

**Environment and Natural Resources Trust Fund
2016 Request for Proposals (RFP)**

Project Title:

ENRTF ID: 097-C

Outdoor Learning Engages Youth: A Model Collaborative

Category: C. Environmental Education

Total Project Budget: \$ 442,218

Proposed Project Time Period for the Funding Requested: 3 years, July 2016 to June 2019

Summary:

Improve youth environmental literacy, academic achievement, connection to place, and stewardship of our treasured natural resources in the Lake Superior basin through a model collaborative of strong community partners.

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Sponsoring Organization: U of MN

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Location

Region: NE

County Name: St. Louis

City / Township: Duluth

Alternate Text for Visual:

Visual of tree: Partners are roots, interns/volunteers are tree trunk and outreach, youth are fruit and next generation of natural resource stewards.

_____ Funding Priorities	_____ Multiple Benefits	_____ Outcomes	_____ Knowledge Base
_____ Extent of Impact	_____ Innovation	_____ Scientific/Tech Basis	_____ Urgency
_____ Capacity Readiness	_____ Leverage	_____ TOTAL	_____ %



PROJECT TITLE: Outdoor Learning Engages Youth: A Model Collaborative

I. PROJECT STATEMENT

This project will integrate environmental education into Duluth schools to improve youth environmental literacy, connection to place, and stewardship of our treasured natural resources in the Lake Superior basin. There is a growing disconnect between the natural resources we depend on daily and the ecological systems that support them. Additionally, local organizations working to foster connections to natural resources lack the human/financial capital to meet the demand for at-school environmental education integration voiced as a need by the Duluth schools, after school programs, and youth service providers. The funds from this program present an opportunity to unite currently separate environmental education, citizen science, and outdoor recreation initiatives into one momentous youth outreach effort. This pilot model collaborative could be replicated in other Minnesota communities. Funding will:

- Support the implementation of a comprehensive plan to engage Duluth K-12 students (est. 8,100 youth) in at least three outdoor field experiences annually that directly connect to district curriculum goals/state academic standards. Outdoor field experiences will be supplemented by in class activities and digital interactive learning programs. Below is an example of the quality and depth of experience our partners could provide with more than 70 collective years of experience in the field.

High school students would investigate carbon sequestration in their school forest through the following; in class activities/video conference with climatologist to introduce global carbon cycle and then local forest carbon cycle; field experience in school forest to set up 1/10 acre forest plots to measure size, tree species, soil texture; data used with Carbon Online Estimator to calculate carbon in plots; extrapolate to total school forest carbon with GPS and online mapping software with aerial imagery; field trip to 18,000 acre Boulder Lake Management Area to explore different sustainable forest management techniques by cross-country ski or snowshoe; conclude with students producing forest management recommendations for school forest to maximize carbon sequestration while balancing soil and water conservation, recreation, aesthetics, biodiversity, economics, future forest health, etc.

- Organize and train outreach team to deliver outdoor field programs, in class activities and digital interactive learning programs. This outreach team will include project coordinator and 6 interns hired with funds from this proposal, current and pre-service teachers, and Minnesota Master Naturalist Volunteers with ongoing support from project partners.

II. PROJECT ACTIVITIES AND OUTCOMES

Activity 1: Provide ultimate outdoor education training to prepare outreach team, teachers, and MN Master Naturalist Volunteers to implement integration of environmental education in Duluth schools, after school programs, and youth service organizations.

Budget: \$ 61,448

Outreach team will consist of project coordinator and 6 interns (hired with ENRTF funds), teachers, and MN Master Naturalist Volunteers trained and supported by project partners.

Outcome	Completion Date
1. Hire project coordinator and 6 interns and coordinate ultimate 3 month training involving all project partners that will empower outreach team to deliver 3 environmental education activities to every grade level Kindergarten through 12 th grade, after school programs, and youth service organizations.	May 2017
2. Deliver intensive 3 month training for project coordinator and 6 interns with components of training available to teachers and MN Master Naturalist Volunteers	August 2017



Activity 2: Integrate environmental education in school, after school programs, and youth service organizations to improve youth environmental literacy, connection to place, and stewardship of our treasured natural resources in the Lake Superior basin. Outreach team and project partners ultimately engage 8,100 K-12 students annually through integration into Duluth school curriculum, after school programs, and youth services organizations.

