**PROJECT TITLE: Driving Conservation Behavior for Mussels and Water Quality**

**I. PROJECT STATEMENT**

In order to effectively conserve and preserve native mussels and improve water quality in Minnesota, we must engage the public in specific conservation actions that they can take to have a positive impact. Building upon the Minnesota Zoo’s novel educational and large-scale informational campaign (*Show Us Your Mussels Challenge*) *and* research on the biology of native mussels, which have been previously funded through ENRTF, we propose to use social science to develop a research-supported public engagement campaign in order to foster conservation behaviors beneficial to Minnesota mussels and waterways.

Our innovative approach combines natural science research on native mussels with a public engagement campaign grounded in social science research on behavior change. This interdisciplinary approach will enable us to have broad public participation in conservation behaviors to conserve and benefit native mussels and water quality across the state. We chose to focus this project on native mussels as native mussels serve as critical ecosystem engineers, creating habitat for fish and other aquatic wildlife and helping to keep Minnesota’s waterways clean. However, mussel populations in many of Minnesota’s waterways have been significantly depleted, in part, due to behaviors many general public may be unintentionally participating in. Examples of these actions may include not scooping pet waste (i.e., improper pet waste disposal) or using too much road or sidewalk salt in winter. By using a social science framework for fostering conservation behavior change, we will identify the specific behaviors the public can participate in that will have the greatest impact on water quality and mussel health. We will then develop a strategy to reduce any barriers, and enhance any perceived benefits the public has with regards to participating in that specific behavior. Once we have developed the public engagement strategy, we will implement, evaluate, and refine so that we have the greatest positive impact on water quality and mussel health across Minnesota. We are asking for $191,580 from ENRTF to complete the proposed project.

As a result of the proposed project, we will:

* Identify the specific conservation behaviors that would have the greatest benefit on native mussels and water quality in Minnesota.
* Implement strategies to encourage public participation in those conservation behaviors to benefit waterways and aquatic wildlife across Minnesota.

**II. PROJECT ACTIVITIES AND OUTCOMES**

**Activity 1 Title: Broad Public Behavior Change Strategy Research, Implementation and Refinement**

**Description:** Based on initial research at the Zoo, we are most interested in focusing the behavior change campaign on animal pet waste and winter road or sidewalk salt usage. These are two areas in Minnesota that have a large impact on water quality and mussel health. However, the actual behavior(s) selected will be determined from the data and initial selection in consultation with the contracted specialist. Once we have identified the behavior of interest we will then pilot strategies designed to encourage the public to change their behavior in order to positively impact water quality and native mussels. We will pilot, evaluate, and revise the strategy before a broad implementation of the strategy to the public. The Minnesota Zoo will contract an outside specialist to ensure that the public’s needs are addressed and the behavior change strategy and selection is grounded in social science research.

**ENRTF BUDGET: $183,510**

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| **Outcome** | **Completion Date** |
| 1. Specialist contracted and research completed.
 | April 2021 |
| 1. Most effective conservation behaviors identified.
 | Dec. 2021 |
| 1. Developed strategy for engaging the public in the conservation behavior(s).
 | Dec. 2021 |
| 1. Implementation, revision, and evaluation of the strategy.
 | May 2024 |
| 1. Final report on effectiveness and impact of the implemented strategies.
 | June 2024 |

**Activity 2 Title: Outreach to Visitors at Minnesota Zoo**

**Description:** Based on the results of Activity 1, we will design an interpretive display and signage that will be placed onsite at the Minnesota Zoo’s Mussel Conservation Cabin. Onsite interpretive displays and signage enable us to reach our more than 1.3 million annual visitors, and engage them in social-science supported actions they can take to positively affect mussels and water quality.

**ENRTF BUDGET: $8,070**

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| **Outcome** | **Completion Date** |
| 1. Content and design of display/signage completed. | Feb 2023 |
| 2. Installation of display/signage. | June 2023 |

**III. PROJECT PARTNERS:**

Dr. Emily Kalnicky will serve as project manager. Zoo Conservation, Interpretive, Life Support, Education, and Aquariums staff will provide expertise for this project. Depending upon the behaviors and strategies identified in Activity 1, we may identify and seek a variety of partners to assist in implementing the public engagement behavior change strategy. However, the Minnesota Zoo, and successful contractors under competitive bid, would be the sole recipient of funds under this proposal.

**IV. LONG-TERM- IMPLEMENTATION AND FUNDING:**

This project is part of a larger, long-term, multi‐partner effort to restore imperiled mussel populations in the Upper Midwest to historic levels and improve water quality. The specific project proposed in this application will contribute to these restoration efforts by focusing on actions the general public can take to support mussels and water quality across the state. We anticipate that the research and implementation conducted during this funding period will enable us to develop a foundation for an effective long-term campaign to encourage and sustain positive behaviors and public actions beneficial to native mussel conservation and water quality beyond the granting period. Having interpretive signs at the Zoo is one way we can ensure over 1 million individuals annually will be exposed to behavior change strategies resulting from this project in a sustainable way, requiring no additional resources beyond this grant. Interpretive signage has a lifespan of approximately 10 years at the Zoo. We also anticipate that Zoo staff will be able to maintain the strategy implementation across the state after the granting period for this project is complete. Depending upon the strategy identified, there may be additional costs for supplies (e.g. decals, signs, stickers) in order to continue to implement across the state. In this case, we will look for alternate, non-ENRTF sources/partners to offset any costs for continued long-term implementation.

**V. SEE ADDITIONAL PROPOSAL COMPONENTS:**

**A. Proposal Budget Spreadsheet**

**B. Visual Component or Map**

**C. Project Manager Qualifications and Organization Description**