# 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: Heritage Park Tree Planting

Date: October 20, 2021

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

License Article 423 requires the development of a plan to monitor and enhance native plants and wildlife populations on the lands and waters associated with the project. The current 5-year plan (2017-2022) states restoration and enhancement of riparian lands and wetlands in the project area has been a primary goal of the wildlife and vegetation enhancement plan since the establishment of the program and the Wildlife TAC in 2000. The program has funded several projects to monitor and restore cottonwood forests along the Missouri River.

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

This is a priority 1 project dealing with wildlife habitat enhancement on the mainstem Missouri River.

Project Sponsor (submitted by): NorthWestern Energy and Montana FWP

Location of Proposed Project:

Narrative The project is located near Heritage Park which is on the east side of Giant Springs State Park in Great Falls (Figure 1). In its present state it appears to be a relatively level area with a nonnative vegetation (grass) covering. Its closest distance from the Missouri River is 300 feet and its furthest is 738 feet.

Geocode (in decimal degrees ex 46.89743) Lat; 47.533324 Long: -111.224497

Total Project Cost: $75,043

TAC Funds (Cost-Share) Requested for Project: $70,043

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

The natural development cycle of cottonwood trees along the Missouri River in central Montana has been disrupted by main stem dams that buffer high river flows that traditionally would distribute cottonwood seeds. In years when cottonwood seedlings develop along the river bank, they are generally sheared off by ice within a few years. Deer and cattle also impact new seedlings. Beavers can impact seedlings and mature trees. In 2021, NorthWestern Energy staff evaluated characteristics of large cottonwood forests along the Missouri River between Carter Ferry and Coal Banks Landing. The loss of mature trees (40 ft height) was mostly attributed to girdling or toppling by beavers, cut banks sloughing trees into the river and fire. Some of the stable cottonwood forests were located on river benches set back from the river where beavers, bank sloughing and ice shear were non factors.

NWE has funded six cottonwood tree restoration projects along the Missouri River. The strategy at most of those sites was to plant individual trees close to the river bank with intermittent manual watering systems and individual protective fences. This project represents a different strategy of planting a large area (several acres), set back from the river bank, with reliable and consistent irrigation, and to protect trees with a large scale wildlife exclusion fence.

Heritage Park is situated on a low elevation bench overlooking the Missouri River [Rainbow Reservoir]. This area is a good candidate to develop a mixed tree cottonwood forest for riparian bird habitat because it is relatively close to the Missouri River, but is not vulnerable to ice shear and beavers impacting trees. In 2021 FWP and NWE investigated the feasibility of enhancing this area for wildlife habitat given the productivity of the neighboring Giant Springs State Park and Rivers Edge Trail corridor as bird habitat. We investigated an 8 acre parcel that could be fenced off to exclude people and deer while young trees are growing. There is an existing irrigation system immediately west of the project site that can be used to irrigate newly planted trees which would improve survival and accelerates growth through for the first several years as root systems develop. Although primarily focused on growing cottonwood trees, this site would be planted with other native trees such as rocky mountain juniper and choke cherry that also provide habitat for birds. Approximately 80% of the trees planted would be cottonwood.

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

Develop a large stand of viable cottonwood, choke cherry and juniper trees along the Missouri River for wildlife habitat.

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

Install an 8 acre exclusion fence to protect young trees for the first several years. Install an irrigation system to water trees during the high stress months of July and August for the first several years. Plant approximately 700 rooted cottonwood trees, choke cherry and Rocky Mountain Juniper to provide habitat for riparian birds. A 6 inch irrigation line is located about 160 feet from the proposed exclusion area. Irrigation will allow trees to develop viable root systems and grow to a size that can survive without supplemental watering. Fences will remain in place until trees are mature enough to withstand the influence of deer grazing. We estimate 7-10 years will be required for these trees to grow past the stage of vulnerability after which the fences and irrigation will be removed. Chokecherry and juniper trees will be planted in 10 clusters of 5 trees each. Cottonwood trees will be planted approximately 1 tree per 24 square feet. Trees will be planted by a contractor using a 6 inch hydrostatic auger to drill holes 18 inches deep. A planter will place the rooted tree in the hole, and fill with soil and water thoroughly to allow the soil to cover and bed the root system.

