



## Lessard-Sams Outdoor Heritage Council

Restoring the Upper Mississippi River at Lake Pepin: Phase 1  
Laws of Minnesota 2019 Accomplishment Plan

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### General Information

**Date:** 06/14/2022

**Project Title:** Restoring the Upper Mississippi River at Lake Pepin: Phase 1

**Funds Recommended:** \$750,000

**Legislative Citation:** ML 2019, 1st Sp. Session, Ch. 2, Art. 1, Sec. 2, subd, 5(o)

**Appropriation Language:** \$750,000 the first year is to the commissioner of natural resources for an agreement with the Lake Pepin Legacy Alliance to restore and enhance wildlife habitat on public lands in Lake Pepin and the adjacent floodplain. A list of proposed restorations and enhancements must be provided as part of the required accomplishment plan.

### Manager Information

**Manager's Name:** Rylee Main

**Title:** Executive Director

**Organization:** Lake Pepin Legacy Alliance

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### Location Information

**County Location(s):** Goodhue.

**Eco regions in which work will take place:**

- Southeast Forest

**Activity types:**

- Restore
- Enhance

**Priority resources addressed by activity:**

- Wetlands
- Forest
- Habitat

## Narrative

### Abstract

This project leverages more than \$10 million in federal funds to begin implementation of a system-wide effort to improve game fish and waterfowl production in the Upper Mississippi River by improving 100 acres of floodplain forest and up to 1,000 acres of aquatic and wetland habitat at the upper end of Lake Pepin. Local partners are working with the U.S. Army Corps of Engineers to mitigate habitat degradation caused by turbidity and excess sediment accumulating at the head of the lake. Project construction is anticipated to begin in 2020.

### Design and Scope of Work

Working through the U.S. Army Corps of Engineers' Beneficial Use of Dredge Material Program, the Corps will create/enhance islands and isolated wetlands, protect banks, and create deeper water in protected areas. The expected outcomes of these features include an increase in the habitat sustainability index for ducks by at least 0.25, an increase in the average annual habitat units by a net gain of 250, restored floodplain and wetland plant communities, enhanced public access, decreased suspended solid concentrations, and more natural sediment transport and deposition.

This amendment approves a \$750,000 advancement of funds as approved by the Council at the 5-25-2022 meeting.

The approval requires that quarterly reconciliation reports of all receipts showing costs spent and the entire amount being reconciled within a year. In order to facilitate the advance payment, Lake Pepin Legacy Alliance must agree to provide detailed invoices to demonstrate the OHF dollars were spent by the Army Corps in accordance to their approved work plan. These invoices will show expenses reasonably incurred on the project. The Alliance must be able to demonstrate the exact items OHF funds paid for in the completion of the overall project. The Alliance will provide quarterly updates on these expenditures, and funds must be fully reconciled by June 30, 2023. Specifically, the OHF appropriation will be used by the U.S. Army Corps of Engineers to award a contract for the following work:

The creation of 35.9 acres of emergent wetlands and pothole wetland restoration. The work completed will include the use of granular fill to construct containment berms for fine sediments, rock protection along targeted shoreline areas, and excavation for the pothole wetlands. Emergent marsh will develop on the constructed mudflats and the pothole wetlands will provide areas for brood rearing and pair bonding of puddle ducks.

A total of 42.2 acres of aquatic habitat will be dredged for access and overwintering habitat for fish. The project features are designed to benefit aquatic habitat therefore, there would be long-term beneficial effects to the remaining 666 acres of aquatic habitat within the project area.

A total of 46.1 acres of floodplain forest will be established on newly constructed islands and peninsulas. Swamp, white oak, red oak, river birch, silver maple, hackberry and bitternut hickory would be planted in the new floodplain forest areas.

## **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?**

Game fish found in Lake Pepin include northern pike, walleye, sauger, yellow perch, white bass, and a variety of centrarchids. Centrarchid overwintering habitat for backwater fish (bluegill, largemouth bass, crappie, etc.) has declined at the upper end of Lake Pepin due to sedimentation and island dissection. Historically, centrarchid overwintering habitat was present in the two primary project areas included in this proposal: Wacouta Bay, and the Bay City area. Now, most of the backwater areas that have adequate depth to provide over winter fish habitat, also have flow that makes it unsuitable for overwintering centrarchids.

Northern pike, crappie, and largemouth bass are all strongly associated with large, near shore strands of aquatic plants. High suspended solid concentrations continue to limit light penetration and rooting capability of submersed vegetation. These conditions have had the greatest influence on aquatic habitat in the upper portion of Lake Pepin, Wacouta Bay, and the Bay City Flats.

