

**Environment and Natural Resources Trust Fund
2012-2013 Request for Proposals (RFP)**

Project Title:

ENRTF ID: 125-F

Earthducation: MN - Exploring Sustainability throughout Minnesota

Topic Area: F. Outreach/Education/Training

Total Project Budget: \$ 466,386

Proposed Project Time Period for the Funding Requested: 3 yrs. July 2013 - June 2016

Other Non-State Funds: \$ 0

Summary:

We propose an adventure learning project focused entirely on Minnesota to create an educational narrative and sustainability curriculum on the 7 geographical regions of the state.

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Sponsoring Organization: U of MN

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Location

Region: Statewide

County Name: Statewide

City / Township:

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

Earthducation:MN – Exploring Sustainability throughout Minnesota

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PROJECT TITLE: Earthducation:MN – Exploring Sustainability throughout Minnesota

I. PROJECT STATEMENT

How we visualize and practice education must change for a social paradigm shift to take place. Understanding connections between education and the natural environment enables and empowers change in education, as it provides structure for modeling new approaches to education for sustainable development (ESD). The UN Decade of Education for Sustainable Development (2005-2014) has issued a call to integrate the principles, values, and practices of sustainable development into all aspects of education and learning. Similarly, the state of Minnesota addresses the need for ESD through a combination of state statutes (115A.073 and 115A.074), the GreenPrint for Minnesota: State Plan for Environmental Education, the Minnesota Environmental Literacy Scope and Sequence, and specific education standards (e.g., Science standards 5.1.3.2, 9.1.3.3, 9.3.4.1, 9.4.4.1, 9.4.2.1, and Social Studies standard 9.2.5.9). As outlined in the GreenPrint, state environmental education should ensure “Minnesotans have the knowledge, skills and attitudes to make individual and collective lifestyle choices that support a sustainable environment.”

Earthducation:MN will address the call from the UN, as well as the MN state education standards, statutes, scope and sequence, and the GreenPrint. The Learning Technologies Media Lab (LTML) at the University of MN has been delivering adventure learning programs related to education and sustainability to more than 15 million learners for over a decade. One project, Earthducation (www.earthducation.com), is creating a global narrative on the