Lessard-Sams Outdoor Heritage Council

Lower Mississippi River Habitat Partnership (Phase IV)-Upper Pool 9 Backwater Enhancement and Floodplain Forest Restoration

Laws of Minnesota 2018 Accomplishment Plan

General Information

Date: 08/01/2023

Project Title: Lower Mississippi River Habitat Partnership (Phase IV)-Upper Pool 9 Backwater Enhancement and Floodplain Forest Restoration

Funds Recommended: $1,555,000

Legislative Citation: ML 2018, Ch. 208, Art. 1, Sec. 2, subd 5(i)

Appropriation Language: $1,555,000 the second year is to the commissioner of natural resources to restore and enhance aquatic and forest habitats in the lower Mississippi River watershed, upper Pool 9 backwater. A list of proposed restorations and enhancements must be provided as part of the required accomplishment plan.

Additional Legislative Changes: ML 2023, Ch. 4, Article 1, Sections 2, subd 10, (c) The availability of the appropriation under Laws 2018, chapter 208, article 1, section 2,subdivision 5, paragraph (i), Lower Mississippi River Habitat Partnership - Phase IV, is extended to June 30, 2027.

Manager Information

Manager's Name: Neil Rude / Kevin Stauffer
Title: Mississippi River Habitat Specialist
Organization: MN DNR
Address: 1801 S. Oak St.
City: Lake City, MN 55041
Email: neil.rude@state.mn.us
Office Number: 651-299-4025
Mobile Number:
Fax Number:
Website:

Location Information

County Location(s): Houston.

Eco regions in which work will take place:

- Southeast Forest

Activity types:

- Restore
- Enhance

Priority resources addressed by activity:

- Forest
- Habitat

Narrative

Abstract

This proposal seeks to enhance and restore 10 acres of fish and wildlife habitat on the lower Mississippi River in Houston County benefiting bluegill, crappie, bass, deer and Blue-winged and Prothonotary warblers. Sedimentation in Upper Mississippi River (UMR) backwaters and declining UMR floodplain forests are a concern to resource managers, anglers, hunters and recreational users. This proposal includes dredging accumulated sediments from a 5 acre backwater in upper Pool 9 and utilizing that material to enhance topographical diversity and reduce days of inundation on 5 acres of UMR floodplain in support of floodplain forest natural regeneration and invasive species control.

Design and Scope of Work

Aquatic habitat in backwaters of the UMR are filling due to sedimentation from tributary inputs, altered hydrology and island erosion. Backwaters that historically provided deep water habitat and refuge to fish, reptiles and amphibians have decreased in quantity and quality throughout the UMR. The 5 acre aquatic area in upper Pool 9 to be enhanced by dredging will benefit bluegill, crappie and bass populations. Additionally, the area to be dredged is located in a protected bay adjacent to a public access and will increase year-round angling opportunities for multiple fish species. This is a unique project in that dredged material (silts and clays) will be used beneficially to enhance topographic diversity in support of floodplain forest restoration.

Much of the existing floodplain forest in the Upper Pool 9 project area has been declining in coverage over the past several decades. Flat topography, higher groundwater levels caused by impoundment, increased frequency and duration of inundation, and reduced creation of new islands and shoreline have decreased the amount of terrestrial land cover suitable for sustaining forested communities in this area and throughout the UMR floodplain. Furthermore, increased competition from Reed Canary Grass (RCG), an aggressively invasive species whose occurrence is widespread throughout upper Pool 9, has adversely affected forest regeneration and altered the natural succession of open areas to forest. Placement of dredged material on a 5 acre area consisting of a monotypic stand of high mortality Silver Maple with invading RCG will increase floodplain elevations by 2 - 3 feet and provide a clean medium for natural regeneration of floodplain forest community (seeding and planting may be supplemental), benefiting SGCN neo-tropical migrant bird species such as Prothonotary and Cerulean warblers.

