



Environment and Natural Resources Trust Fund

2027 Request for Proposal

General Information

Proposal ID: 2027-382

Proposal Title: Culturally-Sustaining Environmental Education Phase 2

Project Manager Information

Name: Katie Johnston-Goodstar

Organization: U of MN - College of Education and Human Development

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Project Basic Information

Project Summary: Support educators to address Minnesota science standards with professional development integrating western science and Indigenous knowledge. Extend workshops to enhance environmental education initiatives and address parallel gap in outdoor recreation.

ENRTF Funds Requested: \$868,000

Proposed Project Completion: June 30, 2030

LCCMR Funding Category: Education and Outdoor Recreation (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 and In the Future

Narrative

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

The outdoors are a central part of Minnesotan culture and identity. Protecting Minnesota's lands and waters requires commitment from Minnesotans to examine the fundamental relationship between humans and our environment. Minnesota tribes have a long history of environmental stewardship, yet much of the science education that informs Minnesota's approach omits Indigenous knowledge. Recent changes in MN Academic Standards in Science include benchmarks related to teaching inclusive of Indigenous knowledge. While this represents a significant step forward, few educators have been prepared to instruct their students on these topics. Most have no formal training on Indigenous science philosophy, content, or methods, which makes instruction on the convergence of Indigenous science and Western science a challenge. A parallel gap and barriers exist in knowledge building and natural-resource-based outdoor recreation for Indigenous communities, particularly those living off-reservation in urban locales. To create an environmentally literate society that is equipped to protect Minnesota's environment, we must create and implement culturally supportive educational resources and enhance and provide engagement opportunities that help Minnesotans make informed choices about sustainable natural resource management and ensure that public lands and waters are accessible to all.

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.

We provide a unique approach to the existing needs for teacher professional development (PD) and can bridge this expertise and network to enhance environmental education initiatives and address social barriers to natural-resource-based outdoor recreation. For the past 3 years, we have been providing professional development through a model that unites multidisciplinary scientists and Indigenous knowledge holders with teachers to promote environmental literacy and intercultural understanding. We have served over 100 educators who have in turn, extended this knowledge to thousands of students. We propose to scale our efforts to provide ongoing place-based, professional development opportunities. We will provide teachers with in-person PD workshops and virtual professional learning communities (PLC) on Indigenous science content and methods and support them to integrate learning into their classrooms. These efforts will ensure our teacher workforce is prepared to effectively meet new standards and create resources for science learning that highlight Indigenous scientific knowledge. We additionally propose to extend this partnership to benefit our state by enhancing public environmental education initiatives with Indigenous knowledges and address the social and economic barriers to outdoor recreation for Indigenous youth and families, particularly urban Indian communities.

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?

Achieving sustainable stewardship of Minnesota resources requires committed community action and a strong environmental ethos. This proposal will facilitate this through educator workshops that highlight Indigenous perspectives on the environment and improved education and access for all. We expect this project will directly engage ~240 educators resulting in learning experiences for 12,000 Minnesota youth over the three-year project. It will further extend this knowledge and opportunity to develop site-based partnerships across the state for enhanced environmental education and outdoor recreation via public-facing, crossover workshops creating a cascading effect of building public environmental literacy and ongoing dialogue on environmental sustainability.

Activities and Milestones

Activity 1: Sustaining and expanding scale of professional development workshops

Activity Budget: \$555,000

Activity Description:

We will support the co-design and delivery of eight seasonally-specific workshops that connect participants with Indigenous scientific knowledge and environmental stewardship practices. Our multidisciplinary team of Indigenous knowledge holders, scientists and environmental educators will work collaboratively to identify topics, locations and pedagogies that document traditional ecological knowledge and bridge scientific paradigms to highlight wisdom that can be integrated in Minnesota classrooms. Programming will follow seasonal cycles, allowing participants to experience ecological knowledge as it is traditionally practiced. Workshop topics may include an exploration of a traditional aquatic species like wild rice (psincinca etc), science of sugarbush, cultural use of fire as a land management practice, ethnobotanical knowledge and medicinal foraging or teachings about clan relatives and habitat stewardship. Each workshop will integrate cultural knowledge with ecological science concepts and highlight sustainable natural resource management. These experiences will provide educators with hands-on learning opportunities that deepen their understanding of Indigenous environmental knowledge and stewardship and strengthen their connections to place. By engaging participants in hands-on culturally rooted outdoor learning, this activity prepares educators to teach from a diversity of perspectives and to a diversity of students and promotes environmental literacy that contributes to the protection and conservation of Minnesota's natural resources.

