habitat use and movement (Tornabene et al. 2017 and 2020) and in an unpublished investigation of native fishes and spiny softshell turtles in the Yellowstone River (Jaeger et al. 2015). However, this study will be more complicated because of the large number of years and relocations (size of dataset), periodic life history of the species, changes in reproductive status throughout the years, and known differences in movement and habitat use dependent on tagging location.

Analyses and interpretation would be provided to FWP for feedback and then to FWP and NWE in the form of a technical report. The report will include figures and tables for home range, movement patterns, relationships between spawning movements and temperature or discharge, timing of entrance into tributaries and rates of attraction flows, and locations of aggregations during spawning and critical habitat areas throughout the year. We will also publish the results in a scientific journal. There is also potential for evaluating Bigmouth and Smallmouth Buffalo and other radio-tagged species with similar methods.

Tornabene, B.J., T.W. Smith, R. Beattie, L.A. Eby, and A.E. Tews. 2020. Trends in river discharge and water temperature cue movements of blue suckers *Cyprinus elongatus* in an impounded Great Plains river. **Copeia** **108:151–162**.
<https://doi.org/10.1643/CI-19-256>

Tornabene, B.J., Bramblett, R.G., Zale, A.V. and Leathe, S.A., 2017. Spatiotemporal Ecology of *Aplone spinifera* in a Large, Great Plains River Ecosystem. **Herpetological Conservation and Biology**, 12:252–271.
http://herpconbio.org/contents_vol12_issue1.html

Jaeger, M.E., R. G. Bramblett, **B.J. Tornabene**, N. McClenning, T. Watson, K. Frazer, B.J. Schmitz, and J. Darling. Movements, habitat use, and diversion passage of native fishes and spiny softshells in the Yellowstone River. Technical report to **Montana Fish, Wildlife & Parks** submitted in March 2015, 170 pgs.

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

Before August 2021; FWP will proof telemetry data files and provide and amend discharge and temperature data where possible

September 2021 – January 2022; Contractors will complete analysis and a detailed report including figures and tables for each objective by January 31, 2022.

**The schedule and timeframes outlined here can be altered or delayed if our other Spiny Softshell Turtle proposal, which includes time-sensitive fieldwork, is also funded. This and the softshell turtle project would not overlap.

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

FWP staff:

- Luke Holmquist, FWP, biologist, project leader funded by FWP and NWE.
- Jake Williams, FWP, senior fish tech, co-project leader, funded by FWP and NWE.

Montana State University Contractors:

- Brian Tornabene, M.S., Doctoral candidate at University of Montana and working with Montana Cooperative Fishery Research Unit for this project, will lead analyses and writing
 - Brian’s research focuses on aquatic ecology of herpetofauna and fishes, with particular interest in natural history, population demographics, spatiotemporal ecology, disease ecology, and ecotoxicology. Brian has conducted similar analyses with blue sucker and softshell turtle habitat use and movement data from the Missouri River, Montana (Tornabene et al. 2017 and 2020) and in an unpublished analysis of native fishes and spiny softshell turtles in the Yellowstone River, Montana (Jaeger et. al 2015).
- Dr. Alexander Zale, Unit Leader of the Montana Cooperative Fishery Research Unit of the U.S. Geological Survey (USGS) and Professor at Montana State University (MSU), will assist in analysis and interpretation of results, and edit drafts of reports and manuscripts
 - Al has been the Unit Leader in the MTCFRU for 18 years and studies all manner of management, conservation, and applied ecology issues related to aquatic wild life, primarily fishes, but other taxa as well. Al advised Brian during his masters and following this. He is a member of the Institutional Animal Care and Use Committee at Montana State University and was lead co-editor of the 3rd Edition of Fisheries Techniques.