This project directly addresses the systemic issues of floodplain forest loss and habitat fragmentation, and is a priority action item in the U.S. Army Corps of Engineers (USACE) UMR Systemic Forest Management Plan. It incorporates a variety of floodplain forest restoration components such as: increasing tree species diversity; reintroduction of a hard mast component in floodplain forest communities; improving wildlife habitat; incorporation of innovative restoration measures such as the utilization of dredge materials for the purpose of increasing topographic diversity; and invasive species control and management. In addition, the project lends itself to the adaptive management process by incorporating a variety of restoration measures as well as post-project

monitoring to measure their effectiveness, thereby informing future floodplain forest restoration efforts. As stated in the report "Ecological Status and Trends of the Upper Mississippi River System 1998" (USGS 1999), "The ecosystem as a whole benefits from floodplain forests. Besides serving as a rich habitat for wildlife and fish during floods; the forests reduce soil erosion, improve water quality and provide a scenic and recreational landscape."

Floodplain forest restoration in this location will allow for direct comparison with other floodplain forest restoration techniques being utilized in adjacent parcels by partner organizations and agencies. Those partners include MN Audubon, U.S. Fish and Wildlife Service (USFWS), and the USACE

How does the plan address habitats that have significant value for wildlife species of greatest conservation need, and/or threatened or endangered species, and list targeted species?

Enhancement of 5 acres of aquatic backwater habitat will improve conditions for SGCN fishes including: Pirate Perch, Bluntnose Darter, Warmouth, Pugnose Minnow, Pallid Shiner, and Weed Shiner. Floodplain forest restoration in this location will add 5 acres of floodplain forest and reduce fragmentation of the existing floodplain forest community. This will restore a large block of floodplain forest and meet the needs of area-sensitive bird species, including Red shouldered hawks, Cerulean warblers, Acadian flycatchers, Prothonotary warblers, veerys, wood thrushes, Pileated woodpeckers, and Eastern wood peewees (Knutson et al. 1996). A Federally listed mammal that will benefit from this restoration is the Northern long-eared bat. The forest component of the UMR provides critical migration and nesting habitat for a number of rare and declining species in addition to federal and state-listed threatened and endangered species. Additional bird species such as Bald eagles, Great blue herons, Great egrets, and Cerulean warblers favor taller trees such as cottonwood and swamp white oak for roosting and nesting habitat and large blocks of contiguous closed canopy forests are required to maintain viable populations. (Urich et al. 2002). Blue-winged warblers will also immediately benefit from the project as they utilize younger aged stands of floodplain forests. Studies have shown that only a minor amount of natural cottonwood and oak regeneration is occurring on the floodplain (Yin et al. 1997; USGS 1999). Without direct management promoting growth of these trees, tall tree habitat will continue to diminish. If current low levels of natural regeneration are not reversed, floodplain forests may become even more fragmented and therefore less suitable for many forest-dependent species.

Describe how the plan uses science-based targeting that leverages or expands corridors and complexes, reduces fragmentation or protects areas identified in the MN County Biological Survey:

This project proposal utilizes the expertise, advice and recommendations provided by State (MN, WI, IA), Federal (USFWS, U.S.Geological Survey (USGS), USACE), Academic (UW-LaCrosse), and NGO (Audubon Society, The Nature Conservancy) resource managers and researchers that have collectively identified this area of upper Pool 9 as a priority location for aquatic habitat enhancement and floodplain forest restoration to benefit fish and wildlife populations. Numerous multi-agency planning efforts over the past 15 years have provided a strong scientific basis for a project in this location to improve backwater habitat, expand floodplain forest corridors and reduce fragmentation.

Which two sections of the Minnesota Statewide Conservation and Preservation Plan are most applicable to this project?

- H5 Restore land, wetlands and wetland-associated watersheds
- H6 Protect and restore critical in-water habitat of lakes and streams

Which two other plans are addressed in this program?

- Minnesota DNR Strategic Conservation Agenda

- Other : USACE UMRS Systemic Forest Management Plan

Which LSOHC section priorities are addressed in this program?

