

**Environment and Natural Resources Trust Fund
2020 Request for Proposals (RFP)**

Project Title:

ENRTF ID: 265-G

Mississippi River Aquatic Habitat Restoration and Mussel Reintroduction

Category: G. Land Acquisition for Habitat and Recreation

Sub-Category:

Total Project Budget: \$ 2,538,000

Proposed Project Time Period for the Funding Requested: June 30, 2026+ (6+ yrs)

Summary:

MPRB and its scientific partners will undertake a large-scale project to restore lost habitat in the Mississippi River and reintroduce mussels above St. Anthony Falls.

Name: Adam Arvidson

Sponsoring Organization: Minneapolis Park and Recreation Board

Job Title: Director of Strategic Planning

Department: _____

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Minneapolis MN 55411

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Location:

Region: Metro

County Name: Hennepin

City / Township: Minneapolis

Alternate Text for Visual:

Aerial photograph of the Mississippi River in Minneapolis showing areas of proposed restoration.

_____ Funding Priorities	_____ Multiple Benefits	_____ Outcomes	_____ Knowledge Base
_____ Extent of Impact	_____ Innovation	_____ Scientific/Tech Basis	_____ Urgency
_____ Capacity Readiness	_____ Leverage	_____ TOTAL	_____ %



PROJECT TITLE: Mississippi River Aquatic Habitat Restoration and Mussel Reintroduction

I. PROJECT STATEMENT

The Minneapolis Park and Recreation Board (MPRB) and its scientific partners, including malacologist Mike Davis and the Minnesota DNR’s Center of Aquatic Mollusk Programs (CAMP), request \$2,538,000 from the ENRTF for a large-scale project to restore lost Mississippi River habitat and reintroduce mussels above St. Anthony Falls. The Upper Mississippi River in Minneapolis used to be rich in aquatic habitat for native fish, mussels, and other invertebrates. With the advent of navigation and associated dredging and industrial development, this habitat has been all but lost—especially the critical island and back-channel habitat so necessary for resident and migrating wildlife. MPRB has taken a significant step toward re-establishing Mississippi River habitat with the creation of Hall’s Island, a historic natural island that was eliminated for industrial use in 1966. Three other islands remain, but are slowly degrading due to erosion, invasive species, and degradation of natural substrates. Navigation on the upper river has ceased with the closure of the St. Anthony Falls Lock and Dam. The opportunity is ripe for restoration of lost habitat and for wildlife reintroduction to the riverway.

The four islands considered in this request are all located within the Minneapolis reach of the Mississippi above St. Anthony Falls. The project includes the newly constructed Hall’s Island near Plymouth Avenue, two islands near the east bank of the river just south of the Minneapolis Water Works, and one island just off the shore of North Mississippi Regional Park north of the Camden Bridge. Also included is 11,000 linear feet of non-island shoreline parcels owned by MPRB, including a portion of North Mississippi Regional Park. Through this request, ENRTF funding would be used to plan habitat restoration and reintroduction of mussels; to create construction plans for habitat restoration and enhancement; to construct all restored habitat, including vegetation, grading, and aggregate placement both on the islands and underwater; to reintroduce up to four native mussel species; to monitor introduced and any naturally recruiting mussel species on and around the islands for three years; and to develop a long-term management plan to ensure the success of island habitat.

All the proposed restoration areas are in public hands and the negative habitat impact of navigational dredging has ceased. Now is the time to act. The reintroduction of mussels to the river will improve water quality and provide benefits for other aquatic life, most notably game and non-game fish species. In the 1950s the first Mississippi River fish biologist described the upper river in Minneapolis as being littered with dead mussels. Mussel beds are the coral reefs of freshwater ecosystems. This project would significantly speed up recovery of the river’s former abundance and put mussels back to work cleaning up and providing the foundation of a healthy ecosystem in the state’s most important and well-loved river. By collaborating with respected scientists, MPRB can utilize ENRTF funding to have a tangible, large-scale impact on Minnesota’s riverine habitat.

II. PROJECT ACTIVITIES AND OUTCOMES

Activity 1 Title: Habitat Restoration and Wildlife Reintroduction Planning

Description: In consultation with scientists and engineers, prepare a restoration and reintroduction plan for the Mississippi Islands, in concert with construction plans for habitat restoration and island stabilization.

