

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

**Project Title:** WildTAC 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, 2019

**Location of Proposed Project:** Madison-Missouri River from Hebgen 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](mailto:Andrew.Welch@Northwestern.com)
- [Jon.Hanson@Northwestern.com](mailto:Jon.Hanson@Northwestern.com)
- [Grant.Grisak@Northwestern.com](mailto: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](mailto:Andrew.Welch@northwestern.com).

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

**Project Title:** Bird community monitoring of habitat projects on the Madison River

**Date:** October 25, 2019

### **Applicability to Project 2188 License Article(s)**

This project meets Project 2188 License **Article 423** requirements to develop a vegetation and wildlife monitoring and enhancement plan by continuing long-term monitoring of the bird community in proposed and completed habitat restoration projects adjacent to the Madison River. The project is specifically referenced in the updated Five Year (2018-2022) Project 2188 Wildlife Plan under article 423 and meets the purpose and intent of Article 423 by measuring bird community change over time as an indicator species for other wildlife, identifying opportunities to restore habitats degraded by human activities, providing feedback on techniques employed to enhance native plants and wildlife populations, and actively monitoring vegetation and wildlife response at restoration sites funded through the Missouri-Madison Wildlife Technical Advisory Committee (Wildlife TAC).

**Priority Classification:** This project meets the criteria for a **Priority 1** project because it is located within riparian habitats of the main stem of the Madison River and adjacent wetland complexes, as well as **Priority 2** because the sampled area also includes an important tributary: O'Dell Creek.

**Project Sponsor (submitted by):** University of Montana

**Location of Proposed Project:** Long-term monitoring points established within habitat project areas along approximately 10 miles of the main stem of the Madison River and O'Dell Creek, located in Madison County south of Ennis, Montana.

**Geocode:** Lat: 45.246600 N

Lon: -111.727240 W

**Total Project Cost:** \$45,631

**TAC Funds (Cost-Share) Requested for Project:** \$26,639

### **I. Introduction**

Since 2004, the University of Montana (UM), with funding from Northwestern Energy and the Bureau of Land Management (BLM), has monitored bird populations and riparian vegetation on over 500 miles of the Madison and Missouri Rivers. Birds are ideal indicators of natural resource conditions because they have diverse habitat requirements, are relatively abundant within a small area, are easily surveyed, and provide feedback from an entire community rather than a single species<sup>1,2</sup>. In addition, birds are a priority for monitoring in riparian areas, because riparian and wetland habitats support a large number of bird species during breeding, dispersal, and migration, including at least 134 (55%) of Montana's 245 bird species and 30 of the 66 Montana Species of Concern. As the largest river system in the state, the Madison and Missouri rivers are critical to the future of Montana's bird populations.

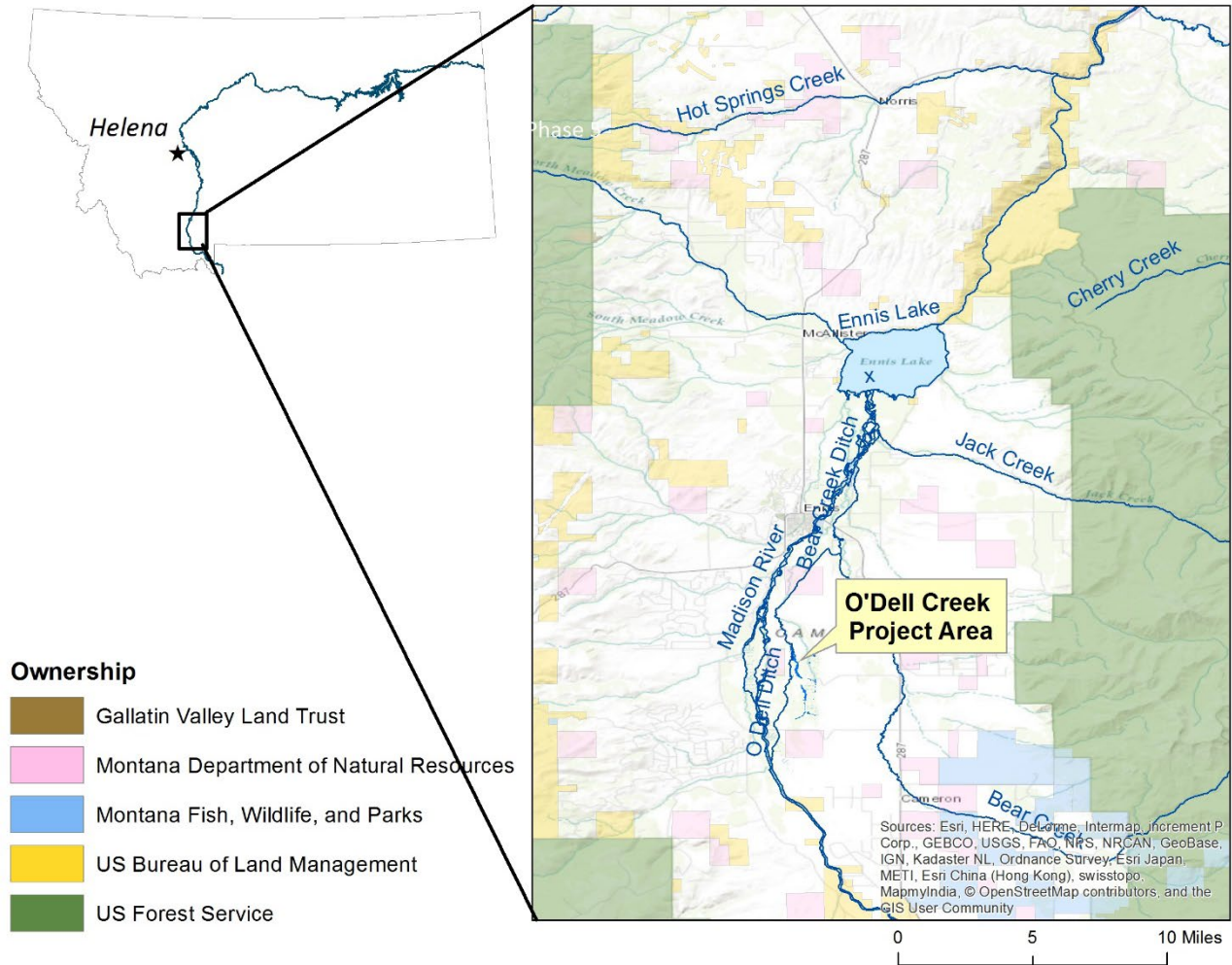
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<sup>1</sup> Carigan, V., and M.A. Villard. 2002. Selecting indicator species to monitor ecological integrity: a review. *Environmental Monitoring and Assessment* 78:45–61.

<sup>2</sup> Hutto, R.L. 1998. Using landbirds as an indicator species group. Pp. 75-92 in Marzluff, J.M. and R. Sallabanks (eds.), *Avian conservation: research and management*. Island Press, Covelo, CA.

In 2020, we propose to continue monitoring breeding and migratory bird populations and vegetation conditions within habitat enhancement and protection projects funded by the Wildlife TAC and supported by a broad partnership of federal and state agencies, non-governmental organizations, and private landowners on the Madison River including the O’Dell Creek Project and adjacent public and private lands under consideration for future restoration and protection (Fig. 1).

**Figure 1. Project area map showing bird and habitat monitoring locations in existing habitat project areas on the Madison River.**



Bird monitoring to date shows significant increases in riparian and wetland bird species breeding within restored project areas, including 18 Montana Species of Concern. In addition, we have observed thousands of Rocky Mountain Population Sandhill Cranes and over a dozen new waterfowl species using restored habitats during migration. We continue to measure significant changes in the bird community with each survey year, demonstrating the importance of long-term monitoring particularly for large multi-phase habitat projects like the O’Dell Creek project.

This proposal merits a high priority for funding because it contributes scientifically robust measures of wildlife response to habitat enhancement and protection projects supported by the Wildlife TAC as required by 2188 license 423 and described in the updated 2188 Five Year Wildlife Plan. Documenting wildlife outcomes of habitat projects is important to justify future



project investments, and provides critical feedback on best practices for land managers working to restore wildlife habitats along Montana's large rivers.

## II. Objectives

1. Monitor bird community change as an indicator of wildlife conditions in ongoing and proposed habitat enhancement and protection projects along the Madison River, and inform future habitat project priorities in the area.
  - a. Conduct multi-species monitoring of the bird community, including targeted monitoring for priority bird species;
  - b. Measure vegetation composition and structure to evaluate habitat conditions;
  - c. Analyze changes in bird community and habitat conditions within project areas by treatment and year;

## III. Methods

The methods used for field sampling and analyses are described briefly below. For more detailed information, refer to the monitoring protocol report<sup>3</sup>.

*Sampling Design.* We will evaluate wildlife benefits of each project area by comparing baseline data collected prior to project start to changes over time using a Before-After-Control-Impact (BACI) study design<sup>4</sup>. BACI sampling designs are particularly useful tools for evaluating bird assemblage responses to riparian restoration because they address the problem of high natural variability and year-to-year changes in river systems by effectively separating the absolute year-to-year change from treatment effects. We will survey project areas along the Madison River, including the O'Dell Creek project and adjacent proposed project areas south of Ennis, with 105 permanently marked sample points on a mix of BLM, State, and private lands.

*Habitat Measures.* At each sampling location, we will measure vegetation composition and structure, including the total number of trees (by species and size class), shrub cover (by species), canopy cover, tree and shrub height, ground cover, invasive and noxious weed species cover, and grazing intensity.

*Bird Surveys.* We will conduct point count surveys of breeding land birds following standard point count procedures. Observers will record all birds seen or heard during a 10 minute period, and distances to birds will be measured using a rangefinder. Breeding surveys for waterfowl will include adult and brood counts following Gollop and Marshall<sup>5</sup>. We will conduct systematic playback surveys for secretive marsh birds at survey locations over 400 m apart with suitable habitat, following the Standardized North American Marsh Bird Monitoring Protocol<sup>6</sup>. We will work with local partners to efficiently continue migration monitoring in mid-October. We will also assist and conduct targeted surveys for priority bird species based on input from agencies and partners, including Montana Fish, Wildlife, and Parks, and Montana Natural Heritage.

*Data Analyses.* Specialist species are expected to be most responsive to restoration of target habitat<sup>7</sup>. Therefore, we selected focal species for analysis based on riparian breeding status, level of conservation concern, habitat associations, and abundance in the project area. Riparian focal species were split into two groups that represented a progression of conditions expected following restoration based on their foraging and nesting requirements. We selected four species that are

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<sup>3</sup> Fletcher, R., A. Cilimburg, and R. Hutto. 2007. Evaluating habitat restoration at O'Dell Creek using bird communities: 2006 report. Final report submitted to PPL-Montana.

<sup>4</sup> Schwarz C.J. 1998. Studies of Uncontrolled Events. In: Statistical Methods for Adaptive Management Studies. Res. Br., B.C. Min. For., Res. Br., Victoria, BC, Land Manage. Handb. No 42.

<sup>5</sup> Gollop, J.B. and W.H. Marshall. 1954. A guide for ageing duck broods in the field. Mississippi Flyway Council Technical Section Report, Minneapolis, Minnesota.

<sup>6</sup> Conway, C. J. Standardized North American Marsh Bird Monitoring Protocol. *Waterbirds*, 34(3) : 319-346

<sup>7</sup> Pearson, D.L., 1994. Selecting indicator taxa for the quantitative assessment of biodiversity. *Philos. Trans. R. Soc. Lond. B: Biol. Sci.* 345, 75–79.

associated with emergent herbaceous wetland habitats as indicators of early restoration response: Common Yellowthroat, Marsh Wren, and Wilson Snipe, and Red-winged Blackbird. We selected four riparian obligate shrub and tree nesting species as indicators of later restoration response: Song Sparrow, Least Flycatcher, Yellow Warbler, and Bullock's Oriole. The timing and extent of colonization of these species will be an indication of restoration outcomes for the project area. We will also measure overall bird community response as waterbird species richness (total number of waterbird species), and riparian species richness (total number of riparian obligate or dependent species, where obligate is defined as >90% nesting in riparian habitats and dependent is defined as >70% of nesting in riparian habitats). To account for natural annual variation and potential correlation between repeated measures across years, model fit will be evaluated with year of survey and point included as random effects using a generalized linear mixed model (GLMM).

#### IV. Schedule

This project will begin 1 May 2020 and will run until 30 April 2021 (see table below).

2020	
May	Field planning, coordination with local partners and private landowners, hire and train field technicians
June-Aug	Collect field data on birds and vegetation
Sep-Oct	Data entry and data management
Nov-Dec	Summarize field effort and present to TAC
2021	
Jan-Feb	Complete data analyses
April	Submit final report for TAC

#### V. Personnel

Erick Greene (Faculty, University of Montana Wildlife Program) and Anna Noson (Program Director, University of Montana Bird Ecology Lab) will serve as co-Principal Investigators of the project. Erick Greene will administer the project within UM. Anna Noson will supervise field data collection, conduct analyses, and complete reporting and dissemination. One technician will be hired to complete data collection and data entry. The Division of Biological Sciences will provide facilities at the University of Montana.

#### VI. Project budget

	<b>TAC Funds Requested</b>	<b>Total Cost</b>
Direct Labor	\$20,003	\$33,005
Travel and Living	\$2,911	\$5,822
Materials	\$250	\$500
Other Direct Expenses	-	-
Direct Overhead	\$3,475	\$2,829
Total	\$26,639	\$42,156

#### Cost-share funding sources and amounts for this project:

\$18,993 requested from USDA Bureau of Land Management (5-year agreement in place through 2021).

## **VII. Deliverables**

Monitoring results will be summarized in a Final Report that will include:

- Bird community status and habitat conditions within ongoing and proposed habitat project areas on the Madison River and O'Dell Creek; and
- Evaluation of bird community and vegetation response to completed habitat restoration by year and treatment.

## **VIII. Cultural Resources.**

N/A- no land-disturbing activity or building modification will occur as a result of this project.

## **IX. Water Rights.**

N/A- no development, restoration, or enhancement of wetlands will occur as a result of this project.

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

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

**Date:** 10/30/2019

### **Applicability to Project 2188 License Article(s):**

Beaver Creek Phase I will offset impacts to river resources associated with Project 2188 (Madison-Missouri River). The project meets the purpose and intent of License Article 414, 416 and 423, which, supports spawning and rearing habitat enhancement projects on Holter Reservoir and in tributaries to the reservoir and Hauser tailwaters. Article 423 requires the development of a vegetation and wildlife monitoring and enhancement plan intended to enhance native plants and wildlife populations on the lands and waters associated with Project 2188 adjacent to the Missouri River. 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 I 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 and wildlife resources by reconstructing the stream channel and floodplain to more natural conditions, increase habitat and riparian complexity and restore approximately 1.2 acres of wetland habitat.

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

### **Location of Proposed Project:**

The project is 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 Cochrane 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: \$449,000

TAC Funds (Cost-Share) Requested for Project: \$200,000

## 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 not only supports a very popular recreational fishery for both rainbow and brown trout but, hikers and anglers alike enjoy wildlife viewing from the Beaver Creek trailhead to Hauser Dam. The project is also designated to develop and enhance riparian areas to provide nesting and foraging habitat for migratory songbirds and wetland areas for amphibians.

The USFS Helena Ranger District in partnership with the Pat Barnes Chapter Trout Unlimited, Montana Fish Wildlife and Parks and the River Design Group (RDG) propose to restore 1.2 miles of lower Beaver Creek. This project would be a multi-phased restoration approach with Phase I restoring 0.6 miles of the channel. This 2019 cost-share proposal is for the implementation of Phase I, which includes approximately 0.6 miles (3,075 feet) of restoration work on Beaver Creek. 2016 and 2017 MoTAC funding projects were used to produce final designs (Figure 4).

Beaver Creek is a highly impaired system resulting from past agricultural, grazing practices, and rip-rap stabilization that resulted in stream channelization, removal of riparian vegetation and likely the displacement of beaver (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. Due to channel incision and lack of floodplain connectivity, there is a lack of aquatic and riparian habitat diversity. Stream reaches in the project area are primarily dominated by long homogenous riffles with highly embedded substrate and infrequent pools with limited depth. In 1974, the USFS purchased the 3,355 acre parcel from private ownership in lower Beaver Creek and it has not been grazed/farmed since. The project area is not in a designated grazing allotment. Currently, recreational impacts are limited to three dispersed campsites in the project area; however, Forest Service Road 138 and the trailhead at the confluence of Beaver Creek and the Missouri are well utilized by

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hikers and anglers alike. Beaver Creek is currently a 303(d) listed stream for sediment impairments and alteration of stream-side vegetative cover.

The purpose of this project is to improve aquatic habitat conditions and develop associated riparian wetland functions. This work would be accomplished by restoring the stream channel and floodplain to more natural conditions that emulate historic stream sinuosity and morphology. Riparian habitat complexity would also be improved by creating off-channel, connected and disconnected, emergent wetlands and shallow to deep open water wetland features. New floodplain surfaces would support emergent, forested, and scrub-shrub wetland communities. The project is designed to raise the ground water table to support habitat enhancement.



**Figure 2. Pictures display channel incision and bank instability in Reach 2, rip-rap streambank modification/stabilization is common throughout the project area. Beaver Creek is listed for sediment and stream-side alteration impairments (MT DEQ).**

Specific goals of the Beaver Creek restoration project include: 1) improving aquatic, riparian and terrestrial habitat diversity for fish and wildlife; 2) creating a matrix of variable depth wetlands within the existing channel; 3) converting areas within the existing upland plant communities to wetland areas by creating new, lower floodplain surfaces adjacent to Beaver Creek. In particular, shrub riparian areas will provide nesting and foraging habitat for migratory songbirds such as Wilson's warbler, orange-crowned warbler, MacGillivray's warbler, yellow warbler, American redstart, marsh wren, willow flycatcher, and calliope hummingbird. The establishment of large cottonwoods would provide habitat for Bullock's oriole. Creating a more complex matrix of riparian and associated upland habitats would also benefit a broad variety of frogs, snakes, and turtles such as the western toad, Columbia spotted frog, boreal chorus frog, and northern leopard frog, painted turtle, eastern racer, and gopher snake. Beaver have also actively colonized stream reaches above the project area and restoring riparian/wetland habitat will likely facilitate future beaver activity.