Southeast Forest

- Protect, enhance, and restore habitat for fish, game, and nongame wildlife in rivers, cold-water streams, and associated upland habitat

Outcomes

Programs in southeast forest region:

- Healthier populations of endangered, threatened, and special concern species as well as more common species ~ *Annual Fisheries surveys have been conducted by MN DNR in backwaters of upper Pool 9 since 1993, and continued monitoring will provide an opportunity to evaluate the effectiveness of the 5 acre aquatic enhancement portion of this project. USFWS and USACE personnel will monitor and evaluate the success of the techniques used to restore 5 acres of floodplain forest.*

Does this program include leveraged funding?

-

How will you sustain and/or maintain this work after the Outdoor Heritage Funds are expended?

The design and location of the aquatic backwater enhancement was carefully chosen to minimize the need for future dredging and maintenance of this portion of the project. The floodplain forest restoration portion of this project will occur on USFWS Refuge lands and will be managed and maintained by the USFWS-UMRNWFR.

Actions to Maintain Project Outcomes

Year	Source of Funds	Step 1	Step 2	Step 3
2023	Federal	Write a mgmt. plan for the forest restoration portion of this project	-	-
2024 and beyond	Federal	Implement the mgmt. and maintenace activities recommended in the mgmt. plan	-	-

Activity Details

Requirements

If funded, this program will meet all applicable criteria set forth in MS 97A.056?
Yes

Will restoration and enhancement work follow best management practices including MS 84.973 Pollinator Habitat Program?
Yes

Is the restoration and enhancement activity on permanently protected land per 97A.056, Subd 13(f), tribal lands, and/or public waters per MS 103G.005, Subd. 15 or on lands to be acquired in this program?
Yes

Where does the activity take place?

- Refuge Lands
- Public Waters

Land Use

Will there be planting of any crop on OHF land purchased or restored in this program?
No

Timeline

Activity Name	Estimated Completion Date
Backwater dredging and upland placement of material	09/30/2026
Placement site prep and tree planting	06/30/2027

Date of Final Report Submission: 11/01/2027

Availability of Appropriation: Subd. 7. Availability of Appropriation

Money appropriated in this section may not be spent on activities unless they are directly related to and necessary for a specific appropriation and are specified in the accomplishment plan approved by the Lessard-Sams Outdoor Heritage Council. Money appropriated in this section must not be spent on indirect costs or other institutional overhead charges that are not directly related to and necessary for a specific appropriation. Unless otherwise provided, the amounts in this section are available until June 30, 2021. For acquisition of real property, the amounts in this section are available until June 30, 2022, if a binding agreement with a landowner or purchase agreement is entered into by June 30, 2021, and closed no later than June 30, 2022. Funds for restoration or enhancement are available until June 30, 2023, or five years after acquisition, whichever is later, in order to complete initial restoration or enhancement work. If a project receives at least 15 percent of its funding from federal funds, the time of the appropriation may be extended to equal the availability of federal funding to a maximum of six years if that federal funding was confirmed and included in the second draft accomplishment plan. Funds appropriated for fee title acquisition of land may be used to restore, enhance, and provide for public use of the land acquired with the appropriation. Public-use facilities must have a minimal impact on habitat in acquired lands.

Budget

Budget reallocations up to 10% do not require an amendment to the Accomplishment Plan.

Totals

Item	Funding Request	Leverage	Leverage Source	Total
Personnel	-	-	-	-
Contracts	$1,500,000	-	-	$1,500,000
Fee Acquisition w/ PILT	-	-	-	-
Fee Acquisition w/o PILT	-	-	-	-
Easement Acquisition	-	-	-	-
Easement Stewardship	-	-	-	-
Travel	-	-	-	-
Professional Services	$30,000	-	-	$30,000
Direct Support Services	$22,400	-	-	$22,400
DNR Land Acquisition Costs	-	-	-	-
Capital Equipment	-	-	-	-
Other Equipment/Tools	-	-	-	-
Supplies/Materials	$2,600	-	-	$2,600
DNR IDP	-	-	-	-
Grand Total	**$1,555,000**	**-**	**-**	**$1,555,000**

Amount of Request: $1,555,000
Amount of Leverage: -
Leverage as a percent of the Request: 0.0%
DSS + Personnel: $22,400
As a % of the total request: 1.44%
Easement Stewardship: -
As a % of the Easement Acquisition: -

How will this program accommodate the reduced appropriation recommendation from the original proposed requested amount?

