



Environment and Natural Resources Trust Fund

2021 Request for Proposal

General Information

Proposal ID: 2021-147

Proposal Title: Driving Conservation Behavior for Mussels and Water Quality

Project Manager Information

Name: Emily Kalnicky

Organization: Minnesota Zoological Society

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Project Basic Information

Project Summary: The Minnesota Zoo will develop research-supported strategies to engage the public in specific conservation behaviors they can take in order to improve water quality and mussel health across the state.

Funds Requested: \$191,000

Proposed Project Completion: 2024-06-30

LCCMR Funding Category: Small Projects (H)

Secondary Category: Environmental Education (C)

Project Location

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

Statewide

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

Statewide

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.

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. 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.

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.

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. 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.

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?

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.

Please note that this is a resubmission from last Fiscal Year, which will be withdrawn if and when the project is approved by the legislature.

Activities and Milestones

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

Activity Budget: \$183,000

Activity 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.

Activity Milestones:

Description	Completion Date
Specialist contracted and research completed.	2022-04-30
Developed strategy for engaging the public in the conservation behavior(s).	2022-12-31
Most effective conservation behaviors identified.	2022-12-31
Implementation, revision, and evaluation of the strategy.	2024-05-31
Final report on effectiveness and impact of the implemented strategies.	2024-06-30

Activity 2: Outreach to Visitors at Minnesota Zoo

Activity Budget: \$8,000

Activity 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, and also available digitally to our visitors not able to come to the Zoo. Onsite interpretive displays and signage, along with digital engagement, 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.

Activity Milestones:

Description	Completion Date
Content and design of display/signage completed.	2024-02-28
Installation of display/signage.	2024-06-30

Project Partners and Collaborators

Name	Organization	Role	Receiving Funds
Conservation, Interpretive, Life Support, Educaiton, and Aquariums staff	Minnesota Zoo and beyoond	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.	No

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 project is part of an effort to restore imperiled mussel populations in the Upper Midwest to historic levels and improve water quality. This project focuses on actions the general public can take to support mussels and water quality across the state. We anticipate Zoo staff will maintain the strategy implementation after the granting period for this project is complete. Depending upon the strategy identified, there may be additional costs for supplies 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.

Project Manager and Organization Qualifications

Project Manager Name: Emily Kalnicky

Job Title: Evaluation and Research Specialist

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

Dr. Emily Kalnicky, Evaluation and Research Specialist at Minnesota Zoo and University of Minnesota Institute on the Environment (IonE) Fellow, will serve as project manager for the proposed work. Kalnicky’s lifelong career interest and passion for developing programming and research focused on connecting youth and adults to nature began more than 20 years ago as a volunteer at the Henry Vilas Zoo in her hometown of Madison, WI. She holds a doctorate in ecology from Utah State University, a master’s in natural resources and environmental sciences from the University of Illinois at Urbana-Champaign, and bachelor of science degrees in zoology, psychology and Spanish from the University of Wisconsin-Madison. Kalnicky is an ecologist with extensive experience using a social-ecological systems, environmental, and conservation psychology approach to better understand pressing environmental concerns including fostering environmentally responsible behavior, invasive species management, and species conservation. Kalnicky has spent her career in a variety of museum contexts directing education and research programs, including her current position at Minnesota Zoo where she oversees all social science research and evaluation efforts. Kalnicky is the recipient of numerous research grants, awards, and scholarships to support her work and she has published her work in a variety of peer-reviewed scientific journals. She is an experienced public speaker and has presented her research to a variety of scientific and non-scientific audiences.

For the proposed project, Kalnicky will serve as Project Manager, where she will oversee all project planning, development, and implementation. She will provide scientific guidance, manage the competitive bid professional service contract, manage budgets, prepare reports and prepare any resultant peer-reviewed publications.

Organization: Minnesota Zoological Society

Organization Description:

Established in 1978 to provide Minnesota residents and guests with an opportunity to experience animals from the exotic to the familiar in natural habitats, today the Zoo is one of the State's premier cultural, educational and conservation institutions.

