



Environment and Natural Resources Trust Fund

2022 Request for Proposal

General Information

Proposal ID: 2022-274

Proposal Title: Mississippi River Aquatic Habitat Restoration and Mussel Reintroduction

Project Manager Information

Name: Adam Arvidson

Organization: Minneapolis Parks and Recreation Board

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Project Basic Information

Project Summary: This project will restore lost Mississippi River habitat and reintroduce mussels above St. Anthony Falls on four river islands and along approximately 6,000 linear feet of shoreline.

Funds Requested: \$2,538,000

Proposed Project Completion: December 31 2027

LCCMR Funding Category: Methods to Protect, Restore, and Enhance Land, Water, and Habitat (F)

Project Location

What is the best scale for describing where your work will take place?

Region(s): Metro

What is the best scale to describe the area impacted by your work?

Region(s): Metro

When will the work impact occur?

During the Project

Narrative

Describe the opportunity or problem your proposal seeks to address. Include any relevant background information.

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 \$1,800,000 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.

What is your proposed solution to the problem or opportunity discussed above? i.e. What are you seeking funding to do? You will be asked to expand on this in Activities and Milestones.

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 5,800 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.

What are the specific project outcomes as they relate to the public purpose of protection, conservation, preservation, and enhancement of the state's natural resources?

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. 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.

Activities and Milestones

Activity 1: Habitat Restoration and Wildlife Reintroduction Planning

Activity Budget: \$349,000

Activity 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. Restoration and reintroduction plans will be prepared internally by the DNR in consultation with MPRB. Construction plans to stabilize and restore the shorelines of four Mississippi River islands and approximately 5800 linear feet of Mississippi River Shoreline will be prepared by an outside contractor selected by MPRB through a competitive selection process. This Activity includes all external design and engineering costs, but not MPRB staff costs, which will be borne by that agency. Coordination with permitting agencies (including the DNR and Army Corps of Engineers) is included in this Activity but the permits themselves are included in Activity 2.

Activity Milestones:

Description	Completion Date
Completion of restoration plan to guide construction activities	December 31 2022
Completion of construction plans for stabilization and habitat restoration	February 28 2023
Completion of reintroduction plan for aquatic invertebrates	June 30 2023

Activity 2: Habitat Restoration Implementation

Activity Budget: \$1,964,000

Activity Description:

Implement Activity 1 plans to stabilize and restore the shorelines of four Mississippi River islands and approximately 5800 linear feet of Mississippi River Shoreline. All work will occur between Plymouth Avenue and the Camden Bridge in Minneapolis, with the addition of a single island just north of the Camden Bridge. Activities will include invasive species removal, grading, placement of rock substrate, necessary erosion control, and planting of native species according to BWSR's "Native Vegetation Establishment and Enhancement Guidelines (see attachment D). Permits from the Minnesota DNR and US Army Corps of Engineers are likely required and will be obtained under this activity, along with any other permits required by the Mississippi Watershed Management Organization and/or the City of Minneapolis. Soil testing and (if necessary) remediation are also included in this activity, but the latter could be funded with other sources. Any remediation would need to be consistent with Minnesota Statutes 116P.08, Subd. 2, which states that the Environment and Natural Resources Trust Fund may not be spent for purposes of environmental compensation and liability and response actions. This activity also includes all bidding costs, contractor mobilization fees, and construction observation and administration.

Activity Milestones:

Description	Completion Date
Release of construction plans for public bid	April 30 2023
Construction of habitat elements	December 31 2024

Activity 3: Species Reintroduction and Monitoring

Activity Budget: \$225,000

Activity Description:

In consultation with scientists, propagate, rear, and stock three existing mussel species using local female mussel donors into the new habitat areas habitat areas in the Mississippi River to create mussel “beds”; then introduce up to four state and/or federal listed mussel species. Propagation and rearing will begin in July of 2020 and continue through 2024 in order to produce five generations of each species for release. Rearing of juvenile mussels to a releasable size may require up to three years in captivity.

Monitor these populations each year through 2025. Approval from USFWS is required prior to releasing federally endangered mussels.

