



Environment and Natural Resources Trust Fund

M.L. 2020 Approved Work Plan

General Information

ID Number: 2020-017

Staff Lead: Michael Varien

Date this document submitted to LCCMR: August 13, 2021

Project Title: Driving Conservation Behavior For Mussels And Water Quality

Project Budget: \$191,000

Project Manager Information

Name: Carol Strecker

Organization: Minnesota Zoological Society

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Project Reporting

Date Work Plan Approved by LCCMR: August 13, 2021

Reporting Schedule: April 1 / October 1 of each year.

Project Completion: June 30, 2024

Final Report Due Date: August 14, 2024

Legal Information

Legal Citation: M.L. 2021, First Special Session, Chp. 6, Art. 5, Sec. 2, Subd. 05i

Appropriation Language: \$191,000 the second year is from the trust fund to the Minnesota Zoological Garden to develop research-supported strategies to engage the public in specific conservation behaviors to improve water quality and native mussel health across the state.

Appropriation End Date: June 30, 2024

Narrative

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.

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.

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

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.	April 30, 2022
Most effective conservation behaviors identified.	December 31, 2022
Developed strategy for engaging the public in the conservation behavior(s).	December 31, 2022
Implementation, revision, and evaluation of the strategy.	May 31, 2024
Final report on effectiveness and impact of the implemented strategies.	June 30, 2024

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.	February 28, 2024
Installation of display/signage.	June 30, 2024

Project Partners and Collaborators

Name	Organization	Role	Receiving Funds
Conservation, Interpretive, Life Support, Education, and Aquariums staff	Minnesota Zoo and beyond	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

Dissemination

Describe your plans for dissemination, presentation, documentation, or sharing of data, results, samples, physical collections, and other products and how they will follow ENRTF Acknowledgement Requirements and Guidelines.

As a part of Activity 1 we will be developing a strategy for engaging the public in selected conservation behaviors. This strategy will include disseminating the information to the public in the research-supported most effective manner (e.g. social media, website, trainings, decals, etc). We will also share updates on the Minnesota Zoo's website (mnzoo.org) as relevant. We will update staff on the status of the project via internal newsletters and staff meeting presentations, as appropriate.

As a result of activity 2, we will be designing and installing an interpretive display and signage that will be placed onsite at the Minnesota Zoo. The lifespan of the sign is anticipated to be at least 10 years, allowing us to reach our more than 1.3 million annual visitors to engage them with this project.

As applicable, the project manager, Carol Strecker, or other Zoo staff, will present on the findings of this project at relevant meetings (such as the annual Association of Zoos and Aquariums conference) in order to share best practices with the broader field.

The Minnesota Environment and Natural Resources Trust Fund (ENRTF) will be acknowledged through use of the trust fund logo or attribution language on project print and electronic media, publications, signage, and other communications per the ENRTF Acknowledgement Guidelines.

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.

Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	\$ Amount
Personnel								
C. Strecker, Education, Events, and Experiences Manager		Project Manager			33%	0.27	X	\$38,550
M. Mallinger, Conservation Engagement Specialist		Assist in conservation messaging and strategy development			33%	0.12	X	\$11,450
K. Quam, Graphic Designer		Assist in graphic design and brand standards for messaging			14%	0.02	X	\$2,000
							Sub Total	\$52,000
Contracts and Services								
TBD (Competitive bid)	Professional or Technical Service Contract	Contract(s) with Community Based Social Marketing specialists (averaging \$37,000 / year x 3 years). 1-2 consultants selected through a competitive application process.				1.35		\$111,000
							Sub Total	\$111,000
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	Educate Minnesota Zoo guests about actions they can take to improve native mussel habitat and water quality					\$8,000
							Sub Total	\$28,000
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
<p>Personnel - C. Strecker, Education, Events, and Experiences Manager</p>		<p>Project Manager</p>	<p>Classified : This staff person has the necessary expertise required to successfully coordinate project activities and oversee the contractor duties and community engagement elements. ENRTF funding will make it possible for this individual to work on the project for the percentage of time reflected in the budget. Without this funding, they would be unable to support the project with their time. Responsibilities for classified staff will be reprioritized and reallocated as necessary to support the project.</p>
<p>Personnel - M. Mallinger, Conservation Engagement Specialist</p>		<p>Assist in conservation messaging and strategy development</p>	<p>Classified : The ENRTF funding will make it possible for this staff person 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 this 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.</p>
<p>Personnel - K. Quam, Graphic Designer</p>		<p>Assist in graphic design and brand standards for messaging</p>	<p>Classified : The ENRTF funding will make it possible for this staff person 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 requires a level of expertise of the Zoo's design and brand standards, which this staff possesses. Responsibilities for the classified staff will be reprioritized and reallocated as necessary to support this project.</p>

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....