Contracts

What is included in the contracts line?
Yes, 100%

Direct Support Services

How did you determine which portions of the Direct Support Services of your shared support services is direct to this program?
MN DNR Direct and Necessary Cost Calculator

Federal Funds

Do you anticipate federal funds as a match for this program?
No

Output Tables

Acres by Resource Type (Table 1)

Type	Wetland	Prairie	Forest	Habitat	Total Acres
Restore	0	0	5	0	5
Protect in Fee with State PILT Liability	0	0	0	0	0
Protect in Fee w/o State PILT Liability	0	0	0	0	0
Protect in Easement	0	0	0	0	0
Enhance	0	0	0	5	5
Total	**0**	**0**	**5**	**5**	**10**

Total Requested Funding by Resource Type (Table 2)

Type	Wetland	Prairie	Forest	Habitat	Total Funding
Restore	-	-	$313,100	-	$313,100
Protect in Fee with State PILT Liability	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	-	-	-
Enhance	-	-	-	$1,241,900	$1,241,900
Total	**-**	**-**	**$313,100**	**$1,241,900**	**$1,555,000**

Acres within each Ecological Section (Table 3)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest	Total Acres
Restore	0	0	5	0	0	5
Protect in Fee with State PILT Liability	0	0	0	0	0	0
Protect in Fee w/o State PILT Liability	0	0	0	0	0	0
Protect in Easement	0	0	0	0	0	0
Enhance	0	0	5	0	0	5
Total	**0**	**0**	**10**	**0**	**0**	**10**

Total Requested Funding within each Ecological Section (Table 4)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest	Total Funding
Restore	-	-	$313,100	-	-	$313,100
Protect in Fee with State PILT Liability	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-
Enhance	-	-	$1,241,900	-	-	$1,241,900
Total	**-**	**-**	**$1,555,000**	**-**	**-**	**$1,555,000**

Average Cost per Acre by Resource Type (Table 5)

Type	Wetland	Prairie	Forest	Habitat
Restore	-	-	$62,620	-
Protect in Fee with State PILT Liability	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-
Protect in Easement	-	-	-	-
Enhance	-	-	-	$248,380

Average Cost per Acre by Ecological Section (Table 6)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest
Restore	-	-	$62,620	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-

Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	-	-	-
Enhance	-	-	$248,380	-	-

Target Lake/Stream/River Feet or Miles

Parcels

For restoration and enhancement programs ONLY: Managers may add, delete, and substitute projects on this parcel list based upon need, readiness, cost, opportunity, and/or urgency so long as the substitute parcel/project forwards the constitutional objectives of this program in the Project Scope table of this accomplishment plan. The final accomplishment plan report will include the final parcel list.

Parcel Information

Sign-up Criteria?
No

Explain the process used to identify, prioritize, and select the parcels on your list:

Restore / Enhance Parcels

Name	County	TRDS	Acres	Est Cost	Existing Protection
Millstone Landing	Houston	10104223	5	$303,000	Yes
Upper Ice Haul Slough	Houston	10104223	5	$1,210,000	Yes

Parcel Map


Winona
LA CROSSE
West Salem
Sparta
Onalaska
Rushford
La Crescent
La Crosse
HOUSTON
Houston
Caledonia
Decorah
Waukon
CRAWFORD
Ossian
Postville
Monona
Prairie du Chien
0 2 4 6 mi
Protect in Easement
Protect in Fee with PILT
Protect in Fee W/O PILT
Restore
Enhance
Other