There are also many benefits to native plant and pollinators within the project area. Restoring the floodplain and reducing non-native species in this project area will increase the desired native species and plant diversity in this drainage. Several FS Sensitive Species and Montana Species of Concern have habitat in the project area and would benefit from a restored floodplain, increasing available habitat while reducing the impact of noxious weeds to these uncommon or endemic species in the long-term. Riparian habitat is particularly beneficial to butterfly species and increases diversity within the range of native pollinators, which can be restricted to 1 mile or less, and provides diverse floral resources that benefit pollinators.

### **II. Objectives**

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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 primary limiting factor driving geomorphic, vegetation, and aquatic habitat impairments in the project area is lack of floodplain connection due to channel entrenchment. 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.
- Restore 2.5 acres of upland habitat.
- Reconnect abandoned oxbows to increase stream length and reduce channel slope.
- Construct a new channel characteristic of a riffle-pool C4 stream type, within a terraced valley and broadly connected floodplain.
- Transition to Reaches 1 and 4 with a moderately entrenched B4 stream type by increasing floodplain width and increasing sinuosity.
- Convert the existing channel to emergent wetlands (0.2 acres) and construct and preserve approximately 1.0 acres of shallow open water and scrub/shrub wetlands. Constructed side channel habitat (400 linear feet) would connect a portion of the emergent and shallow open water wetland habitats to the main channel.
- Beaver dam analog placement (17 each) only on side channel habitat to encourage the development of wetland habitat (see Figure 3).
- Install naturalized streambank structures to allow bank vegetation to become established while also improving habitat complexity. Approximately 36 large wood structures would be constructed and 4,457 linear feet of various types of vegetated/wood matrix streambank treatment.
- Riparian and upland revegetation which would increase the coverage of woody shrubs and trees in the riparian zone.
- Reconstruct floodplain surface with microtopography grading and placement of coarse wood material (7 acres).
- Dispersed campsite reclamation/improvements at dispersed campsite #1.



**Figure 3. An example of a constructed beaver dam analog (RDG, 2019).**

### **III. Methods**

Construction will be implemented using a qualified, experienced stream restoration contractor (TNT Excavating Inc.). Given the sensitive resource conditions, construction specifications will utilize low-pressure



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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, and vegetation (refer to sheets 8.0 and 8.1 for typical drawings of large wood and vegetated woody matrix structures).
- Floodplain treatments will include the use of swales, side channels, off-channel wetlands, microtopography and coarse wood.
- Existing vegetation would be salvaged and transplanted into constructed floodplain surfaces and streambanks.
- Seeding of 6.42 acres of floodplain and 2.5 acres of upland with native seed mix.

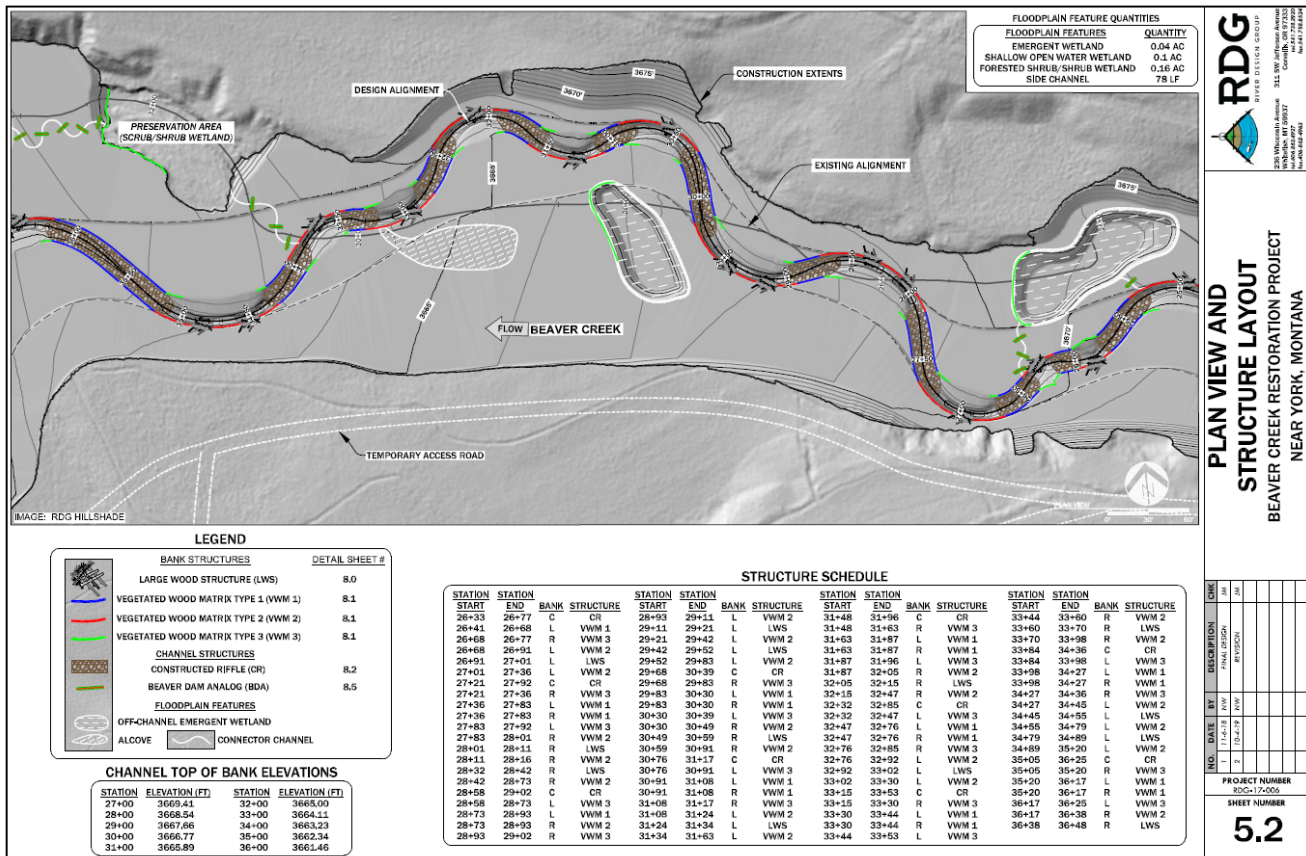


Figure 4. Excerpt from final Restoration Plan for Beaver Creek Phase I, Reach 2 (RDG, 2019).

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**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. USFS personnel will complete all regulatory permitting by February, 2020. A cultural resource investigation with SHPO was completed by the USFS in September 2019.

<b>Table 1. Project Schedule for the Beaver Creek Phase I Restoration Project</b>					
Task	Jan-March	April	May	June	July - October
General Project Management					
Task 1. Pre-construction Services					
Task 2. Construction Implementation					
Task 3. Direct Costs					

**V. Personnel**

The Beaver Creek Restoration Project Phase I 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 initial feasibility study, prepared a range of alternatives to project partners, and completed final designs for the preferred action alternative, including both Phase 1 and Phase 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 cost estimate to perform the Scope of Work (SOW). The total cost to perform the SOW is \$449,000. As noted, project partners have \$99,000 committed in cost-share and an additional \$6,417 in-kind services. The cost-share match accounts for 23% of the total project cost. This proposal is requesting TAC funds in the amount of \$200,000. The total budget provides for a contingency fund of slightly less than 2.8%.

**VII. Deliverables**

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<b>Table 2. Beaver Creek Phase I Cost Estimate</b>	
Task	Cost
<b>1. Pre-Construction Services and Construction Management, and Direct Cost</b>	\$56,938.62
<b>2. Construction</b>	
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	\$ 48,906
Excavate, Haul and Place Fill in Repositories	\$ 16,203
Furnish Wood	\$ 25,000
Furnish Streambed fill	\$ 44,110
Construct Channel Streambed	\$ 36,887
Construct Large Wood Structures	\$ 49,500
Construct Vegetated Matrix Type 1	\$ 32,828
Construct Vegetated Matrix Type 2	\$ 25,146
Construct Vegetated Matrix Type 3	\$ 3,150
Install Beaver Dam Analogs	\$ 5,610
Furnish Willow Cuttings	\$ 14,130
Construct Side Channels	\$1,320
Install Floodplain Roughness and wetlands	\$11,550
<b>3. Mobilization, GPS Equipment, Crew Per Diem</b>	\$38,500
<b>Estimated Project Cost</b>	<b>\$449,000*</b>
<b>Cost-Share Future Fisheries Improvement Program</b>	<b>\$75,000</b>
<b>Cost-Share PBCTU</b>	<b>\$4,000</b>
<b>Cost-Share USFS</b>	<b>\$20,000</b>
<b>Funding Request to MoTAC</b>	<b>\$150,000</b>
<b>Total TAC Funds Requested</b>	<b>\$200,000</b>

\*Estimated project cost reflects a budgeted 2.8% contingency fund.

**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.

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

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. The proposed project complies with the intent of Montana DNRC's "*Guidance for Landowners and Practitioners Engaged in Stream and Wetland Restoration Activities*".

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

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

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

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

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

### **All TAC project proposals must include the following information:**

Project Title: **Trumpeter Swan breeding flock restoration in the Middle Madison Valley**

Date: 10/25/2019

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

Article 423 Wildlife/habitat PM&E on Madison-Missouri Rivers, specifically "... wildlife enhancement plan that includes specific goals, objectives, and standards to enhance native plants and wildlife populations on the lands and waters associated with the project; including identification of specific protection, mitigation, and enhancement strategies for avian species."

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

Our project addresses License Article 423 by restoring native trumpeter swans to their historic range. With the primary objective of this restoration work to provide nesting habitat for trumpeter swans in the O'Dell Creek Headwaters area, in hopes that they will pioneer wetlands throughout the Madison Valley where suitable nest areas are available. More specifically, in 2011 MFWP Region 3, in collaboration with the Montana Wetlands Legacy Partnership (MWLP), through its wetland restoration efforts in the Madison Valley, proposed to increase the geographic extent of the Montana trumpeter swan restoration program by beginning to release captive-reared swans in the middle Madison, starting in 2012. This broad partnership of Madison Valley landowners and federal, state and private partners has been nationally recognized for providing quality wetland habitat that offers the potential to increase swan production in the region and to enhance connectivity between flocks breeding in the Centennial Valley, Blackfoot, and Flathead Valleys in Montana.

#### **Project Sponsor (submitted by):**

Claire Gower, Wildlife Biologist  
Montana Fish, Wildlife & Parks  
1400 South Nineteenth  
Bozeman, MT 59718  
406-994-5953  
cgower@mt.gov

**Location of Proposed Project:** Madison Valley with primary focus on O'Dell Creek Headwaters

**Narrative:** Swans will be released at the Granger Ranch (primary release locations). If swans are nesting at this location, a secondary release location will be discussed with the owners of the Longhorn Ranch

**Geocode (in decimal degrees ex 46.89743)** Lat; 45.253054  
(Granger Ranch/O'Dell creek)

Lon: -111.730375

**Total Project Cost:** \$7,000

**TAC Funds (Cost-Share) Requested for Project:** \$5,000

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

Since its inception, Northwestern Energy has been a funding partner for restoration of the O'Dell Creek Headwaters wetlands and the accompanying restoration of breeding trumpeter swans in the middle Madison. Restoration of wetland habitats in this area has now provided essential breeding areas for reestablishment of breeding trumpeter swans to this portion of their historic breeding range. Releases of hand-reared, wild stock trumpeter swans has occurred for 6 of the last 8 years (no swans were released in 2018 and 2019), so 2020 will be in the seventh year of releases. Based on experience in the Blackfoot Valley and other parts of the Rocky Mountain Trumpeters' breeding range, approximately six to eight years of releases will be needed to establish the first nesting pairs in the area. While we are not aware of any known nests, we have had reports and observed adult swans with yearling birds in spring indicating that there is successful breeding occurring up and down the valley. In 2017 we observed two adult birds (one banded as part of these efforts) with two yearlings just south of Ennis, and in 2019 we observed an adult swan with five yearling birds on Ennis lake.

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

Continued wetland restoration projects in the Madison serves as the basis for establishing a breeding flock of trumpeter swans in the area. The objective of this restoration effort, approved by the Montana Fish, Wildlife and Parks Commission, is to restore a breeding flock of at least five established nesting pairs in the middle Madison from Quake Lake to Ennis Lake.

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

MFWP is providing support for the Madison trumpeter swan effort through existing positions within MFWP. MFWP's Region 3 Wildlife Biologist (who also serves as the MT Pacific Flyway Study Committee Representative and the Greater Yellowstone Trumpeter Swan Working Group (GYTSWG) chair) as well as MFWP's Flyway Biologist position in Billings (Jim Hansen) are providing support for this program by assisting in constructing soft release pens, obtaining neck collars and other banding materials, reporting banding data/recoveries to the USGS Banding Lab in Patuxent, Maryland, working with landowners and the public to capture and salvage injured, sick, or dead birds, giving presentations to the public, and in other ways. MFWP is also taking a lead role in raising matching funds and securing additional partnerships from other sources including; Montana Audubon, the Sacagawea Chapter of the Montana Audubon, Montana Outdoor Legacy Foundation, and from private individuals.

Northwestern Energy (NWE) has provided between \$3,500 - \$5,000 per year depending on projects needs and funding from other sources. These funds are generally used to obtain birds for release from Wyoming Wetlands Society, as well as providing additional operations support for releases. We also conduct a spring flight in early June to evaluate possible nesting and to increase monitoring efforts to gauge the success of the program. We feel that we are now at a critical time in this work where nesting is possible and we would like to be able to report possible nesting attempts, and if possible the number of young produced. Consultation with Bill Long, director, Wyoming Wetlands Society (WWS), indicates that this flight should be conducted annually. The WWS funded this flight in 2016, and NWE funded the flight in 2017, 2018 and 2019. We hope to continue with an annual spring flight thus funds are being requested in this proposal to NWE and are reflected in the budget.

In 2018 and 2019 there were a limited number of cygnets available from Wyoming Wetlands Society for project releases. Discussions with project leads, decided to maximize the number of cygnets available to two projects (Yellowstone National Park and the Blackfoot Project) as these projects have time sensitive release dates, and/or are coming to completion of the project. It was discussed that Middle Madison would not get birds 2019 but would be ranked highest for birds next summer. As discussed at the NWE TAC team meeting last winter, the efforts of the Middle Madison stretch beyond just Montana but are critical at a Flyway project wide level.

Also, in 2019 we implemented 2 GPS/GSM collars on trumpeter swans in the Middle Madison. We caught two molting birds last summer and implemented the device which help to describe habitat use, migration paths, and will be used to facilitate future restoration work. These devices store locations and download to cell towers every 10-30 minutes. They are solar paneled so will hopefully last the life of the bird. These devices were funded by Wyoming Wetlands Society, but we hope to deploy more in the coming years (two were also deployed in the Blackfoot valley).

MFWP will continue to work with funding partners to solicit donations for obtaining swans for the 2020 release and beyond as needed.

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

Project planning, coordination, authorization from Pacific Flyway Council and others is ongoing.

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

Proposal Sponsor: Claire Gower, Wildlife Biologist  
MT Fish, Wildlife & Parks  
1400 South Nineteenth  
Bozeman, MT 59718  
(406) 994-5953  
[cgower@mt.gov](mailto:cgower@mt.gov)

**VI. Project budget must include amounts for the following:**

Direct Labor	0
Travel and Living	1000
Materials	1000
Other Direct Expenses	5000
Direct Overhead	0

All cost-share sources and amounts, including estimation of “in-kind” contributions

\$2,000 In-Kind FWP Native Species Program – Region 3\*

\$1,000 In-Kind Bill Long, Wyoming Wetlands Society\*\*

\$1,000-1,500 has in the past been provided by MT and Sacajawea Audubon -we are unsure if these funds will be available this year but we are currently working to secure additional match commitments for this year.

\*~ 8 days / 64 hours full time biologist salary dedicated to swan restoration – meetings for restoration approval, constructing and taking down soft release pen, collecting and releasing swans, follow up monitoring and database management, project reporting and project product/presentation development and delivery. Also, Pacific Flyway and Greater Yellowstone Trumpeter Swan working Group attendance and coordination.

\*\* Travel time to and from field site, transport of birds up, disease testing, project coordination and facilitation, project reporting, meetings and Pacific Flyway involvement.

**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?**

Continued release of trumpeter swans in 2020, associated construction of release pen(s), tracking of birds and recording locations/maintaining data records, securing markers and reported bandings to Bird Banding Lab by the end of the year. MFWP will also provide an annual report update before the 2019 Wildlife TAC Meeting. A PowerPoint presentation will also be given at the annual TAC team meeting. A glossy tri-fold document summarizing the work and promoting the MFWP and Northwestern Energy’s collaboration was produced in 2016; this needs to be updated in 2020 to reflect updated activity. Approximately 200 were printed and distributed at fundraising events and at the most recent swan release. They are also available at the MFWP regional headquarters in Bozeman. More will be printed and provided at similar events in 2020 onwards. This document will promote observations of marked birds to be reported to MFWP which will facilitate knowledge of the success of the project. Presentations have been given to the Ruby Watershed Group and Sacajawea Chapter Montana Audubon. We have been asked to present the annual presentation at the Woodson habitat foundation ranch (Ruby valley) next summer on these restoration efforts. We will also use the spring flights (described above) to gauge project success.

**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:**

Due diligence, including MEPA and NEPA compliance, requires consulting cultural resource professionals for all projects involving public funds. Cultural resource professionals within the sponsoring agencies or with the MT SHPO office will conduct cultural resource inventories on this project. Sponsoring entities will ensure that these surveys are conducted and results reported in advance of initiating this project. Northwestern Energy’s cultural resource consultants will also be involved as required by the company.