Activity Milestones:

Description	Completion Date
Reintroduction of mussels, according to plans developed in Activity 1	October 31 2025
Propagation and rearing of targeted mussel species	March 31 2027
Annual monitoring of reintroduced and naturally recruiting mussel populations	June 30 2027

Project Partners and Collaborators

Name	Organization	Role	Receiving Funds
Mike Davis	Minnesota Department of Natural Resources Center for Aquatic Mollusk Programs (CAMP)	Mike Davis and the CAMP team will prepare the natural resources and reintroduction plan, consult on the design of habitat restoration activities, and provide mussel reintroduction and ongoing monitoring.	Yes

Long-Term Implementation and Funding

Describe how the results will be implemented and how any ongoing effort will be funded. If not already addressed as part of the project, how will findings, results, and products developed be implemented after project completion? If additional work is needed, how will this be funded?

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 2022 through fall of 2024) to prepare plans for and then construct the habitat improvements. Mussel reintroduction must follow construction and would likely take place in 2024. A three-year monitoring program is recommended by scientists and would take place in 2025, 2026, and 2027. The final management plan will be prepared and the three-year monitoring data will be disseminated through public channels to serve as a statewide resource.

Other ENRTF Appropriations Awarded in the Last Six Years

Name	Appropriation	Amount Awarded
Invasive Carp Management Research in Lake Nokomis Subwatershed	M.L. 2016, Chp. 186, Sec. 2, Subd. 06g	\$189,000
Expanding Nature Knowledge and Experience with New Interactive Exhibits at North Mississippi Regional Park	M.L. 2018, Chp. 214, Art. 4, Sec. 2, Subd. 05h	\$500,000

Project Manager and Organization Qualifications

Project Manager Name: Adam Arvidson

Job Title: Director of Strategic Planning

Provide description of the project manager's qualifications to manage the proposed project.

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.

Organization: Minneapolis Parks and Recreation Board

Organization Description:

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.

Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	\$ Amount
Personnel								
Program Consultant (DNR)		Mussel reintroduction planning, habitat restoration consulting, propagation, reintroduction, and monitoring: The DNR mussel lab will provide all services and products (live mussels) associated with mussel propagation, reintroduction and monitoring. Full documentation of work related to this grant activity will be provided.			8%	0.6		\$30,000
Lab Specialist/Diver (DNR)		Mussel reintroduction planning, habitat restoration consulting, propagation, reintroduction, and monitoring: The DNR mussel lab will provide all services and products (live mussels) associated with mussel propagation, reintroduction and monitoring. Full documentation of work related to this grant activity will be provided.			28%	4.5		\$127,000
Data Manager/Diver		Mussel reintroduction planning, habitat restoration consulting, propagation, reintroduction, and monitoring: The DNR mussel lab will provide all services and products (live mussels) associated with mussel propagation, reintroduction and monitoring. Full documentation of work related to this grant activity will be provided.			28%	1.5		\$52,000
							Sub Total	\$209,000
Contracts and Services								
Construction Contractor to be determined	Professional or Technical Service Contract	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.				0		\$1,958,000
Engineering and Design	Professional or Technical	Preparation of restoration construction plans for island and shoreline habitat restoration. Consultant will be selected through a competitive RFP,				0		\$347,000

Professional to be determined	Service Contract	following purchasing and civil rights rules of the City of Minneapolis and MPRB.						
							Sub Total	\$2,305,000
Equipment, Tools, and Supplies								
							Sub Total	-
Capital Expenditures								
							Sub Total	-
Acquisitions and Stewardship								
							Sub Total	-
Travel In Minnesota								
							Sub Total	-
Travel Outside Minnesota								
							Sub Total	-
Printing and Publication								
							Sub Total	-
Other Expenses								
		DNR Direct and Necessary Costs	DNR's direct and necessary costs (~\$23,256 total) pay for activities that are directly related to and necessary for accomplishing appropriated programs/projects. Direct and necessary costs cover HR Support (~\$5,058), Safety Support (~\$915), Financial Support (~\$2,728), Communication Support (~\$1,388), IT					\$24,000

			Support (~\$12,030), and Planning Support (~\$1,138) that are necessary to accomplishing funded programs/projects.					
							Sub Total	\$24,000
							Grand Total	\$2,538,000

Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request
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Non ENRTF Funds

