**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**

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| **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** |  |

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

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| **Activity 2 Title: Habitat Restoration Implementation**  **Description:**Construct improvements as envisioned in Activity 1.  **ENRTF BUDGET: $1,963,500** |  |

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| **Outcome** | **Completion Date** |
| *1. Release of construction plans for public bid* | *April, 2021* |
| *2. Construction of habitat elements* | *December, 2022* |

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| **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** |  |

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

**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.