Additional Assistance:

- Dr. Molly Webb, Research Fishery Biologist, U.S. Fish and Wildlife Service, Bozeman Fish Technology Center and Affiliate Faculty at MSU, will assist with expert advice on previous biopsies and hormone data, feedback on analysis and interpretation of data, and editing draft reports and manuscripts.
 - Dr. Molly Webb is a reproductive physiologist. A primary focus of her research program is the development and implementation of less-invasive and non-invasive tools to assign sex and stage of maturity in aquatic animals.

VI. Project budget must include amounts for the following:

Item	Amount
MSU Coop Contract (PS)	\$17,754
MSU Coop Overhead @ 20%	3,551
Subtotal	\$21,305
FWP Overhead (12%)	\$2,557
Total	\$23,862

Other Project Contributions:

MTCFRU – Part time (1/8 time) salary for A. Zale (\$15,768) + 49% benefits = \$23,494

Dr. Al Zale is funded by the MTCFRU, U.S. Geological Survey and will provide expert opinions, advice and assistance with analysis, and report and manuscript preparation at no cost to NWE.

Luke Holmquist and Jake Williams are funded by FWP and NWE and will provide expert opinions, guidance with data aggregation and analysis, and assistance with interpretation and writing.

Dr. Molly Webb is funded by USFWS and will provide expert advice and feedback on analysis and interpretation of data and editing of draft reports and manuscripts at no cost to NWE.

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?

Summaries of analyses will be provided to FWP from Brian Tornabene as they are produced (section II, a–f, above) for feedback and assistance with interpretation. Brian Tornabene and FWP will work together to draft a report to be submitted to FWP and NWE, followed by manuscript preparation and publication. Brian can also present results to the Missouri River TAC and Montana Chapter of the American Fisheries Society meeting to discuss movement, habitat use, and critical spawning habitats in the Middle Missouri River.

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:

No ground disturbance associated with this project

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:

This project will not involve enhancement of wetlands.

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, 1315 N Last Chance Gulch, Helena, MT 59601; 406-444-8115 (office); 406-565-7549 (cell); Andrew.Welch@northwestern.com.

2021 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: Prickly Pear Creek Re-watering

Date: 11/10/2020

Explain how this Project addresses a specific Project 2188 License Article(s): Article 414-9-5. Evaluate the potential to enhance tributary spawning to increase the contribution to natural reproduction to the Hauser Reservoir fishery. Leasing or purchasing water rights or contracting water for streamflow enhancement.

Provide justification for Priority 1, 2 or 3 (above) that you selected: Priority 2. Prickly Pear Creek flows directly into Hauser Lake (Lake Helena). FWP monitoring shows use of Prickly Pear Creek by migratory rainbow trout and brown trout from Lake Helena. Prickly Pear Creek also maintains resident populations of rainbow trout and brown trout.

Project Sponsor (submitted by): Montana Fish, Wildlife & Parks

Location of Proposed Project: Prickly Pear Creek T10N R3W Sec 23 Lewis & Clark County

Geocode (in decimal degrees ex 46.89743) Lat: NA Lon: NA

Total Project Cost: \$31,440 (2019 estimate)

TAC Funds Requested for Project: \$10,000

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

The Prickly Pear re-watering project began in 2009 and involves the coordination and cooperation of several organizations and individuals to maintain in-stream flows in Prickly Pear Creek. Water for this transaction is bought from Bureau of Reclamation (BOR) to use water from the Helena Valley Irrigation District (HVID) to provide water to the Prickly Pear Creek Water Users Association (PPWU). In exchange the PPWU allows use of their Prickly Pear Creek water rights in-stream. This exchange provides a reliable source of irrigation water for PPWU while preserving summer flows in Prickly Pear Creek. The Prickly Pear Creek fishery has positively responded to this project, with brown trout abundance increasing from 2010 to 2020 (Figure 1). MoTAC contributed \$7,500 toward this project in 2013, \$3,220 in 2016, and \$5,000 each year from 2017-2020. This proposal is for annual contribution of \$5,000 for 2 years for total contribution of \$10,000.