Category	Specific Source	Use	Status	Amount
State				
			State Sub Total	-
Non-State				
Cash	MPRB local tax levy	Matching funds will be used for all MPRB personnel costs, including community engagement, project administration, and design.	Secured	\$200,000
			Non State Sub Total	\$200,000
			Funds Total	\$200,000

Acquisition and Restoration

Parcel List

Name	County	Site Significance	Activity	Acres	Miles	Estimated Cost	Type of Landowner	Easement or Title Holder	Status of Work
Above the Falls Regional Park: PIDs 1502924110001, 1002924440012, 1002924440011, 1002924440009, 1002924440070, 1002924440064, 10029244410010, 1002924410030, 1002924410028, 1002924410027, 1002924410007, 1002924410008, 1002924410006, 1002924410005, 1002924410004	Hennepin	site is currently urban but will be restored to riverine habitat	Restoration	-	0.47	\$674,000	Public	Minneapolis Park and Recreation Board	Has not begun
Hall's Island: PIDs 1502924440065 and 1502924440044 (island portions only)	Hennepin	site is currently urban but will be restored to riverine habitat	Restoration	-	0.25	\$359,000	Public	Minneapolis Park and Recreation Board	Has not begun
Heron Rookery Islands	Hennepin	site is currently degraded riverine floodplain wetland and will be restored to enhanced version of same ecosystem	Restoration	-	0.26	\$373,000	Public	Minneapolis Park and Recreation Board	Has not begun
MPRB Michael P. Schmidt Operations Center: PID 0302924230126	Hennepin	site is currently urban but will be restored to riverine habitat	Restoration	-	0.12	\$172,000	Public	Minneapolis Park and Recreation Board	Has not begun
Marshall Terrace Park: PID 1002924120002	Hennepin	site is currently urban but will be restored to riverine habitat	Restoration	-	0.13	\$186,000	Public	Minneapolis Park and Recreation Board	Has not begun
North Mississippi Regional Park Island	Hennepin	site is currently degraded riverine floodplain wetland and will be restored	Restoration	-	0.19	\$272,000	Public	Minneapolis Park and Recreation Board	Has not begun

		to enhanced version of same ecosystem							
Sheridan Park: PIDs 1502924130016, 1502924130017, 1502924130022, 1502924130001, 1502924110050, 1502924110048	Hennepin	site is currently urban but will be restored to riverine habitat	Restoration	-	0.35	\$502,000	Public	Minneapolis Park and Recreation Board	Has not begun
Totals				0	1.77	\$2,538,000			

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.

Attachments

Required Attachments

Map

File: [dad804ab-0b5.pdf](#)

Alternate Text for Map

Map of the Upper Mississippi project area, with summary of funding request....

Board Resolution or Letter

Title	File
MPRB Resolution 2019-155	eaff7117-b08.pdf

Administrative Use

Does your project include restoration or acquisition of land rights?

Yes: Restoration,

Does your project have potential for royalties, copyrights, patents, or sale of products and assets?

No

Do you understand and acknowledge IP and revenue-return and sharing requirements in 116P.10?

N/A

Do you wish to request reinvestment of any revenues into your project instead of returning revenue to the ENRTF?

N/A

Does your project include original, hypothesis-driven research?

No

Does the organization have a fiscal agent for this project?

No

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

HABITAT RESTORATION AREAS

North Mississippi Regional Park
and offshore island

42ND AVE

MPRB's Michael P. Schmidt
Operations Center

Minneapolis Upper Harbor Terminal
(parks and shoreline funded by State in 2018)

Heron rookery islands

MPRB's Edgewater Park

MPRB's "Andrews Parcel"

LOWRY

MPRB's East River Parcels

MPRB's East Bank Trail

BROADWAY

MPRB's Hall's Island

SCOPE:

restoration of 4 islands
restoration of 11,000 feet of shoreline
reintroduction of native mussel species

BUDGET:

Activity 1: Planning \$349,500
Activity 2: Habitat Restoration \$1,963,500
Activity 3: Reintroduction / Monitoring \$225,000
TOTAL REQUEST: \$2,538,000

DIRECT MATCH: \$200,000

PRIOR INVESTMENT

Acquisition \$8,500,000+
Improvements \$6,000,000+