**IX. Water Rights. For projects that involve development, restoration or enhancement of wetlands, please describe how the project will comply with the intent of Montana water rights laws and policies and with NWE's water rights guidelines for wetland projects.**

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

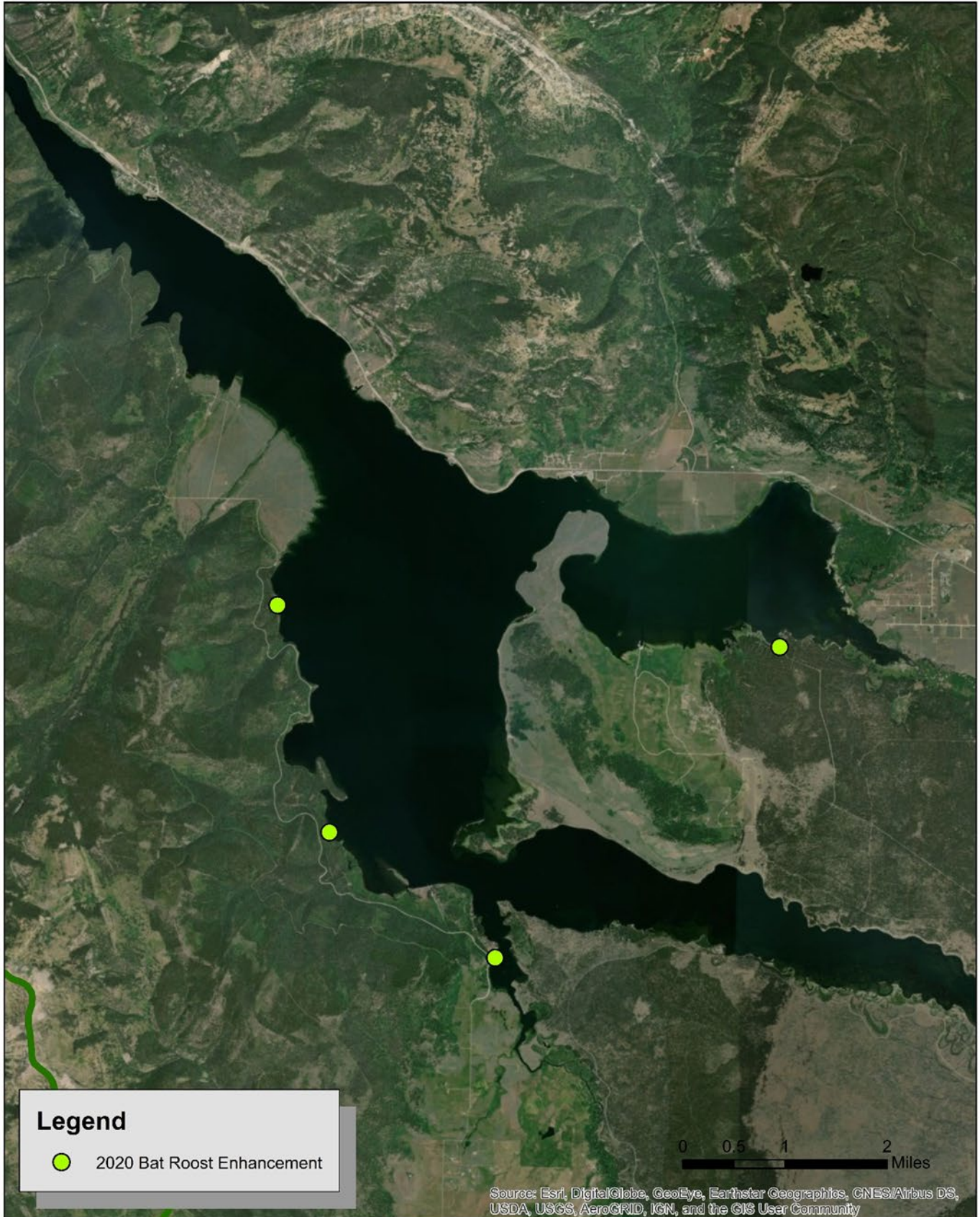
Not applicable

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

- [Andrew.Welch@Northwestern.com](mailto:Andrew.Welch@Northwestern.com)
- [Jon.Hanson@Northwestern.com](mailto:Jon.Hanson@Northwestern.com)
- [Grant.Grisak@Northwestern.com](mailto: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, MT 59601; 406-444-8115 (office); 406-565-7549 (cell); [Andrew.Welch@northwestern.com](mailto:Andrew.Welch@northwestern.com).

# 2020 Bat Roost Enhancement



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

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

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

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

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

### **All TAC project proposals must include the following information:**

#### **Project Title:**

**Hebgen Lake Bat Roost Habitat Enhancement**

#### **Date:**

October 29, 2019

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

The Northwestern Energy *Updated Five Year (2018 thru 2022) Madison and Missouri River Wildlife and Terrestrial Habitat Plan (per Project 2188 License Articles 411, 418, 421, 423, and 424)* states under Article 423 NorthWestern Energy will develop a vegetation and wildlife monitoring and enhancement plan that includes specific goals, objectives, and standards to enhance native plants and wildlife populations on the lands and waters associated with the project. The purpose of Article 423 is to ensure that native plant and wildlife populations in the project area will be enhanced. This project addresses habitat enhancement measures that are pertinent to Article 423 by enhancing roosting habitat for native bats.

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

Because this project meets a License Article requirement and benefits wildlife on the main stem Madison River (Hebgen Lake), it has been selected as a Priority 1 project.

#### **Project Sponsor (submitted by):**

Randy Scarlett, Wildlife Biologist, USDA Forest Service, Hebgen Lake Ranger District, West Yellowstone, MT

#### **Location of Proposed Project:**

The proposed sites are located along the south shore of the Grayling Arm and along the west shore of Hebgen Lake. The project would occur in or adjacent to Rainbow Point, Lonesomehurst, Cherry Creek, and Spring Creek Campgrounds. The proposed sites are located approximately 8 to 12 miles northwest of West Yellowstone, Montana. The sites are in T13S, R04E, Section 3, T12S, R04E, Section 24, and T12S, R04E, Sections 18 and 32. Approximate Long/Lat: 111.276° x 44.783°, 111.265° x 44.752°, 111.231° x 44.736°, and 111.175° x 44.776°

**Total Project Cost: \$8,240**

## **TAC Funds (Cost-Share) Requested for Project: \$3,060**

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

Bats play an important role in ecological systems both locally and globally. Bats consume large amounts of insects, including agricultural pests and insects that spread disease to humans. Bats are also responsible for pollinating a number of native and desirable plants, which ensures the production of fruits and other commodities that support local economies, as well as diverse animal populations. Bats also act as seed dispersers in some areas; without bats, recovery after disturbance or through natural successional processes can be disrupted. Bats are sometimes considered keystone species that are essential to functioning of some ecosystems. Without bats' pollination and seed-dispersing services, local ecosystems could gradually collapse as plants fail to provide food and cover for wildlife species near the base of the food chain. Bats are also sometimes considered indicator species, because changes in bat populations can indicate that there has been a change in some aspect of their environment (changes in insect populations, habitat loss or management, etc.).

Bats in the majority of Montana are seasonal residents. They migrate to warmer southern areas in the fall and return in the late spring to have their pups and forage during the warm summer months. While here they have very specific roosting requirements. Roosts must have relatively warm temperatures that are buffered from ambient temperatures. Often roosts will be located on south aspects where they are better able to absorb the heat of the day. They must also exclude potential predators. In many cases, bats roost in man-made structures, which can bring them into conflict with humans despite the recognized ecosystem services that they provide.

Losses of natural roosts can lead to declines in bat populations in specific areas or at the landscape scale. Bats also provide an opportunity to educate the public regarding their importance, as they readily occupy artificial roost structures that provide appropriate habitat and are relatively undisturbed by human development.

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

1. To enhance or create bat roosting habitat in and around four developed sites adjacent to Hebgen Lake. As natural roost structures (primarily snags) can pose a danger to the recreating public in campgrounds and along roads that access them, these structures are lacking in these areas; 2. To engage the local school to construct and monitor use of the roost structures that are installed.

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

The Hebgen Lake Ranger District is proposing to install bat roost structures at four campgrounds adjacent to Hebgen Lake. Up to 11 bat houses (double and/or single structures with 3 to 4 chambers each) would be installed at the selected sites. Bat houses would be mounted on posts set in concrete. Hand tools or a power auger would be used to excavate holes. Structures would be mounted from 8 to 12 feet high. Four-chambered bat boxes would be constructed by the West Yellowstone School; Commercially-made three-chambered structures may also be procured depending on the capacity of the WYS shop class to construct the structures. The West Yellowstone School would participate in installation of the boxes where feasible and as weather permits. Installation locations would compliment an existing bat interpretive panel installed at Rainbow Point Campground in 2017; additional education information would be provided at Lonesomehurst, Cherry Creek, and Spring Creek Campgrounds (12"x18" panels). Monitoring of the new structures would occur in the Fall once classes resume.

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

Construction of bat houses would occur in the winter and spring of 2020. Installation would occur in the late spring and summer of 2020. Monitoring of installed structures would begin in Fall 2020.

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

The Forest Service wildlife biologist (Randy Scarlett) will be the Project Leader. Construction of four-chambered bat roost structures would be done by the West Yellowstone School Woodshop Class, with some assembly by the Sixth-Grade class. Installation would be done by FS personnel and WYS kids as part of a community service project. Monitoring would be done by the FS wildlife biologist and the WYS Sixth-Grade class.

**VI. Project budget**

Category	Description	TAC	FS	In-Kind/ Partner	Total
Direct Labor	FS WL Bio – 5 days		\$2,000		\$2,000
	FS Rec Tech – 5 days		\$1,000		\$1,000
	Equipment Operator – 2 days		\$500		\$500
	Labor (WY School)			\$1,000	\$1,000
Travel and Living	None				
Materials	Lumber, posts, concrete, forms, stain, screws, interp signs, etc.)	\$3000	\$600		\$3600
Other Direct Expenses	None				
Direct Overhead	2%	\$60	\$80		\$140
<b>Total</b>		<b>\$3,060</b>	<b>\$4,180</b>	<b>\$1,000</b>	<b>\$8,240</b>

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

Use of the roost structures will be monitored in the Summer and Fall. Occupancy of different structures (double four-chamber, double three-chamber, single four-chamber, and single three-chamber) will help guide future enhancement activities on the District and Zone. Success for this project will be demonstrated through bat use of the roost structures and dissemination of educational information to the public through interpretive signage.

**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.

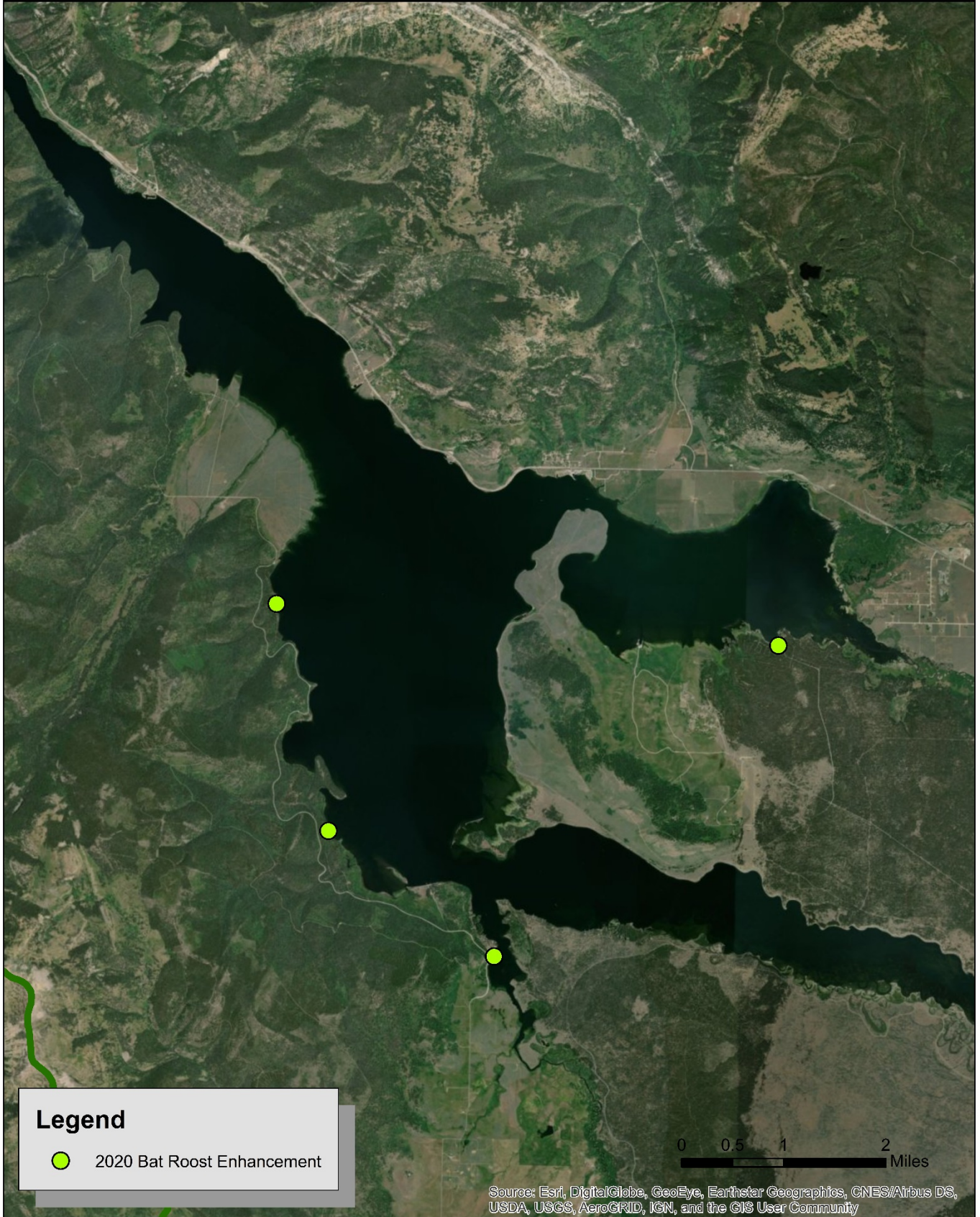
The Zone Archaeologist will screen the proposed sites to ensure that surveys have been completed. Excavation at Rainbow Point will require a site visit, as an existing site is situated in the vicinity. This site visit will occur in the spring once the ground surface is visible.

**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.

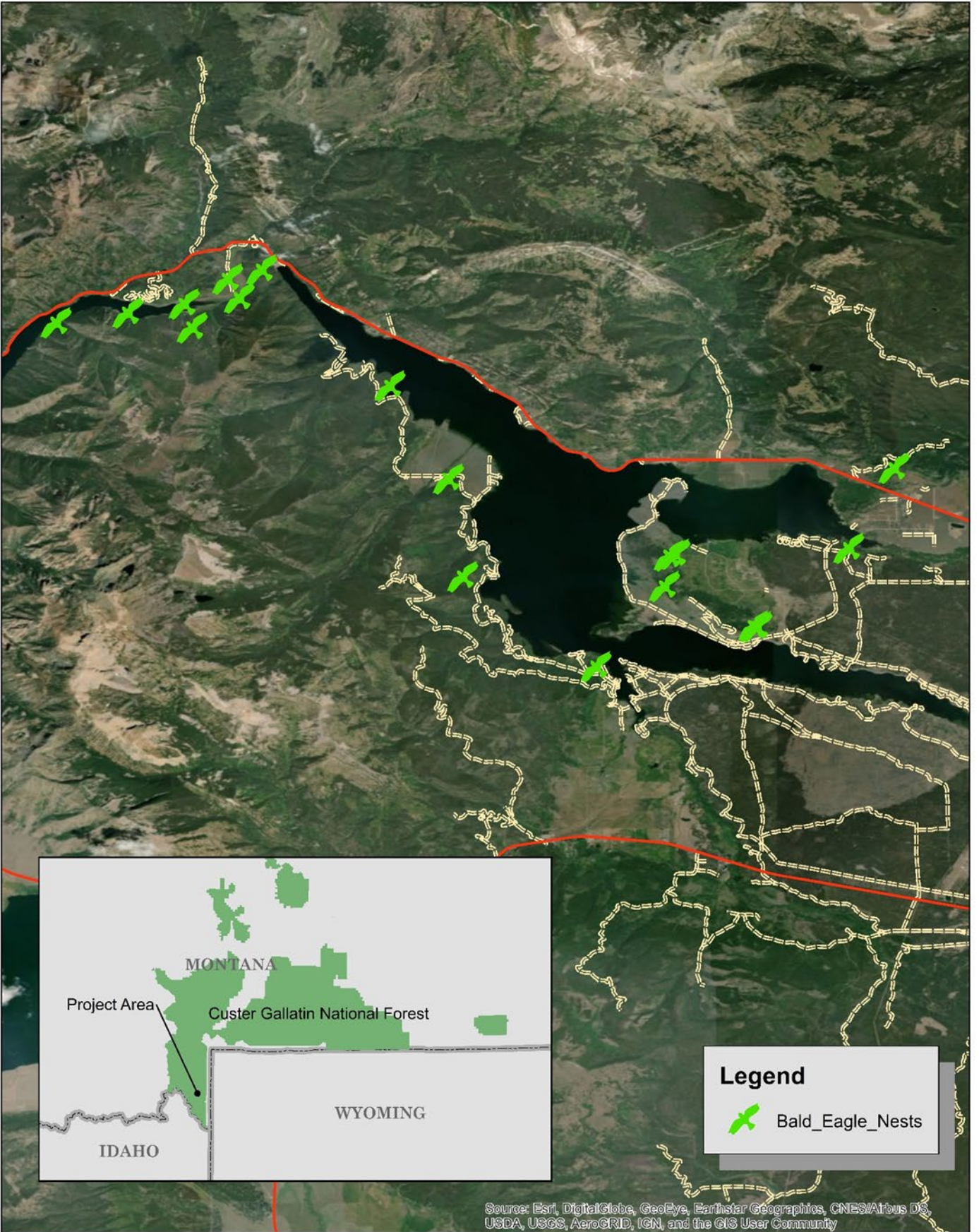
Not applicable to this project.