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

The fencing, planting and irrigation install would begin in early 2022 and should take about 3 months to complete. The fencing and irrigation project is expected to last for about 8 years, after which the fence and irrigation would be removed. NWE is presently 21 years into its 40 year license and wildlife mitigation program. Obtaining TAC funds to remove this infrastructure is within the remaining license and mitigation time period.

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

FWP would conduct the necessary environmental review for projects on State property.
NWE has consulted with an archaeologist to fulfill obligations to the Antiquities Act where NWE funds are used. NorthWestern Energy would administer contracts for fencing, planting and irrigation install. NWE will have the site added to the WildTAC Missouri-Madison bird monitoring program conducted by UofM Bird Ecology Lab.

V. Project budget must include amounts for the following:

Estimates from 3 contractors for fence, irrigation and planting did not itemize by materials, labor and equipment due to the uncertainty of material and labor costs in the current economic arena.

The estimated cost of materials, equipment and labor to install an 8 acre enclosure fence with 8 foot high wire mesh, wood driven corner posts, wood line posts every 100 feet and one gate is $31,000.

The estimated cost of materials, labor and equipment for an irrigation system for this project is $ $30,325

The estimated cost of labor and equipment to install 700 trees is $7,500.

The estimated increased cost of electricity to run the irrigation pump for several years is $5,000. This amount will be provided to FWP to help offset these increased costs.

The estimated cost of trees from the Montana Conservation Seedling Nursery in Missoula is;

| Species | size | Number | unit | total |
|---|---|---|---|---|
| Daniels cottonwood | 1-0 | 600 | $1.29 | $774.00 |
| Chokecherry | 1-0 | 50 | $1.29 | $ 64.50 |
| RM Juniper | S-10 | 50 | $1.59 | $79.50 |
| | | | Delivery | $300.00 |
| | | | total | $1,218.00 |

Total = $75,043

- Direct Labor
- Travel and Living
- Materials
- Other Direct Expenses
- Direct Overhead*
- All cost-share sources and amounts, including estimation of "in-kind" contributions

Upper Missouri Breaks chapter of Audubon has pledged $2,000 to this project to purchase trees.
Montana Fish, Wildlife & Parks has pledged $3,000 to this project.

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

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

Success will be measured by the growth of cottonwood, chokecherry and juniper trees within the enclosure. Biennial bird monitoring by UofM Bird Ecology Lab staff will determine changes in bird community as habitat improves.

VII. 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:

NWE consulting archaeologists have reviewed the files for this site. This specific site is situated at the reclaimed ruins of the Montana Smelter which was built in 1888 to process silver ore from Montana and surrounding states and Canadian provinces. It operated intermittently from January 1889 to 1901. In 2002 the site was surveyed by archaeologists in preparation for a DEQ remediation project. It was found to have little historic significance due to past demolitions and clean up. The only significant feature, the roaster stack, is protected by a large iron fence with interpretive signage. A DEQ remediation project in the early 2000's was conducted and all cultural, historical and archaeological information from that process will be used to summarize the known resources at the site. Avoidance methods and likely impacts from installing a fence at the site will be evaluated by the NWE consulting archaeologists, a report and recommendation prepared, and NWE will file a report with SHPO and obtain a letter of concurrence that will be provided to NWE and FWP.

VIII. 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:

There are three avenues for using Missouri River water for irrigation. The primary method would be to use water currently allocated to FWP for irrigation and volumes would be within the specified right. Second, if for some reason the right were exceeded, DNRC Water Rights Guidelines state no water right is necessary for wildlife habitat projects because they are considered short term. Finally, it would be possible for NWE to purchase stored water from the BOR's Canyon Ferry Reservoir and have it delivered as surface water in the Missouri River to the existing point of diversion.

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

- Andrew.Welch@NorthWestern.com
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Further questions about TAC proposals or Project 2188 license requirements or related issues may be addressed to:

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Figure 1. Proposed tree planting site near Heritage Park. Set back from river is between 300 and 700 feet. Missouri River, Montana.