Activity Milestones:

Description	Approximate Completion Date
Co-development of first 4 professional development workshops with community consultants	January 31, 2028
Delivery of first 4 professional development workshops with community consultants	December 31, 2028
Co-development of last 4 professional development workshops with community consultants	January 31, 2029
Delivery of last 4 professional development workshops with community consultants	December 31, 2029

Activity 2: Sustaining Statewide Professional Learning Communities

Activity Budget: \$222,000

Activity Description:

We will cultivate an online professional learning community (PLC) to support educators to integrate Indigenous knowledge and environmental stewardship concepts into their teaching practice. The PLC will convene monthly virtual sessions that create an ongoing space for educators to deepen their knowledge, share experiences, and receive guidance as they integrate their learning into the classroom. Participation will be prioritized for teachers who have attend in-person workshops and open to additional educators seeking support in meeting new state science standards that include Indigenous knowledge perspectives.

PLC sessions will be a combination of structured book club discussions (quarterly), guest presentations from Indigenous knowledge holders and environmental scientists and collaborative curricular consultation (~6 per year). Book club discussions will focus on texts that explore Indigenous science, environmental stewardship, and culturally responsive teaching. Guest speakers will provide perspectives on topics such as traditional ecological knowledge, water stewardship, land management practices, and the relationship between cultural traditions and environmental sustainability. Educators will also receive dedicated time for curricular consultation, allowing them to receive feedback and support as they adapt lesson plans, develop place-based learning activities, and integrate workshop concepts into their classrooms.

Activity Milestones:

Description	Approximate Completion Date
Recruit 1st educator cohort of 80 educators	September 30, 2027
Complete all PLC sessions for first educator cohort	June 30, 2028
Recruit 2nd cohort of 80 educators	September 30, 2028
Complete all PLC sessions for second cohort of educators	June 30, 2029
Recruitment of third cohort of 80 educators	September 30, 2029
Complete all PLC session for the third cohort of educators	June 30, 2030

Activity 3: Expanding culturally-sustaining environmental initiatives for youth and communities**Activity Budget:** \$91,000**Activity Description:**

This activity will focus on enhancing public environmental education initiatives with Indigenous knowledges while simultaneously addressing the social and economic barriers to outdoor recreation for Indigenous youth and families, particularly urban Indian communities. Seeding our model of culturally-sustaining professional development beyond the classroom and into a particular “place”, we propose to develop a site-specific initiative (i.e. with a nature center, local history center etc) to replicate our workshops for public, non-educator audiences with a two-fold goal of: 1) promoting intercultural environmental education and 2) supporting culturally relevant outdoor recreation for urban Indian youth and families. We propose to replicate eight workshops, four for a public facing intercultural audience and four specifically for urban Indian youth and families serving ~240 community members. Existing collaborations with urban Indian organizations and Indian Education departments will ensure reach and recruitment. To ensure site-based cultural specificity and curricular sustainability, this activity will include an additional co-design phase that aims to gather histories, assess floral and fauna and related scientific knowledge specific to the site.

Activity Milestones:

Description	Approximate Completion Date
Complete place-based land and water survey to assess for current and precolonial flora/fauna	June 30, 2028
Co-develop report documenting tribal histories of place and identifying potential sources of traditional ecological knowledge.	July 31, 2028
Delivery of 4 community learning experiences	December 31, 2028
Delivery of 4 additional community learning experiences	December 31, 2029

Project Partners and Collaborators

Name	Organization	Role	Receiving Funds
Seth Thompson	Freshwater Society	Expertise in teacher professional development and environmental science education. Will support teacher recruitment and PLC administration.	Yes
Alyssa Fabia	Freshwater Society	Expertise in cross-cultural learning experience and community embedded research models. Will support community relationship building and workshop development.	Yes
Hillary Barron	Bemidji State University	Expertise in culturally responsive science pedagogy and educator professional development. Will consult on the development of learning experiences and programming that integrates western science and Indigenous science epistemologies.	Yes

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.

Dissemination of results of this work across a variety of academic and community settings is vital to its success. The project team will participate in formal presentations of the work at relevant national and international conference on environmental education (such as the Ecological Society of America, National Association for Research in Science Teaching, and the Advancing Indigenous Science and Engineering Society. We also anticipate presentations at relevant conferences within Minnesota such as the Minnesota Science Teachers Association annual meeting. All project activities and outcomes will also be disseminated publicly through Freshwater's Culturally Sustaining Environmental Education initiative page.

To further project dissemination to broad audiences, we will provide project updates to educator partners for dissemination across their networks as well as participate in relevant community events for project dissemination (such as table and community activities). Dissemination products will include academic materials and reports and well as community co-developed products such as art pieces and student project work.

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?

With this support, we will scale up our model of educator development across the state. Phase I work demonstrated strong demand throughout the state and we will pursue financial sustainability through state and federal grants and work with local foundation partners. Data collected on our partnership model, workshop topics and culturally-sustaining pedagogies supports the development of research questions and we anticipate building possibilities with the proposal such as future application to the NSF Discovery PreK-12 program. Teacher toolkits, workshop materials and classroom curriculum will be made freely available online to increase dissemination and impact.