Budget: \$380,770

Outcome	Completion Date
1. Engage Duluth K-12 students in at least three outdoor field experiences (2 experiences within walking distance of school and 1 off-site field trip experience) supplemented by additional in class lessons and interactive technology outreach (8,100 students annually)	June 2018, June 2019
2. 3 outdoor recreation activities provided annually at Duluth after school programs (additional experiences for 2,000 students annually)	June 2018, June 2019
3. 3 outdoor recreation experiences provided annually at Duluth Youth Services programs (additional experiences for 1,000 students annually)	June 2018, June 2019

III. PROJECT STRATEGY

A. Project Team/Partners

Project Coordination- project organization, implementation

University of Minnesota Duluth – College of Education and Human Service Professions

Project Leader - John Geissler (Boulder Lake Environmental Learning Center) – ENRTF and in-kind funds

Project coordinator - to be hired - ENRTF funds

Project Partners –outreach team training and ongoing implementation support

Great Lakes Aquarium – ENRTF funds - Project Contact: Sarah Erickson

Hartley Nature Center – ENRTF funds - Project Contact: Tom O’Rourke

Hawk Ridge Bird Observatory – ENRTF funds - Project Contact: Janelle Long

UMD Recreation Sports Outdoor Program – ENRTF funds - Project Contact: Tim Bates

UMD Natural Resources Research Institute – ENRTF funds – Project Contact: Ryan Hueffmeier

Duluth Independent School District 709 –in-kind funds – Project Contact: Aaron Samela

Outreach Team – implement environmental education

6 post graduate interns with experience in Environmental and Outdoor Education (tremendous pool of candidates from University of Minnesota Duluth graduate and undergraduate programs) ENRTF funds

Minnesota Master Naturalist Volunteers – in-kind funds

B. Project Impact and Long-Term Strategy

We will enhance achievement in grades K-12 by combining outdoor “classrooms” with interdisciplinary activities. Students will develop skills necessary for making informed decisions about the natural resources, create connections to the natural world, and think critically about their personal roles in the environment. This program will teach the next generation to appreciate the watersheds in which they live, become active in the outdoors and stewards of land and water. Recreational activities are included to encourage connections to the outdoors beyond the classroom. The project will reach 8,100 youth annually (two years), provide state-of-the-art professional development for over 160 K-12 teachers/project coordinator/6 interns, and initiate positive ripple effects throughout the watershed. This project will be sustained into the future through empowered teachers rich with resources and new community connections, two years of experience implementing curriculum and the ongoing support of Minnesota Master Naturalist Volunteers. This model collaborative could serve as a template to benefit other Minnesota communities.

C. Timeline Requirements: 3 years

2016 Detailed Project Budget

Project Title: *Outdoor Learning Engages Youth: A Model Collaborative*

IV. TOTAL ENRTF REQUEST BUDGET 3 years

<u>BUDGET ITEM</u>	<u>AMOUNT</u>
Personnel:	
Project Lead, J. Geissler (74.7% salary, 25.3% fringe); 15% FTE, 3 yrs	\$ 27,046
Project Coordinator - Education Program Associate 2(79.2% salary, 20.8% fringe); 100% FTE, 3 yrs	\$ 129,172
Contracts:	
Great Lakes Aquarium; EE integration support (\$7.5K/yr for yrs 2-3), and hire 2 full-time outreach team interns (\$25K/yr, 100% FTE, yrs 2-3)	\$ 65,000
Hartley Nature Center; EE integration support (\$7.5K/yr for yrs 2-3), and hire 2 full-time outreach team interns (\$25K/yr, 100% FTE, yrs 2-3)	\$ 65,000
Hawk Ridge Bird Observatory; EE integration support (\$7.5K/yr for yrs 2-3), and hire 2 full-time outreach team interns (\$25K/yr, 100% FTE, yrs 2-3)	\$ 65,000
UMD Natural Resources Research Institute; EE integration support (\$7.5K/yr for yrs 2-3)	\$ 15,000
UMD Recreation Sports Outdoor Program; EE integration support (\$7.5K/yr for yrs 2-3)	\$ 15,000
Equipment/Tools/Supplies:	
Project implementation equipment and supplies - teaching kits to stay at each school. \$350/ grade level in each school * 68 grade levels (6 grade levels/elementary school * 9 elementary schools + 3 grade levels/middle school * 2 middle schools + 4 grade levels/high school * 2 high schools)	\$ 23,800
Travel:	
1 of the 3 field experiences for each grade level will be off site and require bus transportation - Bus Rental: 124 buses required to transport all grade levels * \$150/bus*2 years	\$ 37,200
BUDGET ITEM	\$ -
TOTAL ENVIRONMENT AND NATURAL RESOURCES TRUST FUND \$ REQUEST =	\$ 442,218