This project proposes to restore submerged, emergent, and floating vegetation where it has been lost. The Corps of Engineers will construct islands to protect existing aquatic vegetation beds and improve conditions for the growth of aquatic vegetation in other shallow areas. When combined with the construction of islands, backwater dredging will incrementally improve centrarchid habitat in the project area. Increased availability of deeper water combined with reduced velocities will greatly improve wintertime habitat conditions.

Wetland restoration and riparian island creation will increase nesting habitat and migratory stopover habitat. Restoring islands, establishing native grassland and oak savanna, and restoring depth diversity will help bird species like Wood Ducks, Cerulean Warblers, Prothonotary warblers, Louisiana Waterthrush, and many others. Lake Pepin provides critical stopover habitat for the common merganser and has been designated a globally important bird area.

Three protected wildlife species are found in this project area: the bald eagle, the Blanding's turtle, and the wood turtle. This project will improve habitat for the Blanding's turtle and the wood turtle, and ensure a robust fishery for overwintering eagle roosts in the project area.

## **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:**

Lake Pepin represents a significant corridor of open space and habitat for both aquatic and terrestrial plants and animals. The upper end of Lake Pepin contains channels and backwaters that provide critical spawning areas for important sport fish species such as sauger and walleye, which use Lake Pepin most of the year. Lake Pepin is part of the U.S. Geological Survey's Long-Term Resource Monitoring Program, which exists to support decision makers with the information needed to maintain the Upper Mississippi River system as a viable multiple-use river ecosystem. Utilizing information collected at the Lake City Field Station, desired future habitat conditions for the upper end of Lake Pepin have been established.

This proposed project is located within the Pierce County Wildlife Area, which is the only publicly managed waterfowl area and refuge along this section of the Mississippi River and contributes to one of the largest contiguous stretches of floodplain forest habitat in the Midwest. Recommendations for the Pierce County Island wetland complex have been identified and endorsed by the Fish and Wildlife Workgroup and the River Resources Forum - representing the five-state region of the Upper Mississippi River. These recommendations include: increasing the coverage of emergent vegetation by 40 percent, stabilizing several miles of eroding shoreline,

increasing water depths in select backwater sites, improving the quality of terrestrial habitat, and constructing islands. The recommendations are designed to offset the impacts of sedimentation, improve habitat for migratory waterfowl and shorebirds, and improve conditions for aquatic species.

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

- H4 Restore and protect shallow lakes
- H6 Protect and restore critical in-water habitat of lakes and streams

### Which two other plans are addressed in this program?

- Ducks Unlimited Living Lakes Initiative
- National Audubon Society Top 20 Common Birds in Decline

### 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

### Does this program include leveraged funding?

Yes

#### Explain the leverage:

Federal funds for this project come from a variety of sources within the Corps of Engineers' programs. The current project budget anticipates the need for \$4.7 million in non-federal funds, to leverage \$8.9 million from the Corps Beneficial Use of Dredged Materials program. This request of \$750,000 will leverage \$1.4 million from that program. If sufficient funds are secured through the Beneficial Use program, the Corps is able to spend an additional \$6 million from their operations and maintenance funds to transport needed materials, bringing the total project budget up to \$19.6 million.

A proposal for this project is also being considered by the Corps for inclusion in a pilot program, which would expand the scope of the project and allocate an additional \$5 million in federal funds to achieve habitat and public access objectives.

### Per MS 97A.056, Subd. 24, Please explain whether the request is supplanting or is a substitution for any previous funding that was not from a legacy fund and was used for the same purpose.

N/A

#### Non-OHF Appropriations

Year	Source	Amount
2017	U.S. Army Corps of Engineers	\$450,000

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

The construction features outlined in this project are designed to be dynamic and intended to emulate natural river processes. Therefore, we expect operation and maintenance to be minimal. The Wisconsin DNR – the non-federal sponsor and landowner – will be responsible for any maintenance needed over a 50-year timeframe. A monitoring

and adaptive management plan will be developed and included as part of the final project report, following the completion of the feasibility study. Typically, monitoring and adaptive management tasks extend up to 10 years following project completion, and close-out of the project would occur when the level of success of the project is determined adequate or when the maximum 10-year monitoring period has been reached. The plan is still conceptual but based on the current prioritized areas we anticipate that all of the project features will be on public property managed for wildlife or in public waters. The conceptual project/island features to be constructed will be attached to property public owned within the Wildlife Management Area. It is my understanding that all of the new features will be owned and managed as part of the WDNR Pierce County Islands Wildlife Area.