Optional Attachments

Support Letter or Other

Title	File
Background Check Certification	a49dc62e-be8.pdf

Difference between Proposal and Work Plan

Describe changes from Proposal to Work Plan Stage

Changed end date to reflect current appropriation cycle. Adjusted budget slightly to reflect costs associated with COVID staffing changes and increases in hard costs for deliverables.

Additional Acknowledgements and Conditions:

The following are acknowledgements and conditions beyond those already included in the above workplan:

Do you understand and acknowledge the ENRTF repayment requirements if the use of capital equipment changes?

N/A

Do you agree travel expenses must follow the "Commissioner's Plan" promulgated by the Commissioner of Management of Budget or, for University of Minnesota projects, the University of Minnesota plan?

N/A

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

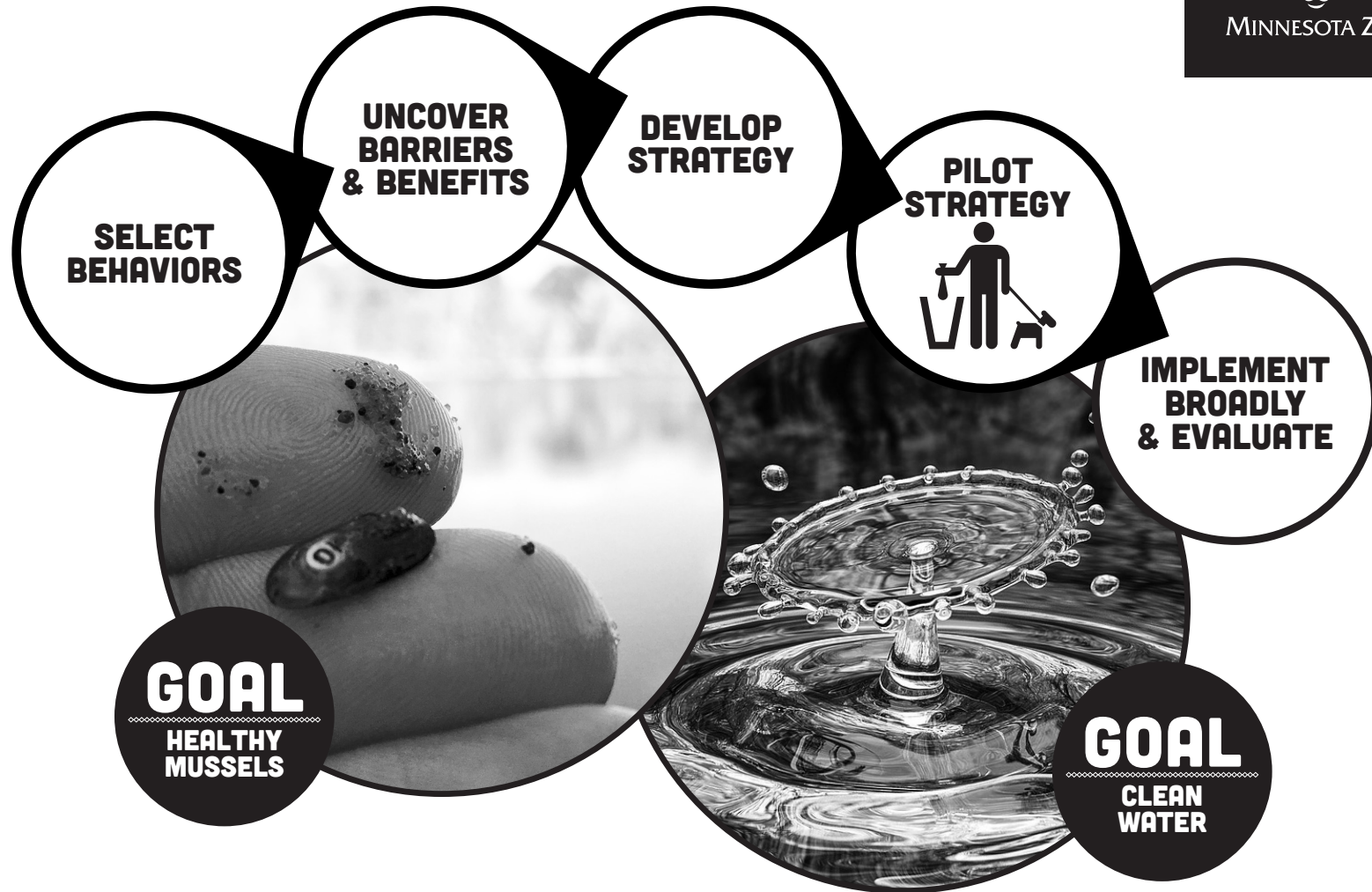
Does your project include original, hypothesis-driven research?

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.