# 2020 Bat Roost Enhancement









## **2020 Cost-Share Proposal Form for NorthWestern Energy (NWE) Project 2188 TAC Funds**

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

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**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:**

**Hebgen and Earthquake Lake Bald Eagle Monitoring**

#### **Date:**

October 07, 2019

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

Conditions filed by the U.S. Forest Service, pursuant to Section 4(e) of the Federal Power Act, for the new license for Project No. 2118 (Appendix B of License) require that the Licensee develop a comprehensive bald eagle habitat protection and enhancement plan. Condition 12 (Threatened and Endangered Species Plan) requires that the Licensee plan for monitoring of bald eagles throughout the term of the license. The plan shall include annual surveys to include incubation and activity/occupation associated with existing nest territories, productivity, distribution of nesting pairs, and annual count of breeding, wintering, and migrating bald eagles. In addition, under Article 421 of the Updated Five Year (2018 thru 2022) Madison and Missouri River Wildlife and Terrestrial Habitat Plan per Project 2188 License Articles 411, 418, 421, 423, and 424, the license holder committed to continuing to support monitoring of nesting and migrant bald eagles in cooperation with state and federal agencies. If effects become present, the license holder committed to focusing attention on these threats through adaptive management. The license holder and the Forest Service agreed to use Ecology and Management of Bald Eagles on Hebgen and Earthquake Lakes (Stangl 2000) to serve as the bald eagle habitat protection and enhancement plan required under Condition 12. The license holder provided funding in previous years, including 2019. Because Northwestern Energy is obligated under Condition 12 to ensure monitoring over the term of the license, the Forest Service is again requesting assistance to fund this project.

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

Because this project meets a License Article requirement and benefits wildlife on the main stem Madison River, it has been selected as a Priority 1 project.

#### **Project Sponsor (submitted by):**

Randy Scarlett, Wildlife Biologist, USDA Forest Service, Hebgen Lake Ranger District, West Yellowstone, MT

#### **Location of Proposed Project:**

Hebgen Lake, Earthquake Lake, and the main stem Madison River between the lakes. Approximate center of project area is 111.248° x 44.776°.

**Total Project Cost: \$8,235**

**TAC Funds (Cost-Share) Requested for Project: \$3,160**

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

The bald eagle population around Hebgen Lake and Quake Lake is unique to the Gallatin National Forest; it represents the only breeding population of eagles on the Forest. Local residents and recreationists alike value this population and are concerned over its health and persistence. The long-term dataset recording occupancy and productivity of these eagles is invaluable to ongoing management and education efforts regarding bald eagles and their habitat. Baseline monitoring data is the foundation for determining trends and informing management activities in this area. Without baseline data, it would be impossible to evaluate the effects of human activities on wildlife and make informed decisions regarding conservation of the species.

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

Monitoring efforts would be focused on two specific objectives: 1) determine productivity and distribution of bald eagle breeding territories on Hebgen Lake, Earthquake Lake, and the Madison River between the lakes; 2) search for new bald eagle territories.

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

#### *Productivity*

To monitor nest occupancy and productivity of bald eagles at known territories, eagles would be observed with a spotting scope from a remote vantage point. This would allow for clear and accurate data recording in which observer presence does not affect the behaviors recorded. If primary nests are found to be inactive, attempts would be made to observe all known historic nests within a territory.

Each nest would be monitored during the four stages of the nesting period: Courtship and Occupancy (2/1 - 3/31), Activity (4/1 - 4/30), Nestling (5/1 - 5/31), and Fledgling (6/1 - 7/15). The goal would be to visit each nest at least once during each nesting stage, except if a nest was determined to have failed. To quantify productivity, the number of hatchlings and fledglings would be recorded during each observation from the first sign of being hatched to fledging. Hatching and fledging dates would be estimated based upon these observations.

#### *New Nest Searches*

Efforts to locate new nest territories would be focused on areas of suspected eagle nesting activity, as determined by observation of adult eagles or reports from the public. Ground observations of bald eagles would be performed with a spotting scope and binoculars. When located, observers would visually follow their travels to potential nest areas. Optics would also be used to conduct searches of suitable habitat for nest structures; these searches may occur from the ground or by boat.

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

Field work would be conducted during the bald eagle nesting season (approximately February 1-August 15).

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

The Forest Service wildlife biologist (Randy Scarlett) will be the Project Leader. The FS biologist will supervise a seasonal technician who will conduct most of the eagle monitoring. The FS biologist would also

coordinate volunteer labor to engage the community in monitoring of the bald eagle population. The FS biologist would also prepare annual reports summarizing work accomplishments for the year.

**VI. Project budget**

<b>Category</b>	<b>Description</b>	<b>TAC</b>	<b>FS</b>	<b>In-Kind</b>	<b>Total</b>
Direct Labor	FS Bio – 5 days	\$0	\$2,125	\$0	\$2,125
	Bio Tech – 20 days	\$3,100	\$0	\$0	\$3,100
Direct Overhead	2%	\$60	\$0	\$0	\$60
Travel and Living	FS vehicle	\$0	\$750	\$0	\$750
Materials	Misc. supplies	\$0	\$200	\$0	\$200
Other Direct Expenses	None	\$0	\$0	\$0	\$0
Volunteer Labor	Dep. on availability – est. 10 days	\$0	\$0	\$2,000	\$2,000
<b>Total</b>		<b>\$3,160</b>	<b>\$3,075</b>	<b>\$2,000</b>	<b>\$8,235</b>

**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 results of each year’s monitoring efforts would be summarized in an annual report to NorthWestern Energy. Success for this project will be demonstrated by determination of the nesting chronology of all known nests around Hebgen and Earthquake Lakes.

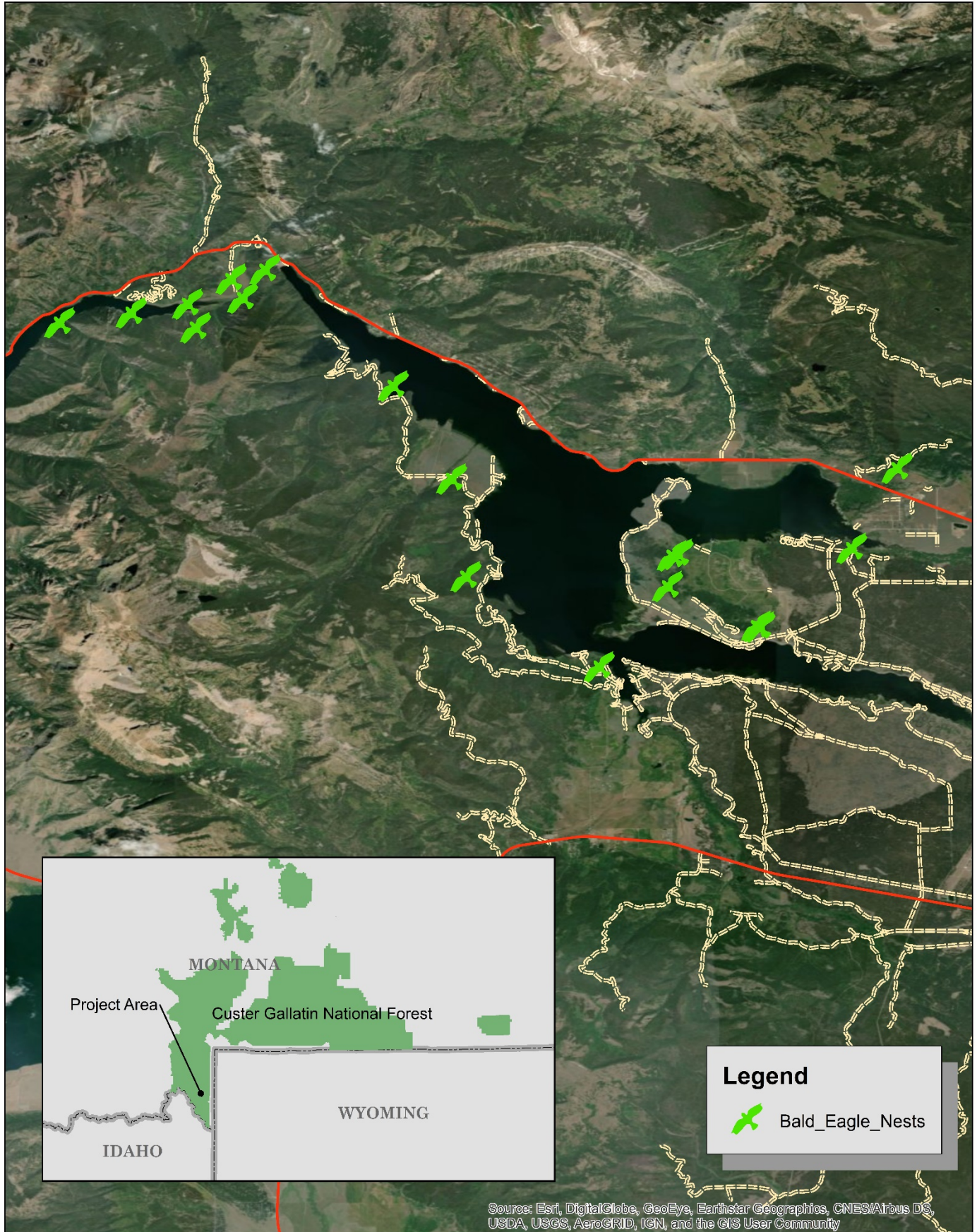
**VIII. Cultural Resources.** Cultural Resource Management (CRM) requirements for any activity related to this Project must be completed and documented to NWE as a condition of any TAC grant. TAC funds may not be used for any land-disturbing activity, or the modification, renovation, or removal of any 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 disturbing activities are proposed; therefore, no coordination with cultural resource specialists is required.

**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 to this project.

# Hebgen and Quake Lake Bald Eagle Nests





## **2020 Cost-Share Proposal Form for NorthWestern Energy Montana 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 PPL Montana'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 Project proposals must include the following information:**

**Project Title:** Earthquake Lake and Hebgen Lake Weed Treatments 2020

**Project addresses a specific Project 2188 License Article(s), Priority 1.**

The NorthWestern Energy Montana *Updated Five Year (2018 thru 2022) Madison and Missouri River Wildlife and Terrestrial Habitat Plan per Project 2188 License Articles 411, 418, 421, 423, and 424* states under Article 423 NorthWestern Energy will develop a plan to enhance native plants and wildlife populations on the lands and waters associated with the 2188 license. This project would enhance native plants and wildlife populations around Earthquake Lake and Hebgen Lake, in compliance with Article 423, by reducing the spread of noxious weeds. This project would help reduce the spread of noxious weeds to areas more distant from the high-recreation area adjacent to Hebgen and Quake Lakes.

This project meets the criteria for a Priority 1 project because it will take place along the main stem of the Madison River and the Hebgen development. Proposed treatment areas lie adjacent to Hebgen Lake, Quake Lake, the Madison River, and areas in the immediate vicinity that provide valuable Winter and Spring/Summer/Fall habitat for wildlife species, including elk, mule deer, moose, bison, grizzly bear, and numerous resident and migratory avian species.

**Project Sponsor (submitted by):** Randy Scarlett, Wildlife Biologist, USDA Forest Service, Hebgen Lake Ranger District, West Yellowstone, MT

**Location of Proposed Project:** The project will treat noxious weeds within approximately 120 acres of known and new weed infestations around Earthquake Lake, Hebgen Lake, the Madison River, and the immediate vicinity. The approximate center of the proposed treatment area would be 111.269° x 44.802°

**Total Project Cost:** \$21,655

**TAC Funds (Cost-Share) Requested for Project:** \$4,080

## **I. Introduction.**

Nonnative species, including generalist, highly-competitive noxious weed species, are recognized as a threat to wildlife habitat. These invasions by non-native plants affect native fauna through both trophic (food) and non-trophic (habitat) pathways and via both direct and indirect effects. The degree to which these invasions affect wildlife depends largely on the degree to which non-native plants alter the form and function of native vegetation communities.

Non-native forbs and grasses can alter the structure and composition and the form and function of vegetation communities (Litt and Pearson 2013). As non-native plants occupy a larger proportion of the vegetative community, the biomass, height, phenology, or growth form can shift relative to what would have occurred with native vegetation. These changes can alter nesting structure, food availability and/or nutrient content, and other factors that directly impact native wildlife species. Changes in vegetation structure may influence nesting substrates, resting sites, thermal cover, escape cover, or hiding cover, which can affect abundance of some species directly and indirectly affect other species by altering predator-prey interactions and competition (Litt and Pearson 2013). Changes in vegetation composition can affect food quality or availability for some native animals directly and others indirectly through cascading effects on trophic interactions (Reinhart et al. 2001). Species richness, abundance, and biomass of native fauna are generally reduced by increasing densities of non-native vegetation. Increased dominance by individual species of non-native plants can result in monocultures that decrease heterogeneity of vegetation structure and diversity of native fauna because fewer species can find habitat (Litt and Pearson 2013). It has been found that knapweed alters forage quality where it occurs in high densities; elk tend to graze in un-infested areas to a greater degree, which can lead to overutilization and damage to rangelands (Kohl et al. 2012, Parks et al. 2008, Vavra et al. 2007, and Trammel and Butler 1995). When degraded range conditions are combined with seed dispersal (through ungulates or other means such as vehicles or humans), further invasion of exotics can be expected.

In more extreme cases, non-native plants can alter nutrient cycling, hydrology, litter decomposition rates, disturbance (e.g. fire), and other ecosystem processes that can both directly and indirectly affect wildlife. Non-native plants may increase or decrease food resources or remove or create unique habitat characteristics as they replace native vegetation (Litt and Pearson 2013). Further, changes in disturbances such as fire frequency and intensity, high levels of recreation, grazing, road construction, and vehicular traffic (among others), can contribute to seed dispersal and an increase in the distribution and abundance of non-native plants.

Native wildlife can influence the distribution and abundance of non-native plants by facilitating or inhibiting invasions through herbivory, seed dispersal, seed predation, soil disturbance, and pollination (Litt and Pearson 2013, Kohl et al. 2012). Examples include hound's tongue, which becomes entangled on native wildlife and livestock and is transported to new sites. Sulfur cinquefoil reproduces only by seed and seeds typically fall within 3 m of a parent plant. Consumption of seeds through intentional or unintentional grazing, and transportation to new sites can result in the establishment of satellite infestations across susceptible natural areas (Parks et al. 2008).

Although non-native species have been somewhat less problematic in high-elevation ecosystems, changes in climatic conditions that include longer growing seasons and reduced snow pack, when combined with increased human access (through developments or increased use) and high native ungulate densities, are likely to diminish the abiotic resistance of these habitats. It is expected that noxious weeds will increase in presence and abundance in higher elevation environments in the future (Pauchard et al. 2008, Litt and Pearson 2013).

Despite ongoing efforts by the Gallatin National Forest weed program to keep noxious weeds at bay, extreme recreational pressure on Hebgen Lake and along the Madison River continues to contribute to the abundance and dispersal of noxious weeds in the area. Species such as spotted knapweed, yellow toadflax, orange hawkweed, and hound's tongue are established and threaten native plant communities in these areas. Earthquake Lake and Hebgen Lake provides critically important waterfowl nesting habitat, foraging areas and cover for grizzly bears, moose and elk winter range, and nesting territories for bald eagles and peregrine falcon, among numerous other species that use the area. The Madison River between Hebgen Dam and Earthquake Lake is an important migration corridor for elk and also provides important moose winter habitat. The importance of these areas for wildlife cannot be overstated, but habitat quality in these areas is threatened by the presence and spread of noxious weeds that outcompete and displace native vegetation.

If not controlled, noxious weeds will continue to spread into areas that are not currently infested and will begin to limit forage availability, low-level cover for birds and other wildlife, and degrade the quality of breeding habitats. Although noxious weeds may never be completely eradicated from the Forest or a site, it is possible to reduce impacts on wildlife habitat and control spread through ongoing treatments that are implemented at regular intervals over time. Weed treatment is not a one-time event; rather, it must be ongoing in order to be effective.

**II. Objectives.** Treat approximately 120 acres of existing noxious weeds (using a combination of herbicides and biological control, where feasible) in the project area during the summer of 2020.

**III. Methods.** The Forest Service will utilize the Montana Conservation Corp (through an existing agreement) or contract applicators to spray known and newly discovered patches of noxious weeds. The primary species that would be treated are spotted knapweed, dalmatian and yellow toadflax, hound's tongue, and orange hawkweed. New invader species and locations would be prioritized for treatment; catching new invaders and new sites will improve long-term success in limiting the spread and complexity of noxious weed issues around Hebgen and Quake Lakes, the Madison River, and ultimately the larger landscape, which includes the Cabin Creek Wildlife Management Area. The Forest Service Weed Specialist will be on hand to guide treatment activities. Two weeks after treatment the site will be monitored to evaluate the effectiveness of the treatment.

**IV. Schedule.** The project would be implemented during the summer of 2019. Treatment would be scheduled to optimize the effectiveness of spraying on the noxious weed species present at these sites; phenology of the weeds in question and site-specific conditions will determine when the sites are ready for treatment. July and August are generally when plants are most visible and spraying is most effective.



**V. Personnel.** The Custer Gallatin National Forest Weed Specialist would be the Project Leader. The Weed Specialist would prepare and organize agreements, schedule work, monitor the effectiveness of the work, and aid the Zone Wildlife Biologist in preparing an annual report summarizing work accomplishments for the year.

