Environment and Natural Resources Trust Fund

M.L. 2023 Approved Work Plan

General Information

ID Number: 2023-167

Staff Lead: Mike Campana

Date this document submitted to LCCMR: June 5, 2023

Project Title: Reducing Biophobia & Fostering Environmental Stewardship in Underserved Schools

Project Budget: $180,000

Project Manager Information

Name: Victoria Hall

Organization: U of MN - Raptor Center

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Project Reporting

Date Work Plan Approved by LCCMR: June 22, 2023

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

Project Completion: June 30, 2025

Final Report Due Date: August 14, 2025

Legal Information

Legal Citation: M.L. 2023, Chp. 60, Art. 2, Sec. 2, Subd. 05d

Appropriation Language: $180,000 the first year is from the trust fund to the Board of Regents of the University of Minnesota for the Raptor Center to foster long-lasting environmental stewardship and literacy in Minnesota youth in underserved schools by providing engaging, multiunit, standards-based environmental programming featuring positive interactions with raptors and evaluating program effectiveness and areas for improvement.

Appropriation End Date: June 30, 2026

Narrative

Project Summary: The Raptor Center proposes to foster long-lasting environmental stewardship and literacy in Minnesota youth in underserved schools through providing engaging, multi-unit, standards-based environmental curriculum programming featuring positive interactions with raptors.

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

Students across Minnesota are faced with sometimes limited access to the environmental world and impactful educational nature programming. Limited engagement with the natural world can lead to a phenomenon known as biophobia (i.e., fear or aversion to nature). With environmental issues being among the most pressing challenges that society faces today, the reduced value for the environment resulting from biophobia is critical to address. As American youth are experiencing increased biophobia, we can reduce this via exposure to diverse and direct experiences with nature.

While environmental concepts are embedded in Minnesota science standards, not all schools have equal access to effective tools for providing engaging experiences that foster student commitment to conservation. TRC educators have been filling this gap by providing high quality education programming since 1974 and with ENRTF support are currently providing in-person opportunities for underserved schools during the 2022-2023 school year. However, single visits have limited impact, thus we propose to expand current efforts through implementing a series of curriculum-based experiences for students featuring units that build upon each other over multiple visits. The increased number of personal experiences with live raptors will combat biophobia and solidify students' positive associations with the natural environment.

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

To reach a diverse range of communities, TRC proposes to offer environmentally themed multi-unit educational programming to 80 underserved schools (totaling 240 programs) reaching over 2,000 students. Response to a current TRC/ENRTF grant project provided incredibly encouraging feedback from teachers and schools, but this grant involved single classroom visits. This current proposal leverages well-established school partnerships to provide students with repeated experiences with nature and exponentially amplify potential impact.

To maximize impact on students' attitudes towards the natural world and actively cultivate long-lasting pro-conservation attitudes; students participating in the programs will attend multiple presentations that progress over the school year. Educational programming will ignite curiosity and excitement both with live animals and with outdoor experiences to increase connections to and positive experiences with nature. Content will align with state standards regarding environmental and ecological topics. TRC will provide additional resources and environmental education activities that teachers can use for extension work before or after formal programming. A comprehensive evaluation of the programming will occur to analyze impacts on students and their learning.

Through this innovative combination of multiple experiences and extension outreach, we hope to effectively foster positive attitudes towards the natural world and combat biophobia in students.

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?

Programming from TRC will reach 80 qualifying underserved schools and over 2,000 Minnesota students over two years. Each student who goes through this programming will dive deeply into topics including ecology, ecosystems, and human environmental impacts. The progressive programming will help foster empathy and environmental stewardship in students and make positive connections with the environment. Ultimately, people protect what they understand and care about, and this programming is about fostering these values with the environment. Evaluation of learnings and

impact on students will be compiled to continually adjust our educational approach and be shared with the environmental education community.

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 and In the Future

Activities and Milestones

Activity 1: Deliver a series of three environmental education programs involving live animals and outdoor experiences to classrooms across Minnesota.

Activity Budget: $170,000

Activity Description:

The Raptor Center will work with 40 schools per year during the 2023-24 and 2024-25 school years (total 80 schools). Each school year during the project, 28 of the 40 schools will be from the seven-county Twin Cities area, while 12 of the 40 schools will be in greater Minnesota counties. TRC will utilize its database of school listings, as well as email advertisements, direct calling to districts and science educations, and in-person meetings to contact and identify interested schools with student populations of 40% or greater receiving free and reduced lunch. The series of three programs per school year will educate students in environmental science topics including, but not limited to, ecological concepts, ecosystems, and human impacts on the environment. Lessons and topics connect in theme and convey important narratives that would be difficult to convey in one in-person visit (e.g., interconnectedness of human, animal, and environmental health; conservation; environmental pressures). Participating schools will get access to other lessons and classroom activities via a newly adapted web platform that teachers can use to provide extension work prior to or after education programming

Activity Milestones:

Description	Approximate Completion Date
Curate online educational materials into a new web-based resource of extension activities for teachers	December 31, 2023
2023-2024 School Year: deliver 120 education programs to 40 schools (both urban and rural)	June 30, 2024
2024-2025 School Year: deliver 120 education programs to 40 additional schools (both urban and rural)	June 30, 2025

Activity 2: Program Evaluation

Activity Budget: $10,000

Activity Description:

As this is a rapidly evolving topic, best practices are still being formed. We will strongly utilize program evaluation and already established literature to guide this program delivery. First, evaluation consultants will conduct an extensive literature review on biophobia and the development of environmental empathy in students and how to measure the impact of educational programming on reducing biophobia. They will then use the results to develop instruments to measure the program's impact on students and on TRC each year. These evaluations with collect qualitative data from student participants to determine the programs effectiveness and areas for further improvement and results will be shared in a final report.