The Minnesota Zoo's mission is to connect people, animals and the natural world to save wildlife. With 1.3 million guests a year, over 2.7 million website hits annually and state-wide outreach programs reaching thousands more, the Zoo is in an excellent position to strengthen Minnesotans' awareness and understanding of our State's commitment to wildlife, science and conservation. The Zoo is the State's largest environmental educator with more than 500,000 participants in Zoo education programs.

The Minnesota Zoo is also a leader in conservation – directing efforts and partnering with others on a variety of conservation programs at the Zoo, in Minnesota and across the globe. Advancing the science of wildlife conservation is an important part of the Zoo's work, as evidenced by the Zoo's research on wildlife behavior, ecology, genetics, disease, and conservation. The Zoo has a proven record of using its resources efficiently and effectively, matching the State's investment.

Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	\$ Amount
Personnel								
E. Kalnicky, Evaluation and Research Specialist		Project Manager and Social Science/Evaluation expert			33%	0.3		\$41,610
M. Mallinger, Conservation Engagement Specialist		Assist in conservation messaging and strategy development			33%	0.15	X	\$14,250
K. Quam, Graphic Designer		Assist in graphic design and brand standards for messaging			14%	0.04	X	\$4,140
							Sub Total	\$60,000
Contracts and Services								
TBD (Competitive bid)	Professional or Technical Service Contract	Contract with Community Based Social Marketing specialists (averaging \$35,000 / year x 3 years). Consultant selected through a competitive application process.				1.35		\$105,000
							Sub Total	\$105,000
Equipment, Tools, and Supplies								
	Tools and Supplies	Supplies for strategy implementation (e.g. decals, stickers, signs, etc)	Used in public engagement strategy implementation					\$20,000
	Tools and Supplies	Interpretive display/signage at Minnesota Zoo	Provide interpretation to the Minnesota Zoo community					\$6,000
							Sub Total	\$26,000
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								
							Sub Total	-
							Grand Total	\$191,000

Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request
Personnel - M. Mallinger, Conservation Engagement Specialist		Assist in conservation messaging and strategy development	Classified : The ENRTF funding will make it possible for these staff to work on this project for the percentage of time indicated in the budget. Without this funding they would not be able to support this project with their time. Further, the nature of the success of this project necessitates some level of expertise coming from the Zoo, which these staff will be instrumental in providing in order to have successful completion of the project. Responsibilities for the classified staff will be reprioritized and reallocated as necessary to support this project.
Personnel - K. Quam, Graphic Designer		Assist in graphic design and brand standards for messaging	Classified : The ENRTF funding will make it possible for these staff to work on this project for the percentage of time indicated in the budget. Without this funding they would not be able to support this project with their time. Further, the nature of the success of this project necessitates some level of expertise coming from the Zoo, which these staff will be instrumental in providing in order to have successful completion of the project. Responsibilities for the classified staff will be reprioritized and reallocated as necessary to support this project.

Non ENRTF Funds

Category	Specific Source	Use	Status	Amount
State				
			State Sub Total	-
Non-State				
Cash	General operating budget of the Minnesota Zoo to support approximately 15% of the indirect costs for the proposal.	Used to cover indirect costs for the proposal, estimated at 15% of the total proposal cost.	Pending	\$28,587
			Non State Sub Total	\$28,587
			Funds Total	\$28,587

Attachments

Required Attachments

Visual Component

File: [05afd83e-3a2.pdf](#)

Alternate Text for Visual Component

Five circles-arrows between, and text: select behaviors, uncover barriers & benefits, develop strategy, pilot strategy, implement broadly & evaluate. Four other circles-text goals plus pictures of healthy mussels, clean water.

Administrative Use

Does your project include restoration or acquisition of land rights?

No

Does your project have patent, royalties, or revenue potential?