**VI. Project budget:**

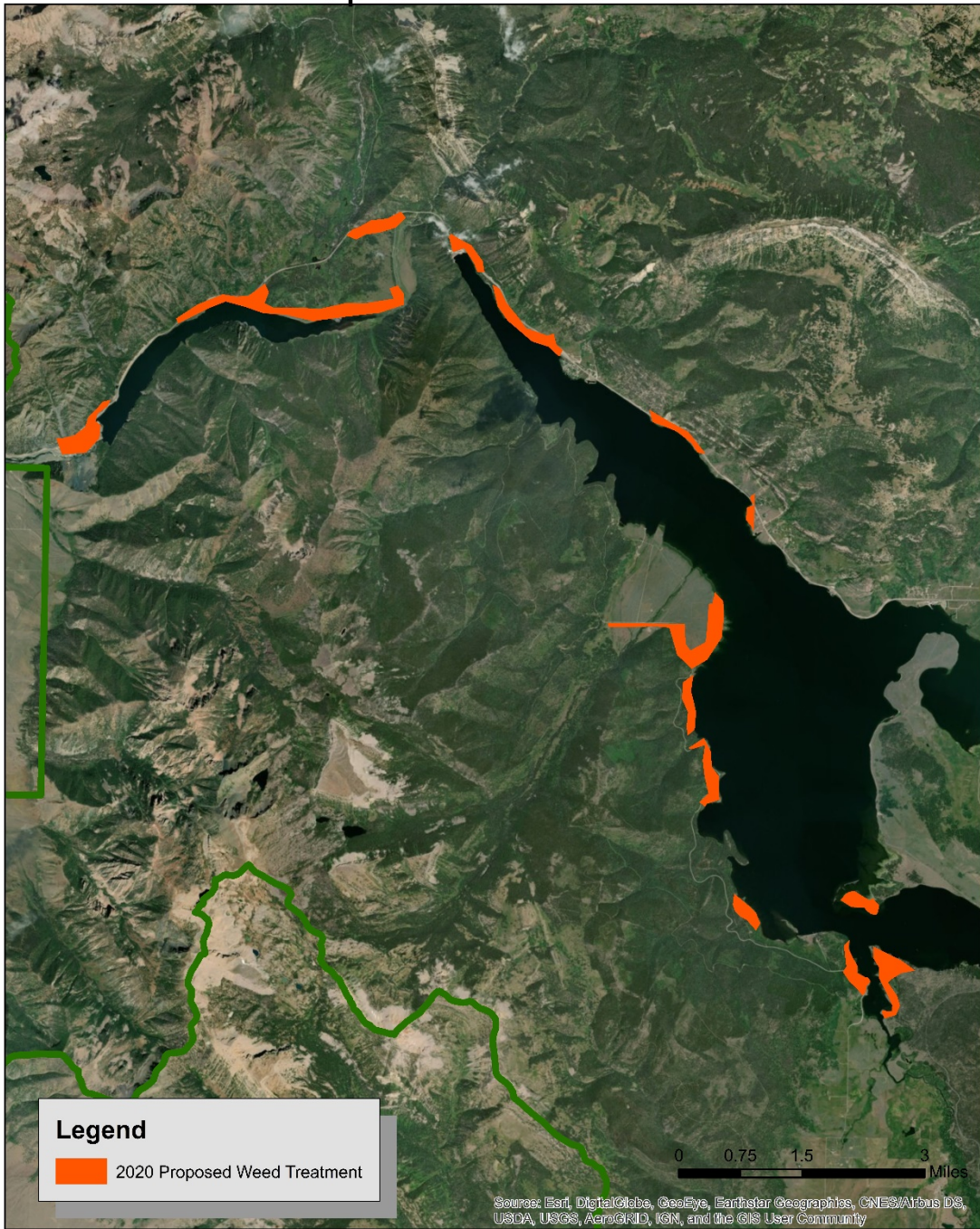
Category	Description	Northwestern Energy	Custer Gallatin NF	Total
Direct Labor	MCC Crew, FS field personnel, and contract labor	\$4,000 (Montana Conservation Crew, 1 week)	\$15,250 (FS personnel, contract spraying; MCC Crew)	\$19,250
Travel and Living	None			
Material	Chemical	\$0	\$1,000	\$1,000
Other Direct Expenses (Vehicle)		\$0	\$1,000	\$1,000
Direct Overhead		\$80	\$325	\$405
<b>Total</b>		<b>\$4,080</b>	<b>\$17,575</b>	<b>\$21,655</b>

**VII. Deliverables.** Approximately 120 acres would be treated to reduce the presence of noxious weeds. Monitoring of these sites would determine the level of success. Due to ongoing recreation at these sites and wildlife use of the area, it is not anticipated that weeds would be eliminated entirely. It is instead expected that the density of weeds would be substantially reduced. Ongoing treatments are necessary to ensure continued success over time. A report summarizing treatments would be provided to NorthWestern Energy in fall/winter 2020.

**VIII. Cultural Resources.** No ground disturbing activities are proposed; therefore, no coordination with cultural resource specialists is required. Also, the Gallatin National Forest Noxious Weed Treatment Project EIS was completed in 2005 and the effects to other resources (including cultural resources) were addressed in that document. The EIS and Record of Decision documented that the use of chemical treatments would have no effect on cultural resources.

**IX. Water Rights.** Not applicable to this project as no activities affecting streams or other water sources would occur.

# 2020 Proposed Weed Treatment



## **2020 Cost-Share Proposal Form for NorthWestern Energy (NWE) Project 2188 TAC Funds**

**Project Title:** Upper Missouri River Breaks National Monument Riparian Restoration

**Date:** 10/31/2019

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

This project addresses License Article 423, which requires development of a vegetation and wildlife monitoring and enhancement plan for the 2188 Project area. The current Project 2188 Wildlife Plan specifies that funds will be provided for protecting, restoring and enhancing riparian habitats, which is the intent of this project.

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

Due to the location of the plantings along the banks of the Missouri River between Hauser Reservoir and Fort Peck Reservoir, and the impacts of replacing aging cottonwood galleries for wildlife habitat and subsequently wildlife populations in the area, this project fits within Priority 1 for Project 2188. Additionally, the removal of debris from past cottonwood planting projects associated with this funding will also benefit the same wildlife habitats and populations within the same reach of the river corridor.

**Project Sponsor (submitted by):**

Friends of the Missouri Breaks Monument, in partnership with the Bureau of Land Management (BLM).

For the past five years this cooperative team, with financial support of NorthWestern Energy and other funders, has held annual planting events culminating in a total of 762 cottonwood trees planted along the banks of the Missouri River.

**Location of Proposed Project:**

The 2020 planting sites will provide restoration of cottonwood galleries on both private and public land within the Upper Missouri River Breaks National Monument.

Specifically, on private land the planting will be on land owned by Rick Anderson between river miles 35R and 37R of the Missouri River's Wild and Scenic designation (Figure 1). The site is at the terminus of Crow Coulee where a mature grove of cottonwoods stand today. Rick and the Friends previously worked together on a cottonwood planting in 2015 that was among the most successful in terms of execution and survival rates.

The planting on public land will take place on land managed by the Bureau of Land Management, with a likely location being at the Pablo Rapids Primitive Campground (Figure 2), at river mile 72.3L of the Wild and Scenic designation. While it is always difficult to plan plantings at remote BLM sites, the goal for this planting will be to finish years of effort and planning focused on this particular cottonwood gallery. In past years weather and staffing have kept plantings at this site from happening; however, this year the BLM is determined to work with the Friends to make the planting happen. To make this possible, the BLM has secured an external jet boat driver to shuttle supplies and labor to the site prior to and during the planting, along with hiring staff into positions that in previous years were empty.

As with any work project occurring within the Breaks, it is important to note that these planting sites are dependent upon weather and road conditions for their completion. Any and all effort will be made during the project to ensure that this year's plantings will occur at the specified sites, but changes may have to be made. In the event that changes to the planned planting are required, the Friends will notify and work with NorthWestern Energy to keep all involved parties up to date with plan adjustments.





Figure 1. Planting site at ABN Ranch, owned by Rick Anderson, between Loma and Virgelle in the Monument.



Figure 2. Planting site at Pablo Rapids Primitive Campsite within the Upper Missouri River Breaks National Monument.

## **Geocode**

Anderson Site: 47.989953, -110.342874

Pablo Site: 47.758260, -109.885055

**Total Project Cost:** \$48,950

**TAC Funds (Cost-Share) Requested for Project:** \$16,500

## **I. Introduction.**

Riparian zones comprise less than 1% of the total land area within the Upper Missouri River Breaks National Monument, yet they support the majority of mammal species, and are home to more bird species than all other area habitats combined. Plains cottonwoods (*Populus deltoides* subsp. *monilifera*) are the most vital species of the monument's riparian zones. The cottonwoods provide vertical structure to the largely flat and homologous landscape, which thereby creates niches that are not found in any of the other surrounding habitats. Consequently, cottonwoods provide the area with greater species richness and are directly correlated with the overall biodiversity of the entire monument. Without the plains cottonwood, much of what makes the Breaks a naturally wonderful place would not be possible, and because of this the cottonwood is truly a keystone species within the monument's entire ecosystem.

The dependence of the monument's ecosystems on cottonwoods is similar to the overall dependence cottonwoods have on river conditions for completing their natural life cycle. Cottonwood regeneration is highly reliant upon spring flooding, as the trees' reproductive strategies depend upon bare alluvial soil for successful germination of their seeds. Unfortunately, with changed flood regimes cottonwoods along the Wild and Scenic-designated stretch of the Missouri River are no longer regenerating at a sustainable rate. If this current trend is left unchecked, the riparian habitats that cottonwoods support, and that nearly all wildlife in the area depends upon, will likely be lost or at best remain in only a small fraction of the area they now cover. Therefore, the Friends of the Missouri Breaks Monument and the Bureau of Land Management have undertaken an ambitious project to mimic natural regenerative forces and plant native cottonwood cuttings within imperiled riparian zones.

## **II. Objectives**

The primary objective of this project is to establish a new generation of cottonwoods within key riparian zones of the Upper Missouri River Breaks National Monument. Presently over half of the monument's cottonwoods are over 70 years old and lack a viable replacement generation. If cottonwoods disappear from the area's riparian ecosystem, the wildlife populations within the monument will be severely detrimentally impacted. Nearly all wildlife species in the region, from amphibians to mammals, depend upon the trees to provide shelter, food or both.

On a more anthropological scale, these projects allow the Friends of the Missouri Breaks Monument, a conservation-minded organization, to work with the BLM and continue to advocate for locally responsible stewardship of our public lands.

## **III. Methods**

After multiple years of planting cottonwoods along the Upper Missouri River, the Friends and BLM have learned many lessons, both good and bad, that have shaped our current planting and maintenance procedures. The most important aspect of the project is location: If trees are planted too low on the bank, they are almost always scoured away by winter ice flows, but if they are planted too high on the bench, the trees' roots rarely reach the water table and they perish in the semi-arid climate. Because of these restraints, we have learned to plant the trees at approximately the same distance from the water's edge as the previous cottonwood groves begin. However, even at this location the average depth of the water table is anywhere from eight to 12 feet below ground. To combat this, we have developed a planting technique that has allowed the trees to reach the water table approximately two years after their planting. Our established technique requires holes dug to a depth of five feet, with a diameter of eight inches. By drilling a hole for the trees we shorten the distance to the water table to an average of three to seven feet, a much easier distance for roots to cover than the full eight to 12 feet.

For the past three years we have collected cottonwood cuttings from a private ranch on Arrow Creek, a tributary of the Missouri River and a section of the National Monument. Together with each cottonwood cutting we place an eight-foot PVC pipe with perforations on the bottom 12 inches in each hole. Once both the cottonwood cutting and PVC pipe are in the hole, it is then backfilled with a mud slurry and concentrated root growth hormone. At this point the final step of the planting is erecting a protective fencing with t-posts and field wire fencing around each of the young trees to protect from cattle grazing and hungry beavers.

In comparison with many other standard planting techniques, this is a highly complicated process. However, this method has been developed to remove many of the problems that have plagued past attempts to establish cottonwoods in semi-arid environments similar to that of the Breaks. The primary problem is lack of water. To combat this problem we plant in the deep holes, as has previously been discussed, but we also have found that seasonal watering through the trees' first two summers has increased survivability by more than 100%. After two trial plantings in 2013 and 2014, with each planting producing dismal survival rates, the Friends hired seasonal workers to water the young trees in the hottest summer months. Seasonal workers draw water from the Missouri River directly into the PVC pipes and down to the young roots. The PVC pipes allow for water to be delivered directly to the

lowest point of the cottonwood cutting, which encourages root growth to be stimulated and strongest at the point closest to the natural water table. Following two years of watering the trees are able to meet their own water requirements and have shown to be exponentially more successful than other planting projects throughout the West without summer watering.

#### IV. Schedule

Much of this project's early steps are weather-dependent, as the roads and environment of the Breaks can be treacherous during spring rain events. Cutting and planting must occur while the cottonwoods are still in their winter dormancy, which generally lasts until the middle of April. Tentatively, individual planting site identification, drilling and cutting of cottonwood shoots will take place in early to mid-March. The planting events will take place within three weeks of the cuttings, around the end of March to early April. Following the planting, the trees will receive their first watering in early May, followed by another watering toward the end of the same month. During the hottest summer months, June-September, seasonal workers and volunteers from the Friends will be watering the trees on a weekly basis while also completing other land stewardship-related projects along the river's riparian corridor. At the end of the summer season the Friends' staff and volunteers will perform an end-of-year river trip to complete mapping end-of-season inventories and additional project completion duties.

#### V. Personnel

Work on the cottonwood project will be completed by different people and groups at certain periods of the project's timeline. The first aspect of the project will be carried out by Friends and BLM staff, as well as outside contractors, to identify individual planting sites for each tree and subsequently drill the planting holes. After the holes are dug, the next step will be collecting cottonwood cuttings and delivering the cuttings and planting supplies to each planting site. This work will be done by Friends staff and volunteers. Volunteers from the Friends will do most of the labor in planting the young cuttings, under the guidance of staff from both the Friends and BLM. Post-planting watering and maintenance of trees, including those planted in 2019, will be performed by seasonal workers hired by the Friends. The project lead will be Joe Offer, Executive Director for the Friends of the Missouri Breaks Monument, with assistance from Sean Williams, BLM Lead Project Ranger based in Fort Benton, and Bonny Hammons, BLM Hydrologist based in Lewistown.

#### VI. Project Budget

<b>Personnel Costs</b>	<b>NWE Grant</b>	<b>Match Funds</b>	<b>Total Cost</b>
Executive Director	\$2,160.00	\$6,480.00	\$8,640.00
Program Manager	\$4,080.00	\$4,080.00	\$8,160.00
Conservation Technicians	\$6,000.00	\$6,000.00	\$12,000.00
<b>Total Personnel</b>	<b>\$12,240.00</b>	<b>\$16,560.00</b>	<b>\$28,800.00</b>
<i>8 weeks of work for the ED, 12 weeks of work for PM, 2 MCC conservation interns</i>			
<b>Travel Costs</b>	<b>NWE Grant</b>	<b>Match Funds</b>	<b>Total Cost</b>
Lease of work truck	\$2,500.00	\$4,000.00	\$6,500.00
Car rental	\$920.00	\$1,380.00	\$2,300.00
Gas for truck and car rentals	\$840.00	\$2,660.00	\$3,500.00
<b>Total Travel</b>	<b>\$4,260.00</b>	<b>\$8,040.00</b>	<b>\$12,300.00</b>
<i>Work truck for travel to and from watering of trees, rentals for volunteer planting events</i>			
<b>Equipment &amp; Supply Costs</b>	<b>NWE Grant</b>	<b>Match Funds</b>	<b>Total Cost</b>
Site specific equipment	\$0.00	\$3,350.00	\$3,350.00
<b>Total Equipment &amp; Supply</b>	<b>\$0.00</b>	<b>\$3,350.00</b>	<b>\$3,350.00</b>
<i>After five years of use much of the gear needs to be replaced (pump, hoses, PPE). This also includes the costs of equipment for the planting event itself (wire cages, t-posts)</i>			
<b>Subtotal Direct Costs</b>	<b>\$16,500.00</b>	<b>\$27,950.00</b>	<b>\$44,450.00</b>
<b>Indirect Costs</b>	<b>NWE Grant</b>	<b>Match Funds</b>	<b>Total Cost</b>
Friends Overhead Summer Expenses	\$0.00	\$4,500.00	\$4,500.00
<b>Total Indirect Costs</b>	<b>\$0.00</b>	<b>\$4,500.00</b>	<b>\$4,500.00</b>
<b>Total Costs</b>	<b>\$16,500.00</b>	<b>\$32,450.00</b>	<b>\$48,950.00</b>
	33.71%	66.29%	100.00%
*Match funds from BLM assistance agreement and various foundation grants			

<b>Friends Volunteer Hours</b>	<b>Time per Individual</b>	<b>Rate</b>	<b>Total In-Kind</b>
-35 Volunteers for plantings	5 hours	\$25.43	\$4,450.25
-15 Volunteers for late season watering	30 hours	\$25.43	\$11,443.50
-10 Volunteers for past site cleaning	30 hours	\$25.43	\$7,629.00
<b>Total In-Kind Contributions</b>			<b>\$23,522.75</b>

## **VII. Deliverables**

At the completion of the 2020 field season approximately 150 cottonwood trees will be growing under the watchful eye of elder cottonwoods along three miles of the Wild and Scenic Missouri River. Together with these deliverables we will have involved over 60 volunteers on the different aspects of the project, with volunteer service totaling over \$23,000 in time benefiting the Upper Missouri River Breaks National Monument and the watershed as a whole.

Furthermore, the success of the entire project will be monitored throughout the year through pictures, mapping and statistical analysis of the survival rates of the planted trees. A detailed report will be completed following the end of the field season with an in-depth breakdown of the project's achievements and potential chances for future advancement. A successful project will be based upon trees planted, acres of riparian habitat restored, survival rates of the planted trees and the overall number of people involved directly on the ground or indirectly reached through outreach.

## **VIII. Cultural Resources**

All Cultural Resource Management requirements have been met and are discussed in the environmental assessment MT-DOI-BLM-MT-M070-2015-0002-EA. This can be found at the BLM NEPA register website at <https://eplanning.blm.gov/>. Along with the prior environmental assessment, all BLM district archeologists will be included in annual planning sessions and will be asked to be in attendance for all aspects of the project that require disturbance of potentially impacted culturally significant soils.

## **IX. Water Rights**

N/A



## **2020 Cost-Share Proposal Form for NorthWestern Energy (NWE) Project 2188 TAC Funds**

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

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

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

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

### **All TAC project proposals must include the following information:**

Project Title: Whiskey Ridge Conservation Easement

Date: 10/15/2019

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

This proposed project meets Project 2188 License Article 423, specifically in "develop[ing] a vegetation and wildlife monitoring and enhancement plan that includes specific goals, objectives, and standards to enhance native plants and wildlife populations on the lands and waters associated with the project..." Montana FWP Conservation Easements (CEs) ensure protection of existing wildlife, upland, and water resources in perpetuity. Additionally, FWP CEs include a management plan that sets specific goals and objectives for maintaining and/or enhancing the wildlife/agricultural values on a property, also in perpetuity. The Whiskey Ridge CE will include a grazing plan designed to maintain and improve forage productivity for livestock and wildlife, maintain cover values (residual grass, shrubs) for a variety of wildlife species, and protect riparian/wetland areas by minimizing erosion. Rangeland infrastructure in the form of fences, pipelines, and water tanks may be required to implement this grazing system, and would be constructed in a manner that does not degrade any of the resource values or inhibit movements/migration of wildlife. Highly erodible soils are a characteristic of this landscape and through improved grazing, this CE will help minimize erosion and improve water quality where pastures overlap stream systems.