V. OTHER FUNDS

<u>SOURCE OF FUNDS</u>	<u>AMOUNT</u>	<u>Status</u>
Other Non-State \$ To Be Applied To Project During Project Period:	N/A	
Other State \$ To Be Applied To Project During Project Period:	N/A	
Foregone by UMN ICR funding (33%MTDC, excluding contracts)	\$ 71,682	<i>Secured</i>
In-kind Services To Be Applied To Project During Project Period: MN Master Mn Master Naturalist Volunteer Effort (13 volunteers * 40 hrs/year * 2 years *\$20/hour) \$20,800;	\$ 20,800	<i>Secured</i>
Funding History:	N/A	
Remaining \$ From Current ENRTF Appropriation:	N/A	



**OUTDOOR
LEARNING**

**CLASSROOM
CONNECTIONS**



**HANDS ON
EXPLORATION**



OUTDOOR EDUCATION INTERNS

**MASTER NATURALIST
VOLUNTEERS**

**LEADS TO
INCREASED YOUTH:**
ENGAGEMENT
CONNECTION TO PLACE
ENV. LITERACY
ACHIEVEMENT

**EXPERIENCED
COMMUNITY
PARTNERS**

**YOUTH
AGENCIES**

**SCHOOLS
TRAINING
FUNDING**

OUTDOOR LEARNING ENGAGES YOUTH: A MODEL COLLABORATIVE

Project Manager Qualifications & Organization Description:

Boulder Lake Environmental Learning Center (BLELC) was established in 1994 and features a strong and unique partnership of University of Minnesota Duluth's College of Education and Human Service Professions, Minnesota Power, and Saint Louis County Land and Minerals Department. Boulder Lake's 18,000-acre classroom is a regional leader in fostering connections to natural resource stewardship through education, research, and recreation. Annually BLELC and the outdoor recreation opportunities within its classroom serve more than 8,500 participants including K-12 students, college classes, post-graduate students, and community members from Northeast Minnesota, Northwest Wisconsin and areas across the upper-Midwest region. Boulder Lake's natural resources are managed by Minnesota Power, St. Louis County Land & Minerals Department, and the Minnesota Department of Natural Resources.

John Geissler is Program Director of Boulder Lake Environmental Learning Center. Building on a strong science background (undergraduate degree in Chemistry from Saint John's University) and 19 years of environmental and natural resource stewardship education experience, John completed his Master's degree in environmental education in 2007 from the University of Minnesota Duluth. John has served a 4 year term on the Board of Directors for the Minnesota Association of Environmental Education and still serves on Saint John's Outdoor University Advisory Council. In the past 10 years, he has successfully secured, managed, and delivered on 40 environmental education grants and in the process has built a strong reputation among funders. In addition to the K-12, college, and community audiences that John teaches at Boulder Lake Environmental Learning, John also instructs "Rec 4320: GIS for Recreation Professionals" and "Ened 2000: Technology in Outdoor Education"— 3 credit undergraduate courses at University of Minnesota Duluth. You will find his background, experience, and passion are complimentary and committed to the goals of this project and the mission of the ENRTF.

Project Partners

- Hartley Nature Center is dedicated to inspiring lifelong connections with nature through education, play, and exploration. Since 1986, HNC has provided hands-on environmental education opportunities for area schoolchildren. Operating out of 660 acre Hartley Park, HNC provides field trip experiences to over 10,000 students annually.
- Lake Superior Center dba Great Lakes Aquarium is a 62,000 sq. ft non-profit aquarium situated on the western tip of Lake Superior in Duluth, MN. The organization's team of dedicated staff and volunteers seek to "inspire people to explore their connections with Lake Superior and waters of the world". Great Lakes Aquarium staff provide engaging experiences for children, teachers, adults and families on-site in their exhibit galleries and learning labs as well in classrooms, community centers, parks, and on-line through interactive video conferencing.
- Hawk Ridge Bird Observatory's mission is to protect birds of prey and other migratory birds in the Western Lake Superior region through research, education, and stewardship. Approximately 18,000 people come to visit Hawk Ridge Nature Reserve. Raptors in the Classroom and Experience Hawk Ridge are two popular school programs to connect students to the amazing migration phenomenon happening in their community, as well to learn about bird adaptations, migration, and the science behind the conservation research taking place at Hawk Ridge.
- University of Minnesota Duluth Recreational Sports Outdoor Program is a nationally recognized program with a mission to foster active, healthy lifestyles and connections to the natural world. Staff have extensive experience working with K-12, college, and community groups.
- Hueffmeier at Natural Resources Research Institute is a research, outreach, and education specialist with active projects in forest and landscape ecology and invasive species. He has been involved in Citizen Science based programs and is the Director of Great Lakes Worm Watch and coordinator of The Northwoods Vernal Pool Initiative. Through this work he has spent the last 8 years working with K-12 students and teachers in both formal and non-formal settings.