Other ENRTF Appropriations Awarded in the Last Six Years

Name	Appropriation	Amount Awarded
Supporting Minnesota Teachers to Implement Culturally Sustaining Environmental Education	M.L. 2024, , Chp. 83, Art. , Sec. 2, Subd. 05c	\$295,000

Project Manager and Organization Qualifications

Project Manager Name: Katie Johnston-Goodstar

Job Title: Associate Professor

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

Katie Johnston-Goodstar is Associate Professor in the School of Social Work at the University of Minnesota. Drawing on Indigenous, decolonial and social justice frameworks, she collaborates with youth and community to engage social justice issues and build community wellness.

Her most recent research projects include:

An Indigenous youth participatory action research (YPAR) project to transform public schooling

A collective recovery of traditional ecological knowledge and lifeways to revitalize community wellness

A YPAR project to disrupt sexual exploitation

An implementation science project exploring indigenized healthy eating and physical activity for youth to reduce health disparities

Organization: U of MN - College of Education and Human Development

Organization Description:

The College of Education and Human Development college makes a real difference in people's lives. We are driven by a sustained belief in the value of each child, each person, as an individual with unique talents and challenges; an understanding that research and collaboration with community professionals will lead to solutions that will improve lives; and a dedication to preparing educational and human service professionals to carry the values and knowledge discovered here into the world to make it a better place.

Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	\$ Amount
Personnel								
Academic Faculty - Dr. Katie Johnston-Goodstar		Project lead and principle investigator. Provides expertise in youth participatory action research models and Indigenous youth work. Will oversee the completion of the budget, manage subcontractors, and ensure timely complete of project milestones. Salary will support one course buy out per semester for Dr. Johnston-Goodstar			37%	0.3		\$141,000
							Sub Total	\$141,000
Contracts and Services								
Community Workshop Consultant - To Be Named	Service Contract	Service contract for a community collaborator to co-develop a place-based teacher workshop in an Indigenous Science topic of their expertise.				0.2		\$20,000
Freshwater Society	Subaward	Freshwater Society will provide support for Professional Learning Community design and implementation, as well as expertise in water-themed teachings. Subaward provides salary for Thompson, Fabia, and local travel within Minnesota for attendance at the educator workshop and land-based learning experiences, and travel for dissemination at a national conference.				2.25		\$300,000
Community Workshop Consultant - To Be Named	Service Contract	Service contract for a community collaborator to co-develop a place-based teacher workshop in an Indigenous Science topic of their expertise.				0.2		\$20,000
Community Workshop Consultant - To Be Named	Service Contract	Service contract for a community collaborator to co-develop a place-based teacher workshop in an Indigenous Science topic of their expertise.				0.2		\$20,000

Community Workshop Consultant - To Be Named	Service Contract	Service contract for a community collaborator to co-develop a place-based teacher workshop in an Indigenous Science topic of their expertise.				0.2		\$20,000
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Community Workshop Consultant - To Be Named	Service Contract	Service contract for a community collaborator to co-develop a place-based teacher workshop in an Indigenous Science topic of their expertise.				0.2		\$20,000
Dr. Hillary Barron	Service Contract	Dr. Barron provides expertise in Indigenous Science and culturally responsive teaching methods and will serve as a project consultant on the development or the PLCs and educator workshops				0.24		\$45,000
Community consultant-to be named	Service Contract	Will provide expertise for place-based development of traditional ecological knowledge report and development and implementation of culturally relevant learning and recreation experiences in Activity 3				0.4		\$40,000
							Sub Total	\$545,000
Equipment, Tools, and Supplies								
	Tools and Supplies	Educational materials for educators to implement their Indigenous science learning with their students.	As part of participating in the professional development series, educators will be expected to translate					\$24,000

			their learning into a their teaching. We budget \$100 per teacher to support this implementation.					
	Tools and Supplies	Educator Workshop Materials such as consumable supplies, printed materials, etc.	Materials required for instruction during 8 proposed workshops, we budget \$500 per workshop.					\$4,000
							Sub Total	\$28,000
Capital Equipment								
							Sub Total	-
Acquisitions and Stewardship								
							Sub Total	-
Travel In Minnesota								
	Miles/ Meals/ Lodging	6 trips per year to attend educator workshops and support land-based learning experiences. Each trip includes \$200 in mileage, \$50 for meals and incidentals, and \$250 for overnight lodging.	PI or designated project staff will travel to support and provide instruction at teacher workshops and land-based learning experiences each year.					\$18,000
							Sub Total	\$18,000
Travel Outside Minnesota								
	Conference Registration Miles/ Meals/ Lodging	Support for Project Manager to disseminate project findings at one national conference per year in years 2 and 3. Estimated cost is \$750 air fare, \$500 conference registration, \$750 lodging, \$350 per diem, and \$150 ground transportation).	This will support project findings dissemination at national conferences where the Project Manager will present findings to relevant research audiences.	X				\$5,000
							Sub Total	\$5,000
Printing and Publication								
	Printing	Flyer printing	Printed materials for advertising and program recruitment					\$1,000
							Sub Total	\$1,000