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

Fund the Prickly Pear re-watering project for two years to maintain flows in Prickly Pear Creek by providing alternative water to PPWU with Canyon Ferry water delivered by HVID.

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

Contribution will secure up to 2,000 acre-feet (AF) of HVID water annually in exchange for use of PPWU water rights in-stream. HVID delivers irrigation water throughout the term of the project through communications with the Prickly Pear Creek Water Commissioner and the re-watering project coordinator. Stream flows in Prickly Pear Creek are monitored in June and July, and when a flow trigger of 40 cfs at Wiley Drive or 20 cfs is reached at Canyon Ferry Road the PPWU diversion is closed and delivery of HVID water from Canyon Ferry is scheduled.

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

In 2021 and 2020 the project will likely begin in June or July, depending on flow conditions and continues throughout the irrigation season (September 30).

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

Administration and monitoring is performed by Jim Wilbur and Jennifer McBroom with the Lewis & Clark County Water Quality Protection District.

VI. Project budget (2019 estimate) must include amounts for the following:

This proposal is for annual contribution of \$5,000 for 2 years for **total of \$10,000** contribution towards the Prickly Pear Creek re-watering project.

The total expected costs for the two-year duration of this proposal is **\$31,440** (2019 estimate). Other potential and/or pending funders include the City of Helena, Bonneville Environmental Foundation, Montana Trout Unlimited, Pat Barnes Chapter Trout Unlimited, and Coca Cola.

FWP's contribution to the project includes stream monitoring, grant administration, time needed to solicit funds for the project, project reporting and staff time.

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?

Water will flow in Prickly Pear Creek through the dry summer months. Since implementation, this project has maintained stream flows throughout the summer resulting in improved fish abundance in Prickly Pear Creek. A report summarizing monitoring results from 2019 and 2020 will be submitted to NWE. Biennial fisheries monitoring by FWP will continue to monitor influence of the project to the fishery.

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.

No ground-breaking activity. Not applicable.

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

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.

Not applicable

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

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, 1315 N Last Chance Gulch, Helena, MT 59601; 406-444-8115 (office); 406-565-7549 (cell); Andrew.Welch@northwestern.com.