**Actions to Maintain Project Outcomes**

Year	Source of Funds	Step 1	Step 2	Step 3
2019	U.S. Army Corps of Engineers	Complete Monitoring and Adaptive Management Plan	Approve Final Report	-
2022 - 2032	Wisconsin Department of Natural Resources	Monitor Project Area & Assess Conditions / Benefits	-	-
2022 - 2032	Wisconsin Department of Natural Resources	Maintenance of constructed features, if needed.	-	-

**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?**

Yes

**Where does the activity take place?**

- WMA
- 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
Riparian island creation and restoration (nesting habitat) (100 acres)	6/30/2022
Backwater enhancement (spawning / overwinter habitat) (1,000 acres)	6/30/2022
Wetland restoration (migratory stopover habitat) (10 acres)	6/30/2022

**Date of Final Report Submission: 11/30/2022**



**Budget**

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

**Totals**

<b>Item</b>	<b>Funding Request</b>	<b>Antic. Leverage</b>	<b>Leverage Source</b>	<b>Total</b>
Personnel	-	-	-	-
Contracts	\$750,000	\$1,400,000	U.S. Army Corps of Engineers	\$2,150,000
Fee Acquisition w/ PILT	-	-	-	-
Fee Acquisition w/o PILT	-	-	-	-
Easement Acquisition	-	-	-	-
Easement Stewardship	-	-	-	-
Travel	-	-	-	-
Professional Services	-	-	-	-
Direct Support Services	-	-	-	-
DNR Land Acquisition Costs	-	-	-	-
Capital Equipment	-	-	-	-
Other Equipment/Tools	-	-	-	-
Supplies/Materials	-	-	-	-
DNR IDP	-	-	-	-
<b>Grand Total</b>	<b>\$750,000</b>	<b>\$1,400,000</b>	-	<b>\$2,150,000</b>

**Amount of Request:** \$750,000

**Amount of Leverage:** \$1,400,000

**Leverage as a percent of the Request:** 186.67%

**DSS + Personnel:** -

**As a % of the total request:** 0.0%

**Easement Stewardship:** -

**As a % of the Easement Acquisition:** -

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

N/A

**Describe and explain leverage source and confirmation of funds:**

**Contracts**

**What is included in the contracts line?**

**Federal Funds**

**Do you anticipate federal funds as a match for this program?**

Yes

**Are the funds confirmed?**

No

**What is the approximate date you anticipate receiving confirmation of the federal funds?**

06/01/2019



## Output Tables

### Acres by Resource Type (Table 1)

Type	Wetland	Prairie	Forest	Habitat	Total Acres
Restore	50	0	50	750	850
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	50	250	300
<b>Total</b>	<b>50</b>	<b>0</b>	<b>100</b>	<b>1,000</b>	<b>1,150</b>

### Total Requested Funding by Resource Type (Table 2)

Type	Wetland	Prairie	Forest	Habitat	Total Funding
Restore	\$34,000	-	\$32,500	\$485,500	\$552,000
Protect in Fee with State PILT Liability	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	-	-	-
Enhance	-	-	\$32,500	\$165,500	\$198,000
<b>Total</b>	<b>\$34,000</b>	<b>-</b>	<b>\$65,000</b>	<b>\$651,000</b>	<b>\$750,000</b>

### Acres within each Ecological Section (Table 3)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest	Total Acres
Restore	0	0	850	0	0	850
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	300	0	0	300
<b>Total</b>	<b>0</b>	<b>0</b>	<b>1,150</b>	<b>0</b>	<b>0</b>	<b>1,150</b>

### Total Requested Funding within each Ecological Section (Table 4)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest	Total Funding
Restore	-	-	\$552,000	-	-	\$552,000
Protect in Fee with State PILT Liability	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-
Enhance	-	-	\$198,000	-	-	\$198,000
<b>Total</b>	<b>-</b>	<b>-</b>	<b>\$750,000</b>	<b>-</b>	<b>-</b>	<b>\$750,000</b>

### Average Cost per Acre by Resource Type (Table 5)

Type	Wetland	Prairie	Forest	Habitat
Restore	\$680	-	\$650	\$647
Protect in Fee with State PILT Liability	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-
Protect in Easement	-	-	-	-
Enhance	-	-	\$650	\$662

### Average Cost per Acre by Ecological Section (Table 6)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest
Restore	-	-	\$649	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-

Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	-	-	-
Enhance	-	-	\$660	-	-

### Target Lake/Stream/River Feet or Miles

12 River Miles

### Outcomes

#### Programs in southeast forest region:

- Large corridors and complexes of biologically diverse wildlife habitat typical of the unglaciated region are restored and protected ~ *Lake Pepin represents a significant corridor of open space and habitat for both aquatic and terrestrial plants and animals. In addition to the monitoring and adaptive management plan established as part of the final report within the feasibility study, the project area will be regularly sampled as part of the U.S. Geological Survey's Long-Term Resource Monitoring Program.*