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

This project falls under both Priority 1 and Priority 2, as the Whiskey Ridge CE project area lies adjacent to and between the main-stem Missouri River and one of its primary tributaries, Dog Creek.

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

Location of Proposed Project: ~9 miles north of Winifred, Fergus County

Geocode (in decimal degrees ex 46.89743) Lat: 46.689109 Lon: -109.342947

Total Project Cost: Pending appraisal; estimate \$2-2.5 million

TAC Funds (Cost-Share) Requested for Project: \$50,000

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

The Whiskey Ridge CE will conserve and enhance 4,400 acres of primarily sagebrush grassland in the Missouri River Breaks. An additional 7,844 leased acres (BLM, DNRC) are also associated with this property and would be included in the above-referenced grazing management plan. Wildlife species benefiting from this project include bighorn sheep, elk, mule deer, pronghorn, Merriam's wild turkey, mountain lion, bobcat, Greater sage-grouse,

sharptailed grouse, and a host of non-game species, including several Species of Concern listed under License Article 421: Long-billed Curlew, Bald Eagle, Golden Eagle, Ferruginous Hawk, Short-eared Owl, and others.

The property straddles two State Wildlife Action Plan Terrestrial Focal Areas, the Greater Sage-Grouse Core Area and the Judith River Focal Area. It also facilitates improved recreational access to ~15,400 acres of DNRC and BLM lands (including the above-mentioned leased acres and the Upper Missouri River Breaks National Monument). Most notably, this property and associated breaks provide important habitat and access to the Southern Missouri River Breaks (HD 482) bighorn sheep herd which constitutes an important ecological and recreational resource to Montana. The Missouri Breaks sheep herd comprises of a portion of the state's largest metapopulation of bighorn sheep (>1,000 individuals estimated between HDs 482 and 680). The CE would include typical terms as other FWP CEs, but also prohibit domestic sheep/goats on the deeded parcels, ensuring conservation and hunting access to these lands in perpetuity.

The attached lands project proposal, submitted through the formal MFWP Lands Project Process, contains more information, maps, and photos of the project and project area.

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

FWP intends to purchase a CE on ~4,400 acres to protect the conservation values and public recreational opportunity of this land in perpetuity. FWP will combine PPL Wildlife TAC funds with its Habitat Montana program and other partners to complete the purchase.

FWP CE terms ensure that the wildlife and agricultural values will be maintained. Terms will include no subdivision or building (outside of current structures' maintenance) on the property, and no additional sodbusting or breaking up of native vegetation. The landowner may continue farming/haying existing agricultural lands. A grazing system will be designed to maintain and enhance native plant communities, protect and improve forage values for livestock and wildlife, maintain cover values for wildlife, and prevent erosion on both deeded and leased public lands. The landowner has agreed to only run horses and cattle on the property, to protect a world-class bighorn sheep population that inhabits the area from disease risks associated with domestic sheep and goats. The CE will provide a valuable public resource for recreationists and hunters/anglers, as a public access agreement will be negotiated with the landowner, further detailed in the management plan.

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

The CE proposal has already received endorsement by the FWP Fish & Wildlife Commission (August 15, 2019) and completed an initial public scoping (October 24, 2019) to identify potential issues with the project (none were identified and the project has received broad public support thus far). Next steps are developing the specific CE terms, management plan, and grazing plan, which will detail how the Conservation Values, FWP's Rights, and Landowner's Rights will be allocated and maintained. After an appraisal, the project sponsor will write a Draft Environmental Assessment (EA), which will again undergo a public comment process before moving to the F&W Commission for final approval, then closing. Once closed, the Deed of CE will be filed and if any rangeland infrastructure needs are identified, the Landowner and FWP will work together to implement those projects.

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

The formal project process began in June 2018, and is projected to close by December 2020.

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

Sonja Andersen  
Area Wildlife Biologist  
MT Fish, Wildlife & Parks  
333 Airport Rd  
Lewistown, MT 59457  
(406)366-5266  
[sandersen@mt.gov](mailto:sandersen@mt.gov)

## VI. Project budget must include amounts for the following:

Direct Labor  
Staff time to develop CE terms, management plan, due diligence: estimated 3 months  
Travel and Living

n/a  
Materials  
n/a  
Other Direct Expenses  
n/a  
Direct Overhead  
No overhead for acquisition projects  
All cost-share sources and amounts, including estimation of “in-kind” contributions  
MFWP Bighorn Sheep Auction revenue \$1,500,000  
MFWP Habitat Montana Program >\$500,000  
Wild Sheep Foundation \$250,000  
Great Falls Chapter Safari Club International \$20,000 (requested)  
Rocky Mountain Elk Foundation \$25,000 (requested)  
Mule Deer Foundation \$25,000 (requested)

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?

A completed Deed of Conservation Easement will be filed with the Fergus County Clerk of Court and held in perpetuity by the State of Montana, Department of Fish, Wildlife & Parks, beginning on the date of closing. The parties will also finalize a Management Plan prior to closing as a living but binding document that details how the conservation values of the land will be maintained and enhanced via prescribed grazing and other habitat improvement(s). A Baseline Report will be completed prior to closing, and FWP will monitor compliance with the CE and Management Plan annually.

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:

Although no land disturbing activity is anticipated, FWP, through due diligence with its MEPA/EA process prior to closing, will consult with the MT SHPO Office on cultural resource inventories. Any after-closing rangeland infrastructure projects associated with DNRC or BLM lands on this project area will be inventoried within those agencies.

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 wetlands occur on this property. At this time, water rights will not be affected by completion of a CE on this property.

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

- [Andrew.Welch@Northwestern.com](mailto:Andrew.Welch@Northwestern.com)
- [Jon.Hanson@Northwestern.com](mailto:Jon.Hanson@Northwestern.com)
- [Grant.Grisak@Northwestern.com](mailto: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](mailto:Andrew.Welch@northwestern.com).

# WILDLIFE HABITAT LAND PROJECT PROPOSAL

(version 4/2019)



A view into Dog Creek, taken from the proposed Whiskey Ridge Conservation Easement (May 2018)

1. **Region:** 4                    **Regional Supervisor:** Gary Bertellotti  
**Name of Applicant(s):** Sonja Andersen
2. **Date:** 06/11/2019
3. **Project Name:** Whiskey Ridge CE    **Type of Project:** Conservation Easement
4. **Size:** 4424 acres (deeded), 7844 acres (leased; 5100 BLM and 2744 DNRC)
5. **Location:** ~9 miles north of Winifred, Fergus County, Region 4, HDs 417 & 426
6. **Map(s):** See Figures 1 through 4 below proposal text
7. **Project Need:**

This proposed conservation easement (CE) ties well into the mission, goals, benefits, and application of Habitat Montana as stated in ARM Rule 12.9.508 through 511. It consists of approximately 4,400 deeded acres of primarily sagebrush-grassland at the threshold of the Missouri River Breaks in Fergus County, with an additional 7,844 acres of associated leased public lands (BLM and DNRC). The project area is located about 8.5 miles north-northeast of Winifred, split between Hunting Districts (HDs) 417 and 426 (Figure 1). The property straddles two SWAP Terrestrial Focal Areas, the Greater Sage-Grouse Core Area and the Judith River Focal Area (Figure 2). It comprises a portion of the larger landscape key to maintaining viable populations of bighorn sheep, elk, mule deer, pronghorn, Merriam's wild turkey, sage grouse, sharp-tailed grouse, mountain lion, and a host of native non-game species in central Montana. This property also facilitates improved recreational access to ~15,400 acres of DNRC and BLM lands (including the

above-mentioned leased acres and the Upper Missouri River Breaks National Monument; UMRBNM; Figure 3).

Most notably, this property and associated breaks provide important habitat and access to the Southern Missouri River Breaks (HD 482) bighorn sheep herd which constitutes an important ecological and recreational resource to Montana. The Missouri Breaks sheep herd comprises of a portion of the state's largest metapopulation of bighorn sheep (>1,000 individuals estimated between HDs 482 and 680).

The landowner currently runs a successful cattle operation on the property, however has sought to diversify his operation by grazing domestic sheep. The landowner has approached FWP about the risks of domestic/wild sheep interactions and the implications to this world-renowned wild sheep herd. As an alternative to running domestic sheep as a means to supplement ranch income, the landowner enrolled in FWP's Block Management Program in 2018, and is now expanding upon his relationship with the Department and shifting to long term ranch protections by pursuing a CE.

Funding for the easement would come from Habitat Montana and the Wild Sheep Foundation (WSF), with possible additional partnerships with the Mule Deer Foundation, Safari Club International, the Rocky Mountain Elk Foundation, among others. The CE would include typical terms as other FWP CEs, but also prohibit domestic sheep/goats on the deeded parcels, ensuring conservation and hunting access to these lands in perpetuity.

## 8. Broad Terrestrial and Aquatic Habitat Criteria:

- Breakdown of landcover types by acreages and percent (**Bold** indicates Tier I Community Type; Figure 4):
  - **Wetland/Riparian** (3%)
    - **Open Water** (<1%)
    - Emergent Marsh (<1%)
    - **Great Plains Closed Depressional Wetland** (<1%)
    - **Great Plains Saline Depression Wetland** (<1%)
    - **Great Plains Riparian** (2%)
  - **Shrub Grassland** (53%)
    - **Big Sagebrush Steppe** (38%)
    - **Great Plains Mixedgrass Prairie** (11%)
    - **Great Plains Sand Prairie** (<1%)
    - Intro. Upland Veg – Annual & Biennial Forbland (3%)
  - Pasture/Hay (24%)
  - Cultivated Crops (0%) – landowner recently seeded all cultivated crops back to grass/alfalfa or straight sainfoin alfalfa
  - **Conifer-dominated Forest & Woodland** (18%)
    - Great Plains Ponderosa Pine Woodland & Savanna (8%)
    - Great Plains Wooded Draw & Ravine (<1%)
    - Rocky Mtn Foothill Woodland-Steppe Transition (10%)
  - Breaks/Badlands (2%)
    - Great Plains Badlands (2%)

## 9. Project Level Criteria

### a) **Site-Specific Habitat Values:**

The majority of sagebrush-grassland habitat in Montana is privately-owned, and the single greatest threat to this habitat is cultivation, which has increased substantially in central and eastern Montana over the past 30 years. Therefore, it is imperative to conserve as much native sagebrush-grassland as possible. Additionally, the primary land use in this area is cattle grazing. Poor grazing management can negatively impact sagebrush-grassland systems, thus responsible grazing is a key management strategy important to maintaining the health of this landscape. A CE management plan would implement a rest-rotation grazing system to ensure healthy long-term range conditions. With the leased lands tied to this CE, the footprint for FWP's Minimum Standards for Grazing could expand to over 11,000 acres managed for habitat conservation, livestock and wildlife forage, and cover.

This area provides important year-round habitat for bighorn sheep and mule deer, as well as seasonal habitat for elk. Additionally, the CE would provide potential habitat for the following species of greatest conservation need: Black-tailed prairie dog, dwarf shrew, Merriam's shrew, Preble's shrew, Townsend's big-eared bat, spotted bat, hoary bat, little brown myotis, fringed myotis, swift fox, American bittern, Baird's sparrow, black tern, black-billed cuckoo, bobolink, Brewer's sparrow, burrowing owl, Cassin's finch, chestnut-collared longspur, Clark's nutcracker, common tern, ferruginous hawk, Forster's tern, golden eagle, Great Blue Heron, Greater sage-grouse, green-tailed towhee, horned grebe, loggerhead shrike, long-billed curlew, McCown's longspur, mountain plover, northern goshawk, peregrine falcon, pinyon jay, red-headed woodpecker, sharptailed grouse, Sprague's pipit, veery, white-faced ibis, Great Plains toad, Northern leopard frog, plains spadefoot, greater short-horned lizard, milksnake, spiny softshell, and western hog-nosed snake.

### b) **Threat Status:** IMMINENT

The landowner is not currently interested in fee title sale, only a CE. However, he has expressed interest in diversifying his ranching business by adding domestic sheep—which could result in disease transmission to wild bighorns, causing irreversible negative impacts to this world-class bighorn sheep population via potential all-age die-off and suppressed recruitment for decades following. A CE on this property would designate allowable livestock classes, excluding domestic sheep/goats to limit disease transmission concerns, while ensuring further habitat conservation efforts and free public recreational access in perpetuity. While this threat status does not pertain directly to habitat, it does concern an important recreational/wildlife resource for the state of Montana, warranting mention here.

### c) **Focal Priority:**

The proposed CE straddles the Region 4 Sage Grouse Core Area Focal Area and the Judith River Focal Area, which are Tier I and Tier II Terrestrial Focal Areas, respectively, as identified by the 2015 State Wildlife Action Plan (SWAP). The property also contains three Tier I terrestrial community types of greatest

conservation need (as described above in Section 8): Wetland/Riparian, Shrub/Grassland, and Conifer-dominated Forest and Woodland.

Additionally, the project falls within Priority Area D (which includes Fergus County) of Montana's State Action Plan to protect big game migration routes and winter ranges (particularly for pronghorn, mule deer, and elk) in response to Secretarial Order (SO) 3362.

Finally, the project originated from local FWP staff working with the landowner, as well as a partnership with the Montana Wild Sheep Foundation (WSF), who are committed to providing funding towards this CE, to help conserve and protect the Missouri Breaks bighorn sheep population.

**d) Geographic Effectiveness:**

The proposed C is comprised of five (one large, four smaller) separate parcels, connected via adjoining BLM and DNRC lands (Figure 3). Since Dave Bergum leases the majority of adjacent public lands, conservation activities through this CE will be realized on a much larger scale with the cooperation and partnerships of other land management agencies. Even without neighboring public lands, the 4400-acres of deeded lands associated with this CE provide a significant conservation and partnership opportunity in this area.

**e) Contribute to hunting and fishing opportunity and other recreation:**

The Bergum Ranch has historically allowed free public hunting; in 2018, the ranch enrolled in FWP's Block Management Program (Taffy Creek BMA #195), providing 430 hunter days of access. Adjacent BLM and DNRC lands receive relatively high use from a mixture of deer, elk, bighorn sheep, turkey, and upland game bird hunters, as well as hikers and Missouri River Breaks enthusiasts. Several avenues for legal access exist to these deeded parcels via county roads Stafford Ferry and Whiskey Ridge or via public land. While most of the surrounding public land is already accessible, a CE on this property better facilitates public access to these public lands.

**f) Management Considerations:**

The Bergum Ranch is generally well-maintained with few issues. However, the implementation of a new rest-rotation grazing system to meet FWP's Minimum Standards for Grazing may require the construction of water infrastructure or fences. While additional costs would be associated with adding additional rangeland infrastructure, the construction of new fences would allow the landowner to conform to wildlife-friendly fencing design, and better allow the department to implement recommendations and direction associated with SO 3362 to conserve big game winter range and movements.



Figure 1. Proposed Whiskey Ridge Conservation Easement (CE) in relation to the town of Winifred, the Missouri River, and hunting districts (HDs) 417 and 426.

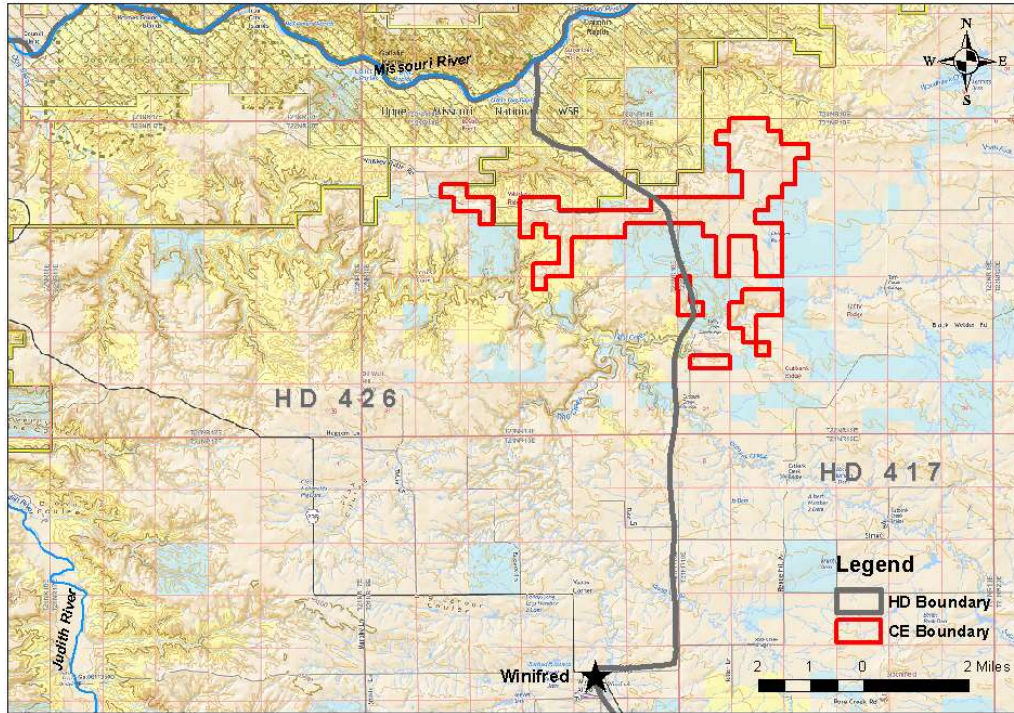


Figure 2. Proposed Whiskey Ridge CE in relation to the Tier I Sage Grouse Core Area Focal Area and Tier II Judith River Focal Area.

