Title: Missouri River Cottonwood Restoration Site Evaluation

Date: October 22nd, 2025

Project 2188 License Article: The proposed monitoring project provides, under Article 2188, directly benefits fisheries, wildlife and native plant populations by restoring plains cottonwood habitat in Priority Area 1): Missouri River Watershed (from Hauser to Fort Peck Reservoir). Cottonwood plantings and habitat restoration will assist and enhance cottonwood regeneration, mitigate declining rates of natural recruitment and protect wildlife and native plant species associated with these communities. Site evaluation results will be utilized for current and future cottonwood restoration sites on the Missouri River and to develop collaborative restoration and management objectives between landowners, federal and state agencies and Northwestern Energy.

Sponsor: Rocky Mountain Botany (Tara Luna)

Location: Missouri River (between Cascade/Ulm and Fort Benton, MT)

Geocode: 47° N 24.35/ 111° 31.30 W to 47° N.50.41/ 110°.36.09 W

Elevation range: 795m to 1015 m

Location Description: from Cascade/Ulm (site 1) to east of Fort Benton (site 31)

TAC Share Cost Share Requested: **$ 6,139.20**

1.**Introduction**

Plains cottonwood communities provide invaluable and crucial habitat, travel and migratory corridors for wildlife, including threatened, rare and more common species, known from the northern Great Plains region of Montana. The Northwestern Energy Wildlife Biologist has selected 31 potential cottonwood forest restoration sites between Cascade and the Missouri Breaks region on the Missouri River. Three sites (7 Barheart Ranch, Heritage Park, Tweet Ranch) have been recently planted with plains and/or narrowleaf cottonwood. Two additional sites, Carter Ferry (NW of Great Falls) and Eagle's Bend (near Ulm) will be planted with cottonwood during the next 1-2 years. Criteria for chosen sites include landform, hydrology, accessibility, landowner/landownership partnership, and the presence of existing wells and access to electricity, that are required for submersible pumps and drip irrigation systems.

2.**Objectives**

-Evaluate existing or recently selected plains cottonwood restoration sites between Cascade and Fort Benton (31 sites).

-Examine hydroperiod, landform, soils, and native vegetation at restoration sites and by examining reference cottonwood communities if found, near restoration sites;

-Select specific planting areas within each restoration site and select appropriate native shrub species to be planted with cottonwood plantings (250-300 trees/site) at each site; summarize any specific requirements needed at each site in consultation with NWE Wildlife Biologist.

-Using site evaluations, nursery stock types will be selected for tree and shrubs based on limiting factors and conditions at each restoration site and to meet ecological and NEW management objectives.

-Summarize site conditions, findings and recommendations in 2026 TAC project report, including a map of restoration sites and any reference site cottonwood communities encountered during field work.

3.**Methods**

A total of 31 restoration sites will be evaluated on the west central segment of the Missouri River between Cascade to east of Fort Benton, Montana. Sites are located on private and public landownerships. Landforms, site hydrology, soils and native vegetation will be assessed at each site. Existing plains cottonwood stands will be examined for health, condition, recruitment and regeneration and wildlife use.

Non-permanent vegetation monitoring plots (50 sq meters) will be subjectively placed at each site. Community composition and structure will be determined in each monitoring plot to determine community types present. All vascular plant species will be determined using regional floras. Soils will be sampled by digging a soil pit to a minimum depth of 40 cm to evaluate water table depth, soil texture and soil features at each potential planting site. Each site will be examined for evidence of recent cottonwood recruitment in the general area. Any reference condition plains cottonwood communities encountered during field work will also be accessed. Additional sites that may serve as donor cutting wood collection sites will be marked with GPS points and referenced for future use.

4.**Schedule**

All sites will be examined during mid to late June. Four to five sites are accessible by road and will be evaluated prior to the remaining 26 remote sites on the Missouri River. Remote sites will be accessed by river boat, that will be provided by Northwestern Energy.

Specific activities performed during each site visit and completion of deliverables are shown below:

Activity	**Month**	**Location**
Evaluate road accessible restoration sites	June 2026	Cascade/Ulm to Carter Ferry
Evaluate remote sites by boat	June 2026	Carter Ferry and Fort Benton
Deliver final report to NWE TAC Program	September 2026	----

5.**Personnel**

Rocky Mountain Botany will provide all labor, personnel and deliverables associated with the project proposal. The contractor will communicate and work closely with NWE Wildlife Biologist and archeologist during site evaluations, to determine appropriate sampling sites during field work and future planting sites.

6.**Project Costs**

Project Item	**Estimated Cost**	**Description**
Travel	556 miles @.70/mile $ 399.20	2 trips; car accessible sites (5) and boat accessible sites (21) ~mileage to and from Great Falls
Labor	17 (8 hr days) @ 40.00/hr $5,440.00	7 field days and 7 office days (report preparation)
Other Direct Expenses	$300.00	Insurance liability
Direct Overhead	0.00	-------
Cost Share Amounts (in-kind contributions)	0.00	-------
TOTAL	**$6,139.20**	

7.**Deliverables**

In collaboration with NWE Wildlife Biologist, the contractor will produce a final restoration site evaluation report to be used by Northwestern Energy for current and future cottonwood restoration projects on the Missouri River.

8.**Cultural Resources**

No ground disturbing activities and soil movement is associated with this project. Soil sampling at all sites will be approved by Wildlife Biologist and Archeologist prior to field work. No soils will be sampled at cultural/archaeological sites.

9.**Water Rights**

This project will comply with all State (MT) water rights, laws and policy guidelines and does not involve water rights.

10. **References**