*The aforementioned indicator species will be used as a measure of success for bottomland hardwood forest restoration, wetland restoration, overwintering habitat, and water clarity and aquatic vegetation.*

## 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?**

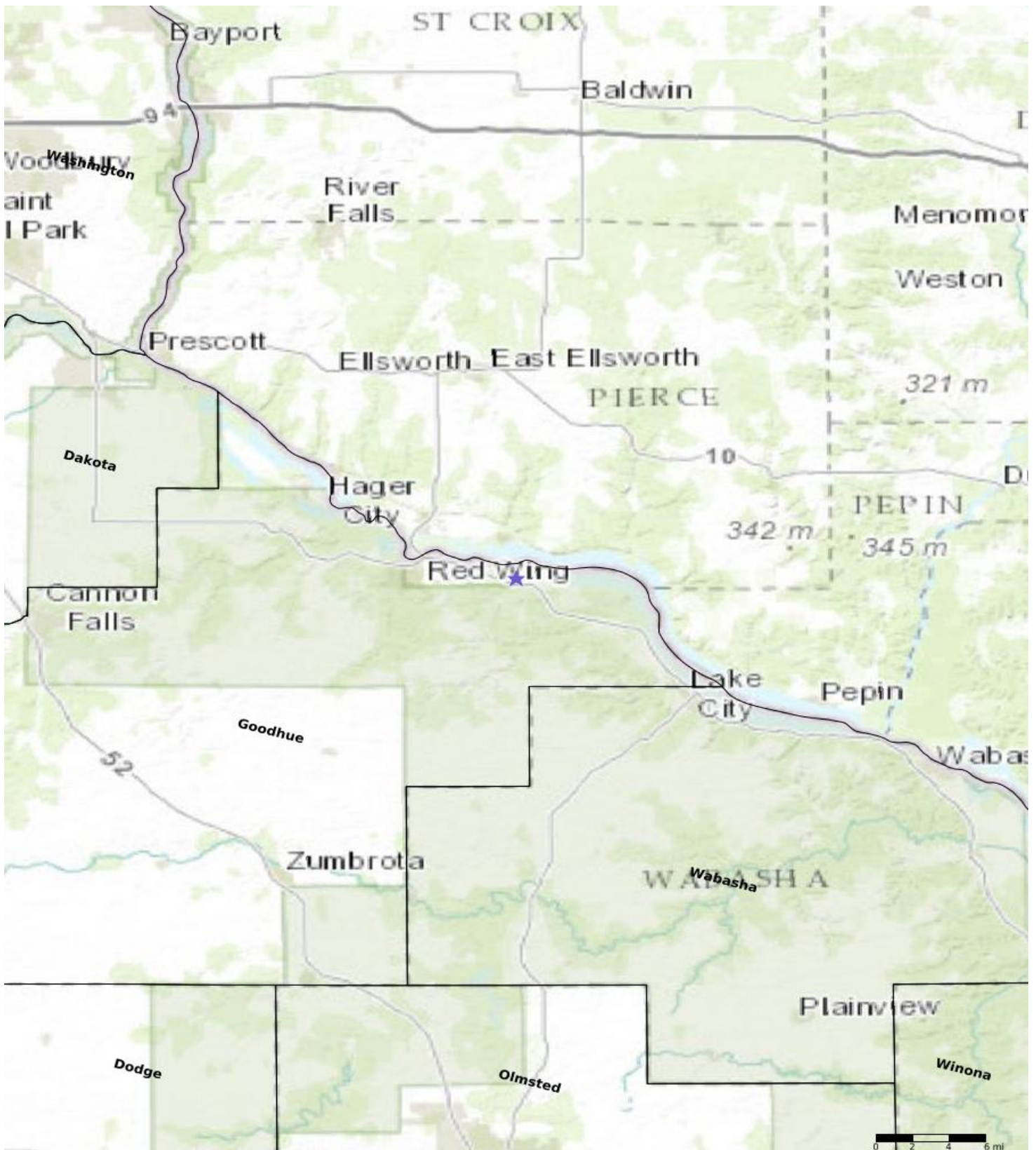
No

**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
Wacouta Bay	Goodhue	11314236	100	\$750,000	Yes

### Parcel Map



- Protect in Easement
- ▲ Protect in Fee with PILT
- Protect in Fee W/O PILT
- ★ Restore
- ✕ Enhance
- ⊕ Other