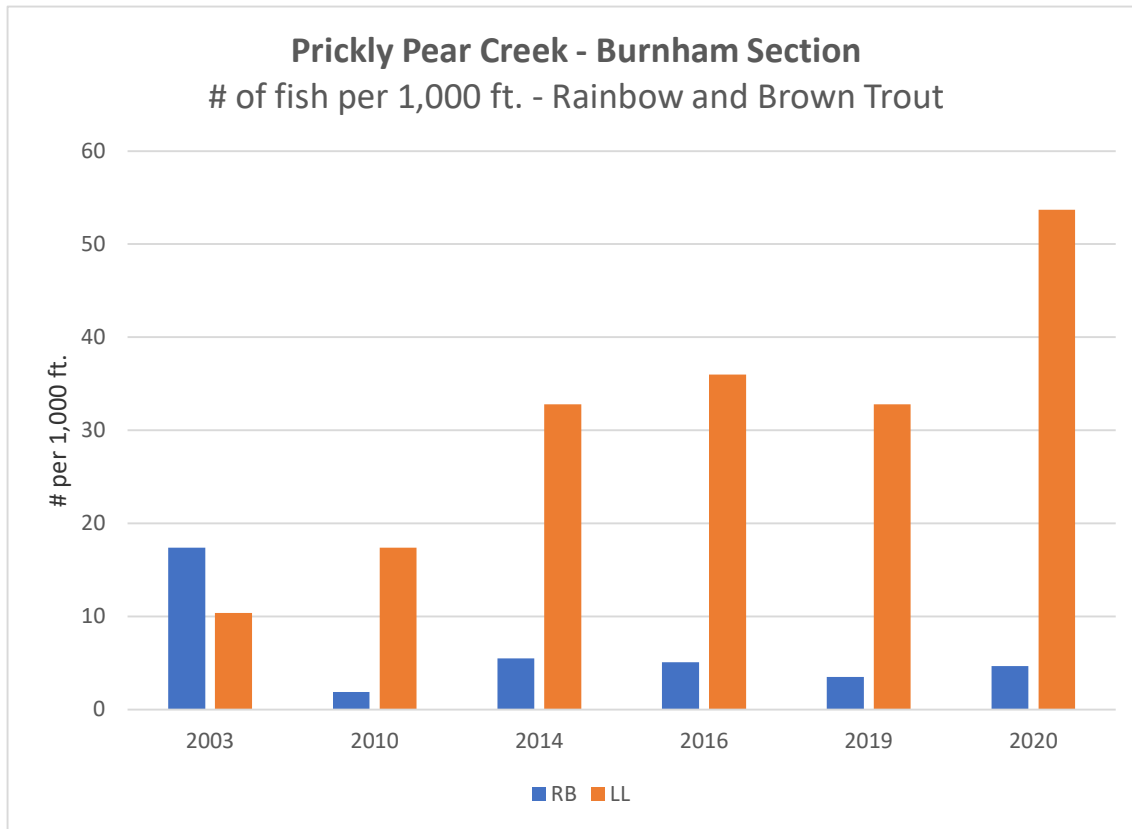


Figure 1: Rainbow trout (RB) and brown trout (LL) catch per unit effort surveys (#/1,000 ft. of stream) for the Burnham section on Prickly Pear Creek. This monitoring section begins where Prickly Pear Creek was historically dewatered but has maintained a wetted width since the re-watering project began in 2009.

Grisak, Grant

From: Grisak, Grant
Sent: Wednesday, April 7, 2021 7:50 AM
To: 'Adam Strainer'; 'Archer, Eric - FS'; 'Don Skaar (dskaar@mt.gov)'; 'Jason Rhoten'; 'Jim Boyd (james_boyd@fws.gov)'; 'Russell, Allison - FS'; Sullivan, Mary Gail; Welch, Andrew; 'Shallcross, Alden T'
Subject: RE: MoTAC request 1-Cottonwood Creek Barrier 3.24.2021 Decision

Hello MoTAC,

I've only heard back from the USFS and FWP who both support the proposed request. NorthWestern Energy also supports the request. As such, MoTAC will provide \$1,500 for this project from the unallocated 2021 TAC funds. After this proposal is funded, there remains \$12,460 in unallocated TAC funds. Please call with any questions.

Grant Grisak
Fish Biologist - Hydro License Compliance
Grant.Grisak@NorthWestern.com
☎ 406-268-2299
☎ 406-403-1967
6700 Rainbow Dam Road
Great Falls, MT 59404



From: Grisak, Grant
Sent: Wednesday, March 24, 2021 6:30 PM
To: Adam Strainer <astrainer@mt.gov>; Archer, Eric - FS <eric.archer@usda.gov>; Don Skaar (dskaar@mt.gov) <dskaar@mt.gov>; Jason Rhoten <jrhoten@mt.gov>; Jim Boyd (james_boyd@fws.gov) <james_boyd@fws.gov>; Russell, Allison - FS <allison.russell@usda.gov>; Sullivan, Mary Gail <MaryGail.Sullivan@northwestern.com>; Welch, Andrew <Andrew.Welch@northwestern.com>; Shallcross, Alden T <ashallcross@blm.gov>
Subject: MoTAC request 1-Cottonwood Creek Barrier 3.24.2021

Hello MoTAC,

Montana FWP is submitting a request for \$1,500 of TAC funds to repair the Cottonwood Creek westslope cutthroat trout barrier located on the Beartooth WMA. This is a tributary to Holter Lake and has a long history of involvement using TAC funds to safeguard this cutthroat trout population. In the winter of 2020-21 a tree fell on the barrier and dislodged 4 of the precast concrete blocks that make up the south abutment of the barrier. The funds are to hire a contractor to reset the blocks.