ENRTF BUDGET: \$349,500

Outcome	Completion Date
<i>1. Completion of restoration plan to guide construction activities</i>	<i>December, 2020</i>
<i>2. Completion of construction plans for stabilization and habitat restoration</i>	<i>February, 2021</i>
<i>3. Completion of reintroduction plan for aquatic invertebrates</i>	<i>June, 2021</i>



**Environment and Natural Resources Trust Fund (ENRTF)
2020 Main Proposal Template**

Activity 2 Title: Habitat Restoration Implementation

Description: Construct improvements as envisioned in Activity 1.

ENRTF BUDGET: \$1,963,500

Outcome	Completion Date
<i>1. Release of construction plans for public bid</i>	<i>April, 2021</i>
<i>2. Construction of habitat elements</i>	<i>December, 2022</i>

Activity 3 Title: Species Reintroduction and Monitoring

Description: In consultation with scientists, reintroduce mussel species to habitat areas in the Mississippi River, then monitor populations for 3 years.

ENRTF BUDGET: \$225,000

Outcome	Completion Date
<i>1. Propagation of targeted mussel species for reintroduction</i>	<i>March, 2023</i>
<i>2. Reintroduction of mussels, according to plans developed in Activity 1</i>	<i>October, 2023</i>
<i>3. Monitoring of reintroduced and any naturally recruiting mussel populations</i>	<i>October, 2026</i>

III. PROJECT PARTNERS AND COLLABORATORS:

MPRB will serve as the project manager, owner, and primary designer of the project. The Minnesota DNR Center of Aquatic Mollusk Programs will be collaborating on this proposed project. The mussel program has nearly 20 years of experience of surveying, monitoring, and restoring freshwater mussel species in Minnesota. Including extensive experience working within the Twin Cities reach of the Mississippi River. The CAMP facility in Lake City is established and is currently producing threatened and endangered mussels using ENRTF funding for mussel restoration.

IV. LONG-TERM IMPLEMENTATION AND FUNDING:

This is a complicated but important project, which will require more time than the 36 months typically requested under the LCCMR program. It is expected to take two years (June 2020 through fall of 2022) to prepare plans for and then construct the habitat improvements. Mussel reintroduction must follow construction and would likely take place in 2023. A three-year monitoring program is recommended by scientists and would take place in 2024, 2025, and 2026. At that time the final management plan will be prepared and the three-year monitoring data will be disseminated through public channels to serve as a resource for other restoration efforts statewide.

The \$2,538,000 request is matched by \$200,000 of local tax levy to be spent during the project period to fund MPRB staff and administrative resources. In addition, to date, more than \$6,000,000 has been spent to reconstruct Hall’s Island from various state and local sources. MPRB has spent local dollars and has utilized grants from the Mississippi Watershed Management Organization to acquire shoreland properties for a total investment of more than \$8,500,000. In all, this grant request follows more than \$15 million in prior funding dedicated to the upper Mississippi in Minneapolis.

Attachment A: Project Budget Spreadsheet
 Environment and Natural Resources Trust Fund
 M.L. 2020 Budget Spreadsheet



Legal Citation:
 Project Manager: Adam Arvidson
 Project Title: Mississippi River Aquatic Habitat Restoration and Mussel Reintroduction
 Organization: Minneapolis Park and Recreation Board
 Project Budget: \$2,538,000
 Project Length and Completion Date: 6 years, until October 2026
 Today's Date: 4/15/2019

ENVIRONMENT AND NATURAL RESOURCES TRUST FUND BUDGET	Budget	Amount Spent	Balance
BUDGET ITEM			
Personnel (Wages and Benefits)	\$ -	\$ -	\$ -
Professional/Technical/Service Contracts			
<i>Mike Davis: consultation on restoration construction plans and mussel reintroduction plans. Davis is a project partner and will not be selected competitively</i>	\$ 3,000	\$ -	\$ 3,000
<i>Engineering and Design: preparation of restoration construction plans for island and shoreline habitat restoration. Consultant will be selected through a competitive RFP, following purchasing and civil rights rules of the City of Minneapolis and MPRB.</i>	\$ 346,500	\$ -	\$ 346,500
Equipment/Tools/Supplies	\$ -	\$ -	\$ -
Capital Expenditures Over \$5,000	\$ -	\$ -	\$ -
Fee Title Acquisition	\$ -	\$ -	\$ -
Easement Acquisition	\$ -	\$ -	\$ -
Professional Services for Acquisition	\$ -	\$ -	\$ -
Printing	\$ -	\$ -	\$ -
Travel expenses in Minnesota	\$ -	\$ -	\$ -
Other			
<i>Construction: A qualified contractor will be selected through a competitive public bidding process, under purchasing and civil rights rules of the City of Minneapolis and MPRB. Construction contractor will be responsible for all construction activities associated with restoration of island and shoreline habitat.</i>	\$ 1,963,500	\$ -	\$ 1,963,500
<i>Mussel propagation, reintroduction, and monitoring: The DNR mussel lab will provide all services associated with mussel reintroduction and monitoring, as a portion of its overall operational costs. Full documentation of work related to this grant activity will be provided.</i>	\$ 225,000	\$ -	\$ 225,000
	\$ -	\$ -	\$ -
COLUMN TOTAL	\$ 2,538,000	\$ -	\$ 2,538,000