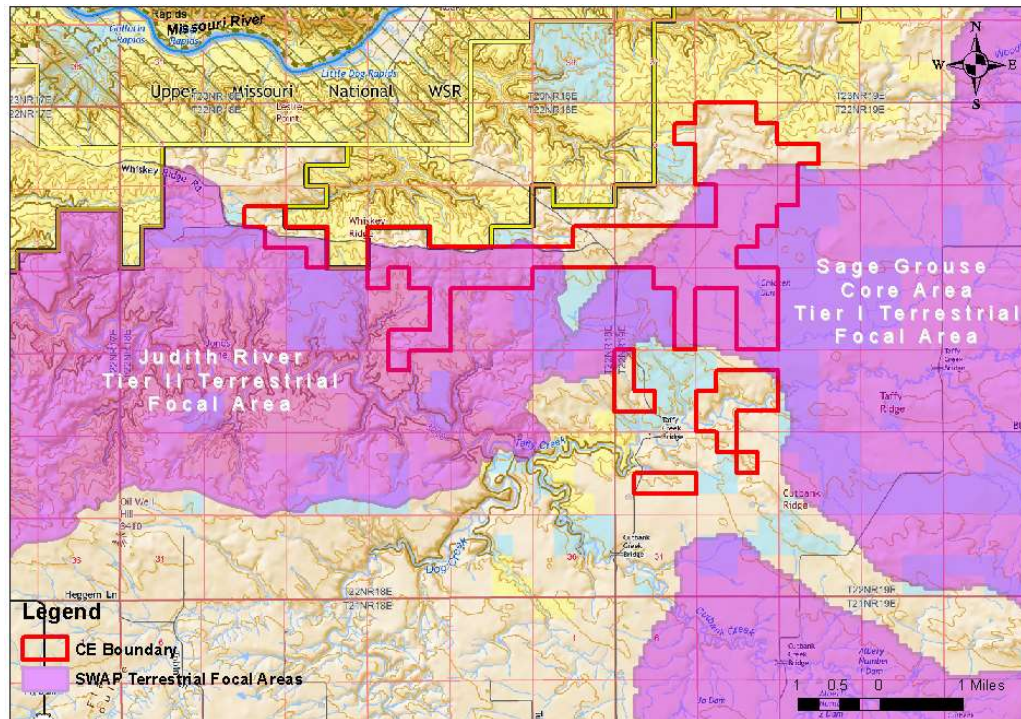




Figure 3. Leased federal (BLM) and state (DNRC) acreages associated with the proposed Whiskey Ridge CE.

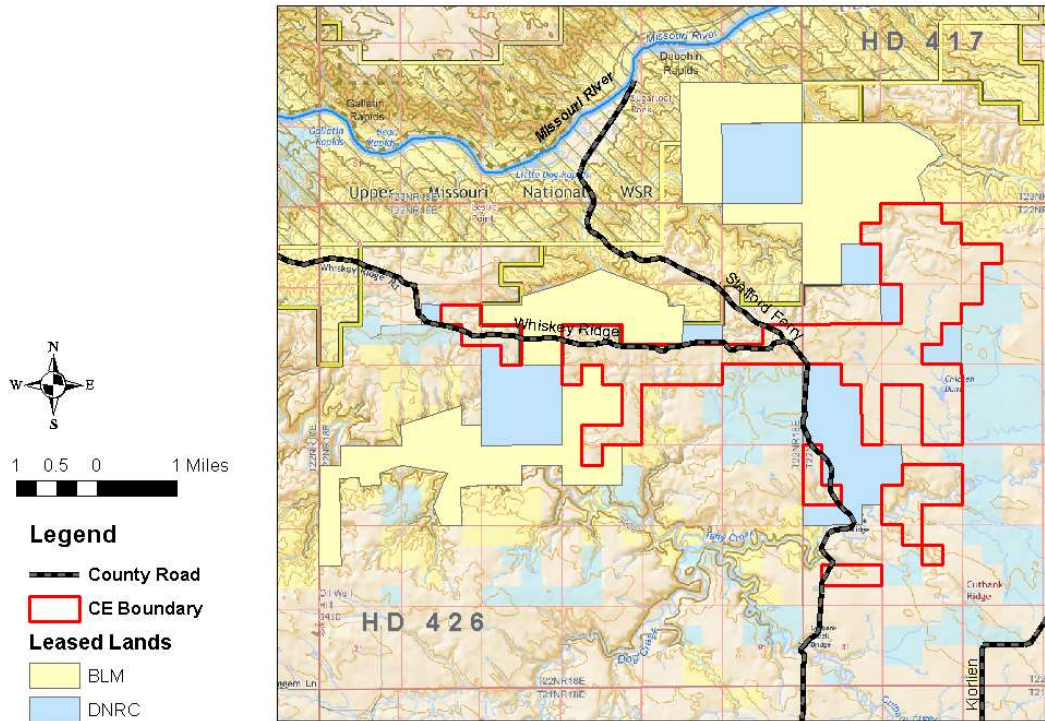
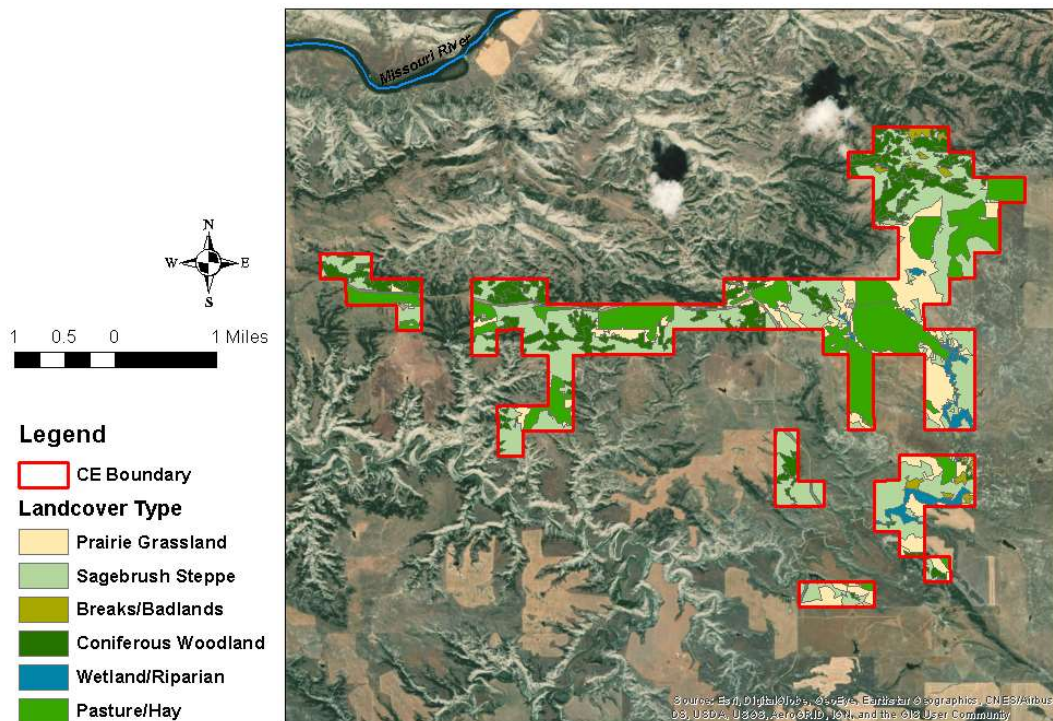


Figure 4. Landcover types on the proposed Whiskey Ridge CE.







The proposed Whiskey Ridge CE facilitates improved access to the Missouri River Breaks National Monument.



View from Whiskey Ridge Road, overlooking sainfoin alfalfa fields on the proposed Whiskey Ridge CE.





Sagebrush-grassland is intermixed with ponderosa pine-timbered breaks on portions of the proposed Whiskey Ridge CE.





Dave Bergum's property and surrounding public lands provide excellent habitat for a variety of big game species, including bighorn sheep, elk, and mule deer.



Looking south from Dave Bergum's driveway along Stafford Ferry Road towards Winifred.



**Project Title:** *O'DELL CREEK PHASE 17 STREAM AND WETLAND RESTORATION PROJECT  
DESIGN-BUILD PROPOSAL*

**Date:** November 1, 2019

**Applicability to Project 2188 License Article(s)**

Phase 17 will offset impacts to river resources associated with Project 2188 (Madison-Missouri River). The project meets the purpose and intent of License Article 423, which requires development of a vegetation and wildlife monitoring and enhancement plan intended to enhance native plants and wildlife populations on Project 2188 wildlife habitats adjacent to the Madison River. Specifically, NorthWestern Energy is successfully enhancing Project 2188 wildlife habitats through funding aimed to protect, restore, and enhance riparian, wetland, and upland habitats on private lands. The O'Dell Creek project, and the benefits that have resulted from 13 phases of restoration work in the O'Dell Creek headwaters, are specifically referenced in Article 423 (see Updated Five Year 2013-2017 Project 2188 Wildlife Plan). NorthWestern Energy continues to monitor prior phases of work to assess the effectiveness of previously implemented projects, including the benefits to stream temperature, streamflow quantity, avian species richness and numbers, sensitive plants, and acres of restored/enhanced wetlands.

**Justification for Priority 2 Classification**

The O'Dell Creek Phase 17 Stream and Wetland Restoration Project classifies as a Priority 2 2188 license project. The project is located on O'Dell Creek, a major cold-water spring creek tributary to the Madison River, within 0.3 miles of the Madison River, and will address limiting factors related to degraded wildlife, wetland and aquatic resources.

**Project Sponsor(s):** Granger Ranches, L.P.  
U.S. Fish and Wildlife Service  
Madison River Foundation  
River Design Group, Inc.

**Location of Proposed Project**

The project is located in Madison County approximately three miles south of the town of Ennis, Montana. The project is located on Granger Ranches, a working cattle ranch. The legal description of the project area is East ½ of Section 20, Township 6 South, Range 1 West. Please refer to Figure 1.

**Geocode:** 25-0423-20-1-01-01-0000; **Latitude:** 45.299; **Longitude:** -111.745

**Total Project Cost:** \$161,340

**TAC Funds (Cost-Share) Requested for Project:** \$81,340

**I. INTRODUCTION**

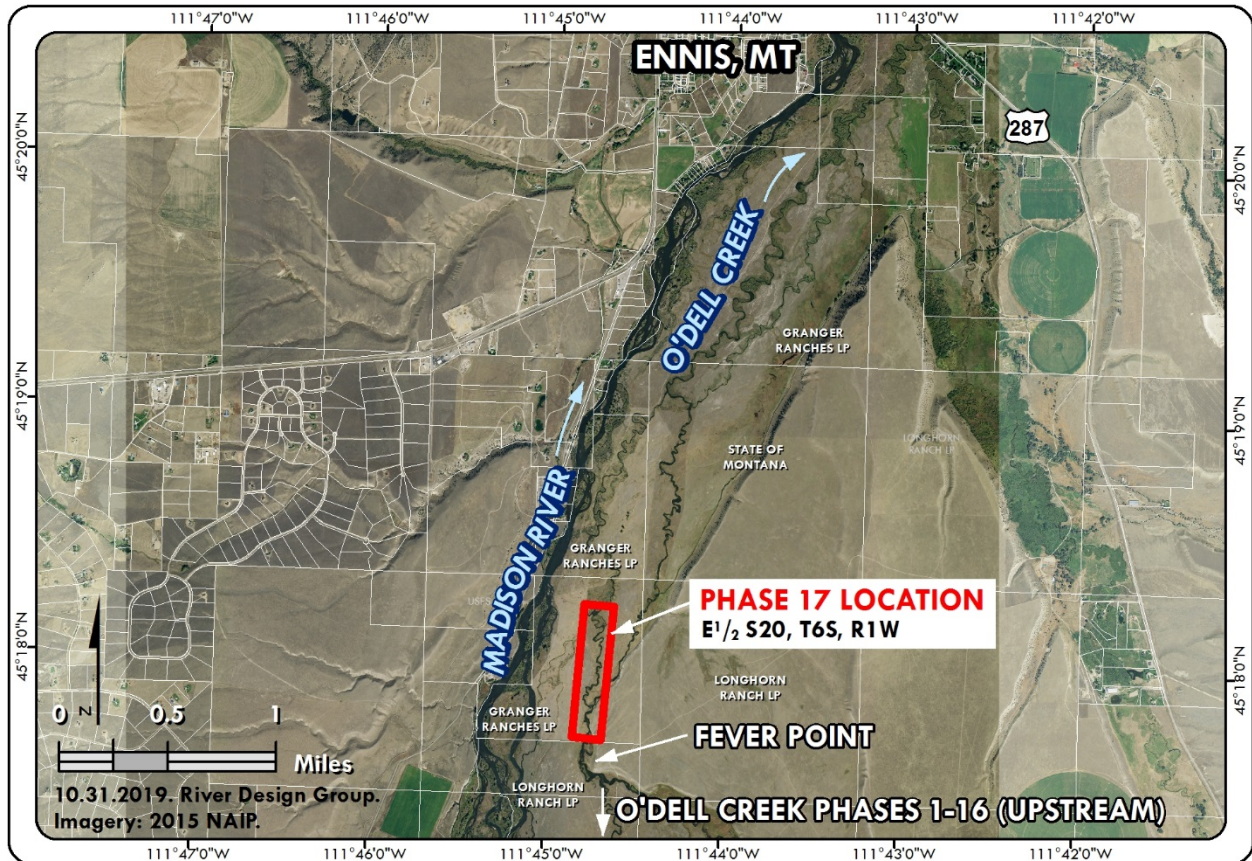
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O'Dell Spring Creek and floodplain wetlands are important ecological resources to the Madison River. Over the past 13 years, 13 major phases of restoration work have culminated in the restoration of 13.5 miles of spring creek, and 780 acres of improved wetland functions. Restoration suitability, willing landowners, and private-public partnerships are the reasons for the success of this large-scale, comprehensive restoration project. In 2018, NorthWestern Energy, Granger Ranches, Longhorn Ranch, and the US Fish and Wildlife

Service received the *Society for Ecological Restoration Northwest Restoration Project of the Year Award*. The award recognizes the important wildlife habitat gains resulting from permanently protecting and restoring wetland habitats. Accomplishments include:

- 780 acres of restored wetlands, with over 265 wetland plan taxa detected on restored floodplain surfaces, representing 20% of Montana’s wetland flora including 5 rare species. A range of wetland types and wetland plant communities including fens, saline meadows, open water and emergent complex.
- 115 bird species are now documented in the project area compared to 29 species prior to restoration, with 18 Montana Species of Concern.
- The project now supports over 50 over-wintering trumpeter swans following the successful release of juvenile birds in 2012.
- 8 documented species of waterfowl broods compared to 4 species prior to restoration.
- Increasing distribution and abundance of songbirds and wetland-dependent species.
- 13.5 miles of stream channel restoration, with an estimated ten-fold increase in the availability of adult holding and juvenile rearing habitat compared to pre-restoration conditions.
- Reduction in stream water temperatures due to improvement to channel morphology and hyporheic exchange between surface water and groundwater.

This project proposal furthers restoration and conservation efforts on the Granger Ranch, a working cattle ranch owned by the Laszlo family. The legal description of the project area is noted above, and a project vicinity map is included as Figure 1.



**Figure 1.** O’Dell Creek project vicinity map and location of the Phase 17 project area.

In 2018, the NorthWestern WildTAC funded a master plan to prioritize restoration opportunities on O'Dell Creek from Fever Point (end of Phase 16 project) to Highway 287 near Ennis, Montana (see Figure 1). River Design Group in close coordination with NorthWestern Energy and private landowners are in the process of finalizing the master plan. This proposal is for the first phase of restoration identified through this master planning effort, and includes a 0.7 mile reach of O'Dell Creek located on the Granger Ranches.

The purpose of this project is to improve aquatic habitat conditions of O'Dell Creek and associated riparian wetland functions. This will be accomplished by restoring the proper channel and floodplain dimensions and creating off-channel, disconnected shallow emergent, and shallow to deep open water wetlands. New floodplain surfaces supporting emergent and scrub-shrub wetland communities will be created in over-widened channel areas. Specifically, the goals of this project include: 1) improving aquatic, riparian, and terrestrial habitat diversity for fish and wildlife; 2) establishing riffle and pool sequences and reducing channel width-to-depth ratios; 3) creating a complex matrix of variable depth wetlands in over-widened channel sections; 4) isolating wetlands from the channel to lower stream temperature; and 5) converting areas within the existing upland herbaceous plant communities to wetlands by creating new, lower surfaces adjacent to O'Dell Creek.

## **II. Objectives**

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The following objectives have been developed for the Phase 17 project area in conjunction with the project partners and landowners:

1. Produce clean water consistent with supporting aquatic life and beneficial uses in the O'Dell Creek watershed and downstream receiving waterbody, the Madison River;
2. Create complex aquatic habitat components such as depth, velocity, substrate, cover, and pools that support populations of wild trout and other aquatic organisms;
3. Construct a stream channel that is connected to and interacts with the floodplain in terms of hyporheic flow and nutrient exchange; and
4. Create a more complex matrix of wetlands in over-widened channel sections by creating backwater areas, open water wetlands, and new floodplain surfaces that support emergent and scrub-shrub wetland communities.

## **III. Methods**

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RDG will prepare preliminary and final design plansets in coordination with NorthWestern Energy and Granger Ranches. Regulatory permits will be prepared and coordinated with the US Army Corps of Engineers, Montana Department of Environmental Quality, and Madison Conservation District. Supplemental information needed includes a wetland delineation report with mapping exhibits illustrating existing and proposed (both temporary and permanent) wetland impacts.

Given the sensitive resource conditions, construction specifications will require the use of low-pressure ground equipment including a 14 cubic yard articulated truck with flotation tires, tracked excavators, an All Surface Vehicle, 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. RDG will oversee construction and ensure compliance with permits and all drawings and specifications. Construction will be performed by TNT Excavating, Inc.