Activity Milestones:

Description	Approximate Completion Date
Literature review on biophobia reducing/empathy building education techniques and develop evaluation tools for project	December 31, 2023
Complete a comprehensive evaluation of grant-based programming	April 30, 2025
Complete and share final evaluation report	June 30, 2025

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.
The conclusion and results of the evaluation of this program will be shared in separate presentations for TRC's staff and 300+ volunteers. We will also schedule a public presentation with the University of Minnesota's community STEM program for students and their families in the Twin Cities Metro area. The results of our grant will be utilized to further innovate our environmental education efforts, provide data/citation for future educational grants, and create a platform for more sustainable local partnerships in the community.

As the program progresses through the 2023 and 2024 academic school year we will be regularly documenting our progress to our 40,000 followers across multiple social media platforms.These updates will assist with marketing this opportunity to schools that wish to partake in the program and raise community awareness of ENRTF's role in funding this program.

All of our dissemination efforts will attribute the Environmental and Natural Resources Trust Fund through language as instructed in 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 work be funded?
During this grant, we will leverage previously established relationships with schools to deliver a curiosity-igniting educational program series that we previously could not deliver due to funding issues. Throughout these programs, we will create and validate innovative evaluation tools that measure the impact of environmental education programming on reducing biophobia and connecting students to nature and curriculum topics. We will share our science-based tools with the environmental education community through professional organizational written communications and meetings/conferences. The demonstrated impact that biophobia-reducing programming has on creating the next generation of environmental stewards will allow us to approach other funding organizations.

Other ENRTF Appropriations Awarded in the Last Six Years

Name	Appropriation	Amount Awarded
Expanding Access To Environmental Education For Underserved Communities	M.L. 2021, First Special Session, Chp. 6, Art. 6, Sec. 2, Subd. 05g	$178,000

Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	$ Amount
Personnel								
Project manager		Project oversight, coordination, reporting			33.5%	0.1		$19,030
Project and partner coordinator		Educational program content and adaptation for classes; program evaluation; teacher/school communications			33.5%	0.2		$15,498
Interpretive naturalist/educator		Classroom programs - scheduling, delivery and follow-through work with teachers and students			28.7%	2		$107,978
							Sub Total	**$142,506**
Contracts and Services								
Evaluation Studies Program Consultant	Professional or Technical Service Contract	Development and implementation of program evaluation				0.1		$10,000
							Sub Total	**$10,000**
Equipment, Tools, and Supplies								
	Tools and Supplies	Animal food	Raptor food for live bird programming for out-state visits to schools					$1,440
							Sub Total	**$1,440**
Capital Expenditures								
							Sub Total	-
Acquisitions and Stewardship								
-							Sub Total	-
Travel In Minnesota								
	Miles/ Meals/ Lodging	Mileage: Traveling to 80 schools, three times each (total of 240 trips), to deliver education	Travel mileage to schools to deliver education programs					$19,628

		programming. Estimated at 33,840 miles of overall travel at $0.58/mile							
	Miles/ Meals/ Lodging	Per diem and hotels: Hotels and meals for overnight trips to greater Minnesota areas (approximately 36 overnight trips will be needed)	Per diem and hotels so we can do trips to the greater Minnesota areas that (due to distance) require an overnight stay						$6,426
								Sub Total	$26,054
Travel Outside Minnesota									
-								Sub Total	-
Printing and Publication									
-								Sub Total	-
Other Expenses									
-								Sub Total	-
								Grand Total	**$180,000**

Classified Staff or Generally Ineligible Expenses

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

Non ENRTF Funds

Category	Specific Source	Use	Status	$ Amount
State				
-			**State Sub Total**	-
Non-State				
In-Kind	Waived facilities and administrative costs	The University of Minnesota is waiving the income normally generated from extramural research grants that contribute Facilities and Administrative (F&A). The current full rate is 35% of direct costs.	Pending	$62,967
			Non State Sub Total	**$62,967**
			Funds Total	**$62,967**

Attachments

Required Attachments

Visual Component

File: [724b95e1-3fd.pdf](724b95e1-3fd.pdf)

Alternate Text for Visual Component

Graphics show K-12 students learning STEM concepts in natural and classroom settings and getting excited by live ambassador birds including a bald eagle and a small eastern screech owl. It also includes an image of innovative digital content for extension lessons being gathered real time via an iPad....

Optional Attachments

Support Letter, Photos, Media, Other

Title	File
Cover Letter from SPA	[4df7ecd4-6ca.pdf](4df7ecd4-6ca.pdf)
Financial Audit	[48a94aff-9c0.pdf](48a94aff-9c0.pdf)
Background Check Form	[cfa29073-ef4.pdf](cfa29073-ef4.pdf)

Difference between Proposal and Work Plan

Describe changes from Proposal to Work Plan Stage

Made edits as requested in comments under activities, milestones, and dissemination. Added background check document to attachments.

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?
Yes, I agree to the UMN Policy.

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?
Yes, Sponsored Projects Administration