FWP submitted an application, but I am unable to open it. In the interest of time, I am forwarding photographs of the site and the estimate from a contractor to replace the blocks. FWP has the necessary regulatory permits secured.

MoTAC has \$13,500 in uncommitted 2021 funds. This request is for \$1,500. Please review the attached information and let me know if you support funding this request. A formal application will be obtained in the next day or so and will be forwarded to the TAC.

Grant Grisak

Fish Biologist - Hydro License Compliance

Grant.Grisak@NorthWestern.com

○ 406-268-2299

○ 406-403-1967

6700 Rainbow Dam Road

Great Falls, MT 59404



Grisak, Grant

From: Grisak, Grant
Sent: Friday, May 21, 2021 3:44 PM
To: 'Watson, Trevor'; Strainer, Adam; Archer, Eric - FS; Russell, Allison - FS; Christopher Boone; Shallcross, Alden T; Rhoten, Jason; Jim Boyd (james_boyd@fws.gov); Holmquist, Luke; Mullen, Jason; Sullivan, Mary Gail; Tollefson, Jordan; Welch, Andrew
Cc: Poole, Alex; Brummond, Andy
Subject: MoTAC decision made

Hello MoTAC,

Regarding the proposed application for \$3,000 to add to the Carpenter Creek barrier design project, I've heard back from USFS, BLM, FWS and FWP who all voted in favor of the project. NWE also votes in favor of the project. As such, the Carpenter Creek barrier design project budget will be increased from \$25,200 to \$28,200. I will work with FWP to develop a contract with the design firm.

There remains \$10,309 (\$929 Reserve + \$9,460 uncommitted 2021) in funding available for qualifying projects or equipment that will be above the \$250,000 cap by the end of this year.

Thank you for your prompt review and response. Please contact me if you have any questions.

Grant Grisak
Fish Biologist - Hydro License Compliance
Grant.Grisak@NorthWestern.com
☎ 406-268-2299
📞 406-403-1967
6700 Rainbow Dam Road
Great Falls, MT 59404



From: Watson, Trevor <Trevor.Watson@mt.gov>
Sent: Friday, May 21, 2021 3:22 PM
To: Grisak, Grant <Grant.Grisak@northwestern.com>; Strainer, Adam <astrainer@mt.gov>; Archer, Eric - FS <eric.archer@usda.gov>; Russell, Allison - FS <allison.russell@usda.gov>; Christopher Boone <ctboone@blm.gov>; Shallcross, Alden T <ashallcross@blm.gov>; Rhoten, Jason <jrhoten@mt.gov>; Jim Boyd (james_boyd@fws.gov) <james_boyd@fws.gov>; Holmquist, Luke <lholmquist@mt.gov>; Mullen, Jason <JMullen@mt.gov>; Sullivan, Mary Gail <MaryGail.Sullivan@northwestern.com>; Tollefson, Jordan <Jordan.Tollefson@northwestern.com>; Welch, Andrew <Andrew.Welch@northwestern.com>
Cc: Poole, Alex <Alex.Poole@mt.gov>; Brummond, Andy <abrummond@mt.gov>
Subject: RE: MoTAC update and decision needed

CAUTION: This Email is from an EXTERNAL source outside of NorthWestern Energy.
The Original Sender of this email is Trevor.Watson@mt.gov.

Are you expecting the message? Is this different from the message sender displayed above?
Do not click on links or open attachments unless you are sure you recognize the sender and you know the contents are safe.

If you believe the email to be malicious and/or phishing email, please use the **Report Phish** button.

FWP approves, thanks.