Other Expenses								
		We budget for providing light breakfast and a full lunch for all workshops for 20 participating teachers at each workshop + 5 instructors. Estimating \$30 in total per participant we budget \$750 per workshop.	Providing food for workshop participants	X				\$6,000
		PLC Participation Stipends - \$200 per teacher to participate in PLCs for 240 total participants.	Incentive payments to ensure teachers complete all PLC activities					\$48,000
		We budget for providing a light breakfast and a full lunch for place-based activity participants. We anticipate that community events will draw ~50 attendees for each of the 8 events. Estimating \$30 in total per participant results in a budget of \$1,500 per learning event.	We will provide food for community gathering as is culturally appropriate and participants are attending in a rural location	X				\$12,000
		Participant Reimbursement for teacher participants at each workshop. Travel to 4 workshops per year for 20 teacher participants at each workshop. We estimate on average, \$100 in mileage, \$25 for meals and incidentals, and \$200 for overnight lodging.	To ensure that teachers can participate in programming without incurring personal costs.					\$52,000
		Hire a charter bus or school bus service for travel from the Twin Cities community to the identified outdoor education site for 8 events in Activity 3.	To attend to economic barriers to outdoor recreation among low-income urban Indian youth and families					\$12,000
							Sub Total	\$130,000
							Grand Total	\$868,000

Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request
Travel Outside Minnesota	Conference Registration Miles/Meals/Lodging	Support for Project Manager to disseminate project findings at one national conference per year in years 2 and 3. Estimated cost is \$750 air fare, \$500 conference registration, \$750 lodging, \$350 per diem, and \$150 ground transportation).	Specifically supports presentations at relevant national conferences.
Other Expenses		We budget for providing light breakfast and a full lunch for all workshops for 20 participating teachers at each workshop + 5 instructors. Estimating \$30 in total per participant we budget \$750 per workshop.	To ensure robust participation in educator workshops, we will provide meals for participants during their attendance at the workshop.
Other Expenses		We budget for providing a light breakfast and a full lunch for place-based activity participants. We anticipate that community events will draw ~50 attendees for each of the 8 events. Estimating \$30 in total per participant results in a budget of \$1,500 per learning event.	We will provide food for community gathering as is culturally appropriate and participants are attending in a rural location

Non ENRTF Funds

Category	Specific Source	Use	Status	Amount
State				
			State Sub Total	-
Non-State				
			Non State Sub Total	-
			Funds Total	-

Total Project Cost: \$868,000

This amount accurately reflects total project cost?

Yes

Attachments

Required Attachments

Visual Component

File: [6af0259e-cd3.pdf](#)

Alternate Text for Visual Component

Attached is a sample promotion for a Phase 1 Teacher Professional Development event. Phase 2 plans to extend these offerings for additional teachers statewide as they work to integrate new science standards in their classrooms....

Supplemental Attachments

Capital Project Questionnaire, Budget Supplements, Support Letter, Photos, Media, Other

Title	File
UMN SPA Authorization to Submit Letter	81babb79-3ef.pdf

Administrative Use

Does your project include restoration or acquisition of land rights?

No

Do you understand that travel expenses are only approved if they 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 understand the UMN Policy on travel applies.

Does your project have potential for royalties, copyrights, patents, sale of products and assets, or revenue generation?

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?

No

Does your project include the pre-design, design, construction, or renovation of a building, trail, campground, or other fixed capital asset costing \$10,000 or more or large-scale stream or wetland restoration?

No

Do you propose using an appropriation from the Environment and Natural Resources Trust Fund to conduct a project that provides children's services (as defined in Minnesota Statutes section 299C.61 Subd.7 as "the provision of care, treatment, education, training, instruction, or recreation to children")?

Yes

Do you certify that background checks are performed for background check crimes, as defined in Minnesota Statutes, section 299C.61, Subd. 2, on all employees, contractors, and volunteers who have or may have access to a child to whom children's services are provided by your organization?

Yes

Provide the name(s) and organization(s) of additional individuals assisting in the completion of this proposal:

Katie Johnston-Goodstar, University of Minnesota

Do you understand that a named service contract does not constitute a funder-designated subrecipient or approval of a sole-source contract? In other words, a service contract entity is only approved if it has been selected according to the contracting rules identified in state law and policy for organizations that receive ENRTF funds through direct appropriations, or in the DNR's reimbursement manual for non-state organizations. These rules may include competitive bidding and prevailing wage requirements

Yes, I understand