SOURCE AND USE OF OTHER FUNDS CONTRIBUTED TO THE PROJECT	Status (secured or pending)	Budget	Spent	Balance
Non-State: MPRB local levy contributed to project administrative costs for work performed under this request	secured	\$ 200,000	\$ -	\$ 200,000
Non-State: MPRB local levy and MWMO grants utilized to acquire lands for restoration and recreate Hall's Island	secured	\$ 8,661,727	\$ -	\$ 8,661,727
State: Regional Parks Funds, Parks and Trails Legacy Funds utilized to acquire lands for restoration and recreate Hall's Island	secured	\$ 6,154,581	\$ -	\$ 6,154,581
In kind:		\$ -	\$ -	\$ -
Other ENRTF APPROPRIATIONS AWARDED IN THE LAST SIX YEARS	Amount legally obligated but not yet spent	Budget	Spent	Balance
		\$ -	\$ -	\$ -

2020 Environmental and Natural Resource Trust Fund Proposal
Minneapolis Park and Recreation Board
Mississippi River Aquatic Habitat Restoration and Mussel Reintroduction



KEY

Proposed habitat restoration areas

0 625 1,250 2,500 Feet



Mississippi River Aquatic Habitat Restoration and Mussel Reintroduction

Attachment D. Additional Work Plan Information for Acquisition, Easements, and Restoration

Acquisition/Restoration Information:

The information to be included in this section is to help fulfill specific requirements pertaining to fee title acquisition, conservation easement acquisition, and restoration efforts completed using Environment and Natural Resources Trust Fund dollars. More detailed information explaining these requirements is available in separate documents that are available on the "Project Manager Info" page of the LCCMR website under "Requirements for ENRTF Land Acquisitions and Restorations": http://www.lccmr.leg.mn/pm_info/manager_info_index.html. Please fill out the relevant portions below. Please delete any sections that do not apply to your project. For example, if your project only involves fee title acquisition, answer all five items under fee title acquisition and then delete all of the text for the portions relating to conservation easement acquisition and restoration.

Restoration

1. Provide a statement confirming that all restoration activities completed with these funds will occur on land permanently protected by a conservation easement or public ownership.

All restoration activities will occur on land permanently in public ownership or within public waters of the state of Minnesota, in coordination with the Minnesota Department of Natural Resources.

2. Summarize the components and expected outcomes of restoration and management plans for the parcels to be restored by your organization, how these plans are kept on file by your organization, and overall strategies for long-term plan implementation.

Components of the restoration and management plan will include a description of current conditions, with a focus on hydrology, geology, and the aquatic biotic community as they apply to a large river environment; description of a target restoration community, which is most likely to be an aquatic to emergent river system; a timeline for restoration; and guidance for ongoing management of the restored areas. The outcome of the restoration plan will be a guidance document for actual implementation of the constructed island and shoreline work. The outcome of the management plan will be a document that will guide MPRB staff and partners in the ongoing maintenance and operations of the restored areas. These plans will be kept both in MPRB staff project files and in the MPRB archive, as well as posted publicly on the MPRB website.

3. Describe how restoration efforts will utilize and follow the Board of Soil and Water Resources "Native Vegetation Establishment and Enhancement Guidelines" in order to ensure ecological integrity and pollinator enhancement.

MPRB and its partners will fully utilize BWSR's guidance document. Because this project includes a significant amount of underwater habitat restoration, and occurs in an urban site, we expect preliminarily that the recommended number of plant species will be on the low end according to the "Minimum Recommended Number of Species" matrix (p.8). The project will utilize and source seed as recommended for the project location (Ecological Section 8, Big Woods Subsection). Particular attention will be paid to guidance on aquatic plant installation (p. 29). Primary project type guidance will come from the section on streambank stabilization (p. 57).