Trevor Watson

Habitat Bureau Chief
Fisheries Division
Montana Fish, Wildlife & Parks

P.O. Box 200701
Helena, MT 59620-0701
Ph: (406) 444-2447

[Montana FWP](#) | [Montana State Parks](#) | [Montana Outdoors Magazine](#)



THE **OUTSIDE** IS IN US ALL.

From: Grisak, Grant <Grant.Grisak@northwestern.com>

Sent: Friday, May 21, 2021 12:43 PM

To: Strainer, Adam <astrainer@mt.gov>; Archer, Eric - FS <eric.archer@usda.gov>; Russell, Allison - FS <allison.russell@usda.gov>; Christopher Boone <ctboone@blm.gov>; Shallcross, Alden T <ashallcross@blm.gov>; Rhoten, Jason <jrhoten@mt.gov>; Watson, Trevor <Trevor.Watson@mt.gov>; Jim Boyd (james_boyd@fws.gov) <james_boyd@fws.gov>; Holmquist, Luke <lhalmquist@mt.gov>; Mullen, Jason <JMullen@mt.gov>; Sullivan, Mary Gail <MaryGail.Sullivan@northwestern.com>; Tollefson, Jordan <Jordan.Tollefson@northwestern.com>; Welch, Andrew <Andrew.Welch@northwestern.com>

Cc: Poole, Alex <Alex.Poole@mt.gov>; Brummond, Andy <abrummond@mt.gov>

Subject: [EXTERNAL] MoTAC update and decision needed

Hello MoTAC,

This is a TAC status update and a request for decision.

The USFS is requesting to delay the Beaver Creek restoration phase 2 project until next year in order to secure the balance of funds needed to implement and to address some conditions of other funding sources. As such, we will need to move project 2021-5 for \$220,000 to the Reserve account at the end of this year. The Reserve account presently has a balance of \$35,200 for two projects (Carpenter Creek barrier \$25,200 and Teton water lease \$10,000). There is also \$12,460 in uncommitted 2021 funds and \$929 in uncommitted Reserve funds. As it stands, at the end of this year the Reserve account would be \$268,589 which is \$18,589 over the cap amount. In this situation, the \$18,589 would be returned to NorthWestern Energy. The TAC has a longstanding practice of avoiding this, when possible.

I am working diligently with the sponsors of the Carpenter Creek barrier project and Teton water lease project to get them moving this year. Both look hopeful. Attached is a request for \$3,000 to complete the Carpenter Creek barrier design. Can you please review the attached TAC proposal that provides a history of this project including the original TAC approval for \$80,000 in 2016, the Sept 2016 modification to \$25,200, and the present request for \$3,000 to complete the design in 2021, and make a decision whether to fund the additional amount? Approving this additional funding

would get the Carpenter Creek barrier project out of the Reserve account, spend down some of the unallocated 2021 funds, and help move this good project toward completion.

If approved, there remains \$10,309 (\$929+\$9,460) over the \$250,000 Reserve cap. TAC members are encouraged to search for areas where these funds could be used in 2021. If no other requests are made in 2021, I will revisit the topic in September and propose purchasing trammel/gill nets, radio telemetry equipment or any other equipment anticipated for 2022.

Please call with any questions.

Grant Grisak
Fish Biologist - Hydro License Compliance

Grant.Grisak@NorthWestern.com

☎ 406-268-2299

☎ 406-403-1967

6700 Rainbow Dam Road
Great Falls, MT 59404



This message is for the named person's use only. It may contain confidential, proprietary or legally privileged information. No confidentiality or privilege is waived or lost by any mistransmission. If you receive this message in error, please immediately delete it and all copies of it from your system, destroy any hard copies of it and notify the sender. You must not, directly or indirectly, use, disclose, distribute, print, or copy any part of this message if you are not the intended recipient. NorthWestern Corporation and its subsidiaries each reserve the right to monitor all e-mail communications through its network.