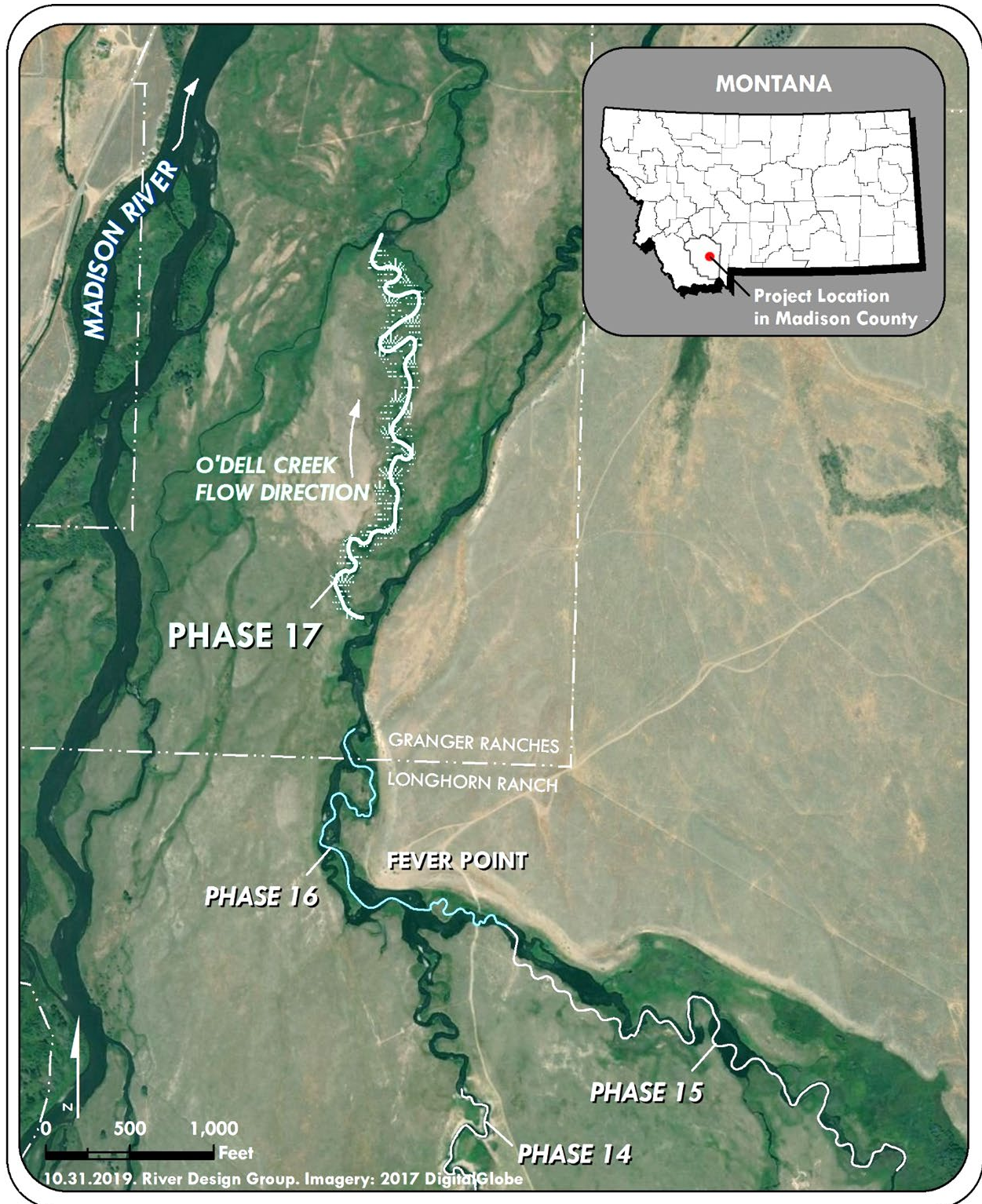


Figure 2. Phase 17 project area map, and proximity to Phases 14, 15, and 16, and Madison River.

**IV. Schedule**

The following project schedule has been developed. Following contract award, RDG and project partners will complete project design and regulatory permitting. A cultural resources investigation will be coordinated by NorthWestern Energy and RDG. Table 1 includes a proposed project schedule.

**Table 1.** Project schedule for the Phase 17 Restoration Project (2020).

Task	January	February	March	April	May	June
Task 1. Project Management						
Task 2. Engineering and Regulatory Permitting						
Task 3. Construction Implementation						
Task 4. Direct Costs						

**V. Personnel**

Similar to past phases of restoration on O’Dell Creek, the project will be designed and implemented under the auspices of a diverse group of stakeholders including NorthWestern Energy, the US Fish and Wildlife Service, Madison River Foundation, and Granger Ranches, LP. As a team, we have established a track record of successful collaboration on 13 projects on O’Dell Creek. Our continued collaboration and history working on this project underscores the importance we place on offering a team that will continue to be compatible with the community and stakeholders.

RDG is an approved consultant on NorthWestern Energy’s Qualified Vendor’s List for stream and wetland restoration services. RDG has prepared and implemented all previous phases of restoration on O’Dell Creek with the exception of Phases 1 and 2. John Muhlfeld will serve as the project manager and technical lead on behalf of the design team. Nate Wyatt, P.E., with RDG, will serve as the project engineer. To comply with NorthWestern Energy’s Cultural Resource Management Plan, a cultural resources investigation will be conducted prior to ground-disturbing activities.

**VI. Budget**

Table 2 includes a not-to-exceed cost estimate to perform the Scope of Work (SOW). The total cost to perform the SOW is \$161,340. As noted, project partners have \$80,000 (**cash contribution**) committed accounting for 50% of the total project cost. This proposal is requesting TAC funds in the amount of \$81,340.



<b>Table 2. O'Dell Creek Phase 17 Cost Estimate.</b>	
<b>Task</b>	<b>Cost</b>
<b>1. Project Management</b>	<b>\$ 1,500.00</b>
Coordination with NWE, Owners, FWS, Stakeholders	\$ 1,500.00
<b>2. Engineering, Permitting and Construction Management</b>	<b>\$ 31,250.00</b>
Design, Engineering and Pre Construction Services	\$ 12,500
Regulatory Permitting (Joint Permit Application)	\$ 2,250
Routine Wetland Delineation and Permit Support Document	\$ 4,000
Construction Management	\$ 12,500
<b>3. Construction</b>	<b>\$ 126,000</b>
Excavator Class 320 with GPS	\$ 31,000
Excavator Class 320 with GPS	\$ 31,000
14 CY Articulated Off Road Truck with Flotation Tires	\$ 33,500
All Surface Vehicle	\$ 11,400
Mobilization and Demobilization	\$ 11,000
Per Diem and Lodging for Contractor (3 Person Crew)	\$ 6,000
Construction Mats	\$ 2,100
<b>4. Direct Costs</b>	<b>\$ 2,590</b>
Mileage	\$ 1,350
Per Diem	\$ 400
Lodging	\$ 840
<b>Estimated Project Cost</b>	<b>\$ 161,340</b>
<i>*Cash Match (US Fish and Wildlife Service)</i>	<i>\$ 15,000</i>
<i>*Cash Match (Granger Ranches and Madison River Foundation)</i>	<i>\$ 65,000</i>
<b>Total TAC Funds Requested</b>	<b>\$ 81,340</b>

\* Cultural Resources Investigation for Phase 17 will be completed by NorthWestern Energy, Inc .

## VII. Deliverables

Project deliverables will include the following:

- Preliminary and final design plan sets;
- Wetland delineation report including GIS mapping exhibits and field forms;
- Joint Permit Application;
- Construction implementation - approximately 3,700 feet of spring creek; and
- 15-20 acres of improved and/or enhanced wetland functions and values.

## VIII. Cultural Resources

NorthWestern Energy will coordinate the necessary cultural resources investigations. A pedestrian cultural resources inventory covered a portion of the project in 2017, and no significant resources were encountered or observed.

## 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.

This Phase 17 project intends to restore wetland habitat by enhancing existing wetlands through grading and revegetation. The restored wetlands will have identical hydrologic and vegetative characteristics to existing wetlands in the immediate area. Riverine wetland habitat will be converted to shallow open water and emergent wetlands by narrowing of the current over-widened stream channel. Wetlands will be located within the floodplain and will be very similar in size and habitat characteristics to pre-settlement open water wetlands in the area. The small open water wetlands will not involve the construction of any berms, dams, or dikes; will not involve any diversion of water; will partially offset the loss of riverine wetland habitat; and will not increase water consumption.

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

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

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

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

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

### **All TAC project proposals must include the following information:**

Project Title: Antelope Creek and Missouri River bottom Habitat Mgmt Project (Priority 3)

Date: 11/01/19

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

The project is specifically designed to improve habitat for wildlife, native plants and fish by providing long term security cover, reduce overgrown stands of certain vegetation, allow for other native plants to flourish, reduce the risk of impaired water quality that could impact native fish by excessive erosion in the event of a high fuel load wildfire. All of these benefits tie directly to the Priority 3 objective to improve fisheries or wildlife populations or their habitats. It also includes improving native plants.

The project will also reduce the risk of catastrophic wildfire in a high fuel area.

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

A prescribed burn is intended to meet the Refuge's goal for wildlife habitat and landscape management, as defined in the 2012 Comprehensive Conservation Plan, by preserving and enhancing valuable diverse wildlife habitat and stimulate new vegetation growth. It will also reduce fuels loading, risk of uncontrollable wildfire and safeguard against erosion that typical follows a large scale wildfire. The Refuge's goal is consistent with TAC Priority 3 to Protect, Mitigate and Enhance fisheries or wildlife populations or their habitat located in the greater Missouri River drainage upstream from Fort Peck Reservoir.

Project Sponsor (submitted by): US Fish and Wildlife Service Charles M. Russel National Wildlife Refuge

Location of Proposed Project:

Northwest corner of the Charles M. Russell NWR. See attached map.

Geocode (in decimal degrees ex 46.89743) Lat; 47.67926 Lon: -108.75298

Total Project Cost: Typical budget to implement a prescribed burn is \$50 per acre. Total estimated cost for this project is \$500,000 to \$600,000.

TAC Funds (Cost-Share) Requested for Project:

\$20,000 to conduct a Cultural Resources Management Inventory for this project

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

In 2012, the US Fish and Wildlife Service completed the Comprehensive Conservation Plan for the CMR Refuge. Section 4.2 lists the goal for wildlife and habitat management as "...*Conserve, restore, and improve the biological integrity, environmental health, and*

*ecological diversity of the refuge's plant and animal communities of the Missouri River Breaks and surrounding prairies to support healthy populations of native plants and wildlife in a changing climate. Working with others, reduce and control the spread of nondesirable, nonnative, invasive plant and aquatic species for the benefit of native communities on and off the refuge..."*

Specifically, for habitat management, the Service will apply management practices that mimic and restore natural processes on the refuge, managing for a diversity of plant species in upland and riparian areas. The Service will maintain plant diversity and health using fire in combination with wild ungulate herbivory (wildlife feeding on plants) or prescriptive livestock grazing, or both, to ensure viable populations of sentinel plant species (species that decline first when management practices are injurious).

The emphasis on ecological, or natural, processes recognizes the importance of fire, grazing by ungulates, hydrology, temperature, nutrients, and soil compaction in shaping and sustaining diverse, healthy habitats on the refuge. Initially, this will include a concerted manipulation of habitats or wildlife populations (prescribed fire and grazing and hunting) through coordinated objectives.

Wildlife populations and their habitats will benefit by applying prescribed fire onto the landscape. The area is habitat for a variety of riparian song birds, sharptailed grouse, elk, mule deer, whitetailed deer, bats, black tailed prairie dog, coyote, cottontail rabbit and other small mammals. The most common plants include ponderosa pine, fir, cottonwood, willow, aspen, juniper, prickly pear cactus, sage brush, greasewood and native grasses. The project will specifically benefit fruit bearing shrubs like chokecherry and skunkbush sumac that have been reduced due to overgrowth and encroachment of other plants in the river bottom.

The Antelope Creek area of the CMR NWR is approximately 12,100 acres of river bottom, river breaks and upland benches. The burn area includes 8.8 miles of river frontage and includes all benches between Grand Island and Robinson Bridge, excluding LeClaire Bottoms. Approximately 2,500 acres (20%) of the area is BLM land and 300 acres is DNRC. The area was identified as high risk because it has had fire excluded for several decades. The resiliency of this landscape has been compromised by past suppression activities and as such, fuel loadings are at record levels. Fuel loadings are at such high levels within the Antelope Creek unit that if a wildfire were to occur, multiple age classes of old growth timber will be lost as stand replacement wildfires are now the norm.

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

Institute a controlled fuels-reduction burn to reduce low canopy fuels, control certain areas of willow and juniper encroachment on chokecherry and skunkbush sumac and safeguard old growth stands of fir, ponderosa pine and cottonwood.

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

The CMR Refuge has a dedicated fire management team that is used as a reaction force to control wildfires on the refuge and other federal lands. This team also conducts habitat management programs (prescribed burns) on the refuge and other federal lands. Controlled fire methods will employ firefighters working on the ground and light equipment such as water tenders to control the burn. The team has access to aviation and interagency support, if necessary.

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

Spring/Summer of 2020

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

Fire personnel from the CMR Refuge will conduct the prescribed burn. Additional personnel from other refuges, BLM, or DNRC will be used, if necessary. A contractor would be hired to conduct a cultural resources inventory before the project is implemented.

VI. Project budget must include amounts for the following:

The Refuge typically budgets \$50 per acre for personnel and operations to conduct a prescribed burn. The total estimated cost would be between \$500,000 and \$600,000. This cost would be mostly shared by the CRM Refuge and BLM. As a matter of process, preliminary planning in the form of cultural resources management (CRM) inventory is required for this action. If no historic or prehistoric (H/P) resources are found, or any that would be impacted by the proposed action, then the project would be implemented. If H/P resources are found, the project could be modified to eliminate impact, or develop a plan to manage those resources. Those costs would be covered by the Refuge, if necessary.

The CMR Refuge is requesting \$20,000 in TAC funds to conduct the Class 1, or SHPO-approved modified, CRM inventory. Any additional costs for CRM above the \$20,000 would be covered by the Refuge.

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 deliverables would be a 12,100 acre landscape with normal levels of fuel that provides habitat for, and allows, the aforementioned wildlife and native plant species to flourish. The risk of devastating wildfire will be reduced or eliminated. In addition, the TAC funded portion of the project would be a completed CRM inventory that meets the needs of the refuge and NorthWestern Energy. Refuge staff will work with NWE staff and consultant to complete the CRM inventory and gain SHPO concurrence/approval.

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. Because the TAC funds we are seeking are specifically for a CRM inventory, we have detailed the specific aspects of this above.

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 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](mailto:Andrew.Welch@Northwestern.com)
- [Jon.Hanson@Northwestern.com](mailto:Jon.Hanson@Northwestern.com)
- [Grant.Grisak@Northwestern.com](mailto: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](mailto:Andrew.Welch@northwestern.com).



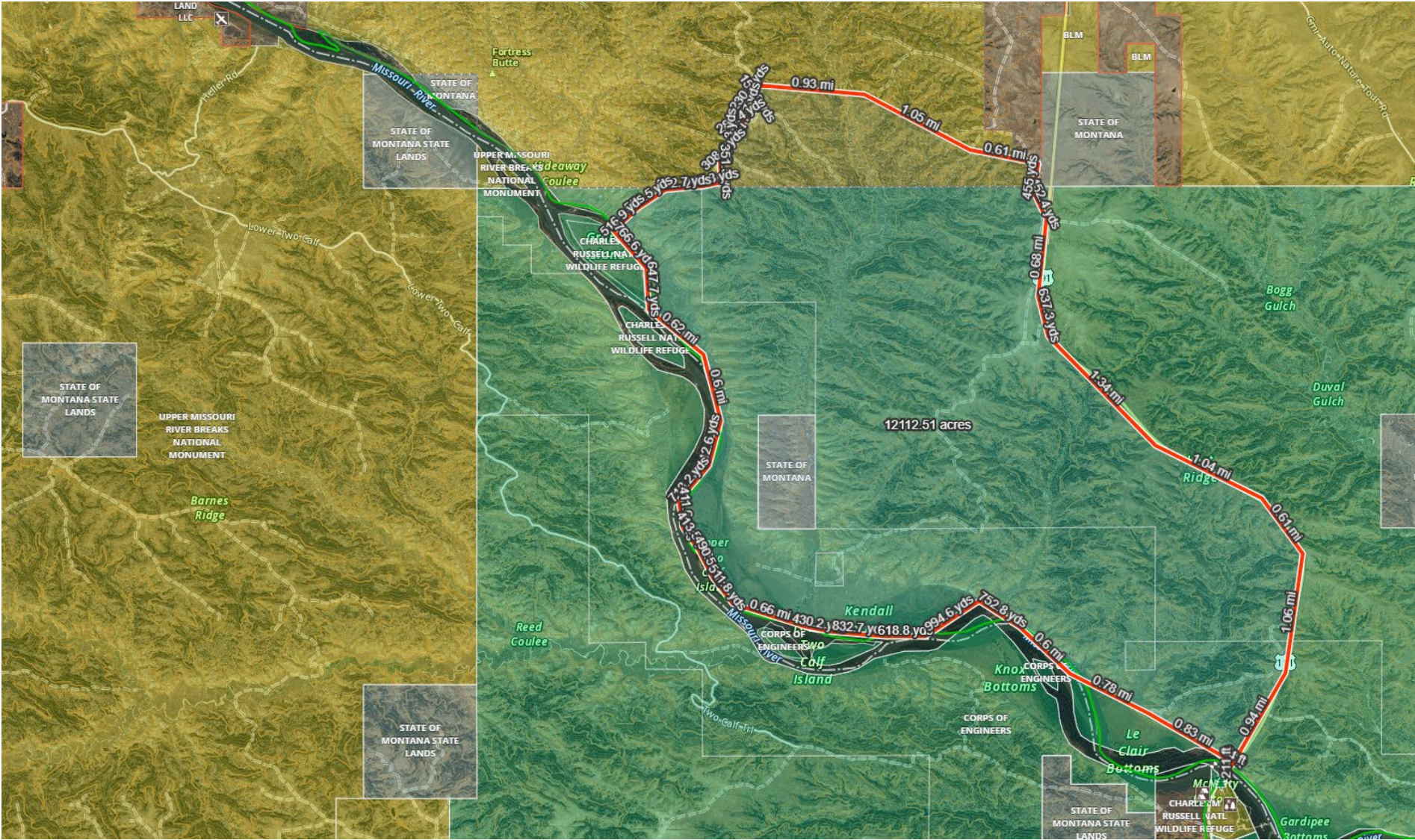


Figure 1. Antelope Creek prescribed burn project area (red polygon) measuring approximately 12,112 acres.