4. Describe how the long-term maintenance and management needs of the parcel being restored with these funds will be met and financed into the future.

Long term maintenance and management will be performed by the Minneapolis Park and Recreation Board as part of its overall natural resources maintenance programs. Such activities do include paid staff work,

volunteers, and partnerships with nonprofit organizations. Maintenance and management activities are funded by the MPRB tax levy and are supported by the state and Metropolitan Council through regional parks operations and maintenance (O&M) funding.

5. Describe how consideration will be given to contracting with Conservation Corps of Minnesota for any restoration activities.

MPRB will contact the Conservation Corps of Minnesota to inquire whether the planned work is possible within that organization's capabilities and scope. Because the bulk of the restoration work involves heavy grading and much will occur below the water line, we are unsure at this time if the Corps will be interested in this work. Nevertheless, MPRB will make contact once the project scope and details are known.

6. Provide a statement indicating that evaluations will be completed on parcels where activities were implemented both 1) initially after activity completion and 2) three years later as a follow-up. Evaluations should analyze improvements to the parcel and whether goals have been met, identify any problems with the implementation, and identify any findings that can be used to improve implementation of future restoration efforts at the site or elsewhere.

MPRB and its partners (notably the Minnesota DNR's Center for Aquatic Mussel Programs) will evaluate and report publicly on all restoration and reintroduction activities. This information will be made available in the MPRB and DNR websites, crosslinked.

Environment and Natural Resources Trust Fund (ENRTF) 2020 Main Proposal

Project Title: *Mississippi River Aquatic Habitat Restoration and Mussel Reintroduction*

Project Team Qualifications:

Adam Arvidson, FASLA, PLA

Mr. Arvidson is MPRB's Director of Strategic Planning, in which role he is responsible for large-scale planning of public lands. He is a registered landscape architect with 20+ years of experience in the public and private sector and has worked on numerous habitat and environment projects, including several funded through LCCMR and the Lessard-Sams Council. He is currently the project manager for the MPRB's Ecological Systems Plan and is also leading the agency's effort to create new environmentally sound master plans for each neighborhood park.

Jon Duesman, PLA

As a registered landscape architect with the Minneapolis Park and Recreation Board, Jon Duesman has been involved in shoreline restoration and island creation projects for more than 5 years, coordinating site cleanup, permitting requirements, and design consultant management. Jon will be the construction manager for the habitat restoration portion of the project.

Mike Davis, Aquatic Ecologist

Mr. Davis began his Minnesota DNR career in 1986 when he completed a native mussel survey of the Cannon River System and documented the presence of a species not previously reported in the state. From 1989-1990 he led the startup of the federally funded Long Term Resource Monitoring of the Mississippi River. He implemented with LCCMR funds a Statewide Mussel Survey Program in 1999 that continues with other funding today. He served 5 years as a river ecologist on the US Army Corps of Engineers' Upper Mississippi River Navigation and Ecosystem Sustainability Program's Science Panel made up of 10 river experts across the nation. He is a founding member of the Freshwater Mollusk Conservation Society and an author or coauthor of numerous publications on native mussel ecology. In 2014 he established the MNDNR Center for Aquatic Mollusk Programs in Lake City, MN

Organization Description – Minneapolis Park and Recreation Board

With 179 park properties totaling nearly 6,800 acres of land and water, the Minneapolis Park and Recreation Board (MPRB) provides places and recreation opportunities for all people to gather, celebrate, contemplate, and engage in activities that promote health, well-being, community, and the environment. Each year, approximately 20 million visits are made to the nationally acclaimed Minneapolis park system. Its urban forests, natural areas, and waters endure and captivate. Its Grand Rounds National Scenic Byway, neighborhood parks, recreation centers, and diversified programming have made the Minneapolis park system an important component of what makes Minneapolis a great place to live, play and work.

MPRB Mission:

The Minneapolis Park and Recreation Board shall permanently preserve, protect, maintain, improve, and enhance its natural resources, parkland, and recreational opportunities for current and future generations. The Minneapolis Park and Recreation Board exists to provide places and recreation opportunities for all people to gather, celebrate, contemplate, and engage in activities that promote health, well-being, community, and the environment.