No

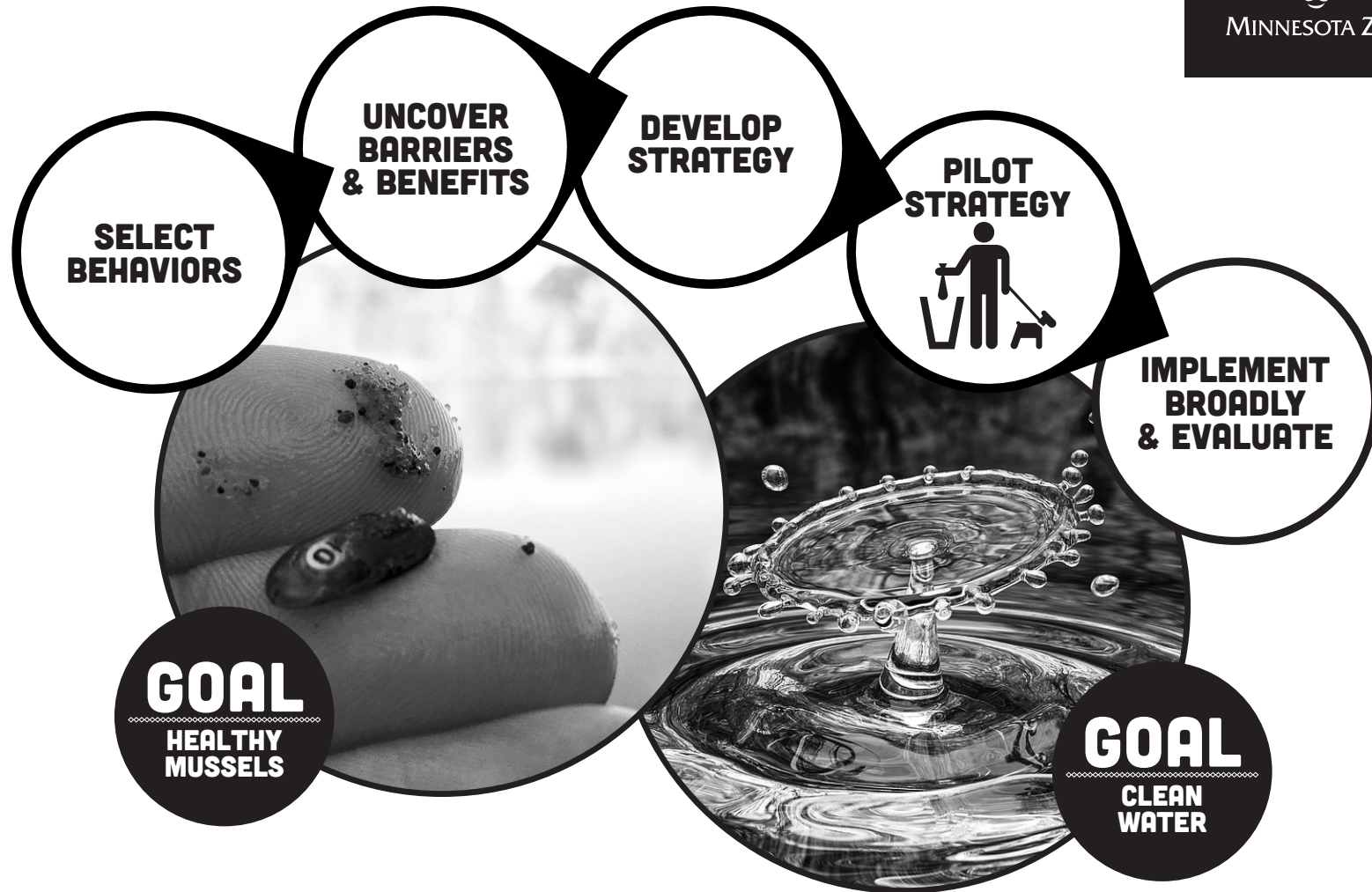
Does your project include research?

Yes

Does the organization have a fiscal agent for this project?

No

DRIVING CONSERVATION BEHAVIOR FOR MUSSELS AND WATER QUALITY



Minnesota Zoo will develop research-supported strategies to engage the public in specific conservation behaviors they can take in order to improve water quality and mussel health across the state.