Grisak, Grant

From: Grisak, Grant
Sent: Monday, June 14, 2021 5:11 PM
To: 'Archer, Eric - FS'; 'Christopher Boone'; 'Jason Rhoten'; 'Jim Boyd (james_boyd@fws.gov)'; 'Mullen, Jason (JMullen@mt.gov)'; 'Russell, Allison - FS'; 'Shallcross, Alden T'; Sullivan, Mary Gail; 'Trevor Watson'; Welch, Andrew
Cc: Grisak, Grant
Subject: MoTAC Interim Proposal #3 -Hardy Creek Repair, decision

Hello MoTAC,

Regarding the interim proposal referenced below, I have heard back from FWP, BLM, USFS and FWS who all approved this proposal. NWE also approves. As such, I will work with FWP to develop a contract to conduct the repairs. FWP informed me today that Montana DOT generously donated sods and fill material necessary to conduct the repair. Thank you again for your quick response. Please call with any questions.

Grant Grisak
Fish Biologist - Hydro License Compliance

Grant.Grisak@NorthWestern.com

📞 406-268-2299

📞 406-403-1967

6700 Rainbow Dam Road

Great Falls, MT 59404



From: Grisak, Grant
Sent: Monday, June 7, 2021 4:23 PM
To: Archer, Eric - FS <eric.archer@usda.gov>; Christopher Boone <ctboone@blm.gov>; Jason Rhoten <jrhoten@mt.gov>; Jim Boyd (james_boyd@fws.gov) <james_boyd@fws.gov>; Mullen, Jason (JMullen@mt.gov) <JMullen@mt.gov>; Russell, Allison - FS <allison.russell@usda.gov>; Shallcross, Alden T <ashallcross@blm.gov>; Sullivan, Mary Gail <MaryGail.Sullivan@northwestern.com>; Trevor Watson <trevor.watson@mt.gov>; Welch, Andrew <Andrew.Welch@northwestern.com>
Subject: MoTAC proposal review and decision

Hello MoTAC,

Attached is a proposal from FWP for maintenance of the Hardy Creek project. As a reminder, between 2018 and 2021 MoTAC funded approximately 75% of this project (\$98,905/\$142,660) and 6 partners funded the remainder. A gravel pit next to Hardy Creek intercepted creek water and fish each year and trapped them. This project is designed to provide a hydrologic connection between Hardy Creek and the Missouri River. It involved building a flood plane approximately 8 feet in depth on the north end of a historic gravel pit to isolate Hardy Creek from the pit. The project began last fall and continued into the late winter of 2021. Due to the lack of sod on site, one of the design features was to seed grass and plant woody veg along the banks to fortify and stabilize the raw materials. Despite good seed germination and shrub

sprouting, during the week of May 19, 2021 approximately 4.5 inches of rain fell in the Hardy Creek drainage which caused flooding and mobilized vast amounts of bedload upstream. The high flows destabilized the raw banks and deposited large amounts of bedload in the first pool/meander which changed the channel slope. The remainder of the channel appears to have functioned appropriately all the way to the Missouri River.

This project involves removing bedload from the channel and building up the banks with sod mats gathered off site. FWP is requesting \$7,880 for equipment time necessary to complete this repair. Success of this project is contingent on materials donated from a local landowner and Montana DOT.

The MoTAC has \$10,389 in uncommitted funds (\$929 Reserve and \$9,460 2021 funds). As a reminder, MoTAC is faced with the predicament of going over our Reserve cap of \$250,000 at the end of this year. Using uncommitted funds will help maintain the Reserve balance below \$250,000. If funded, the uncommitted funds would drop to \$2,509.

Please review this application and make a decision whether to fund or not. As always, please call with any questions.

Grant Grisak

Fish Biologist - Hydro License Compliance

Grant.Grisak@NorthWestern.com

☎ 406-268-2299

☎ 406-403-1967

6700 Rainbow Dam Road

Great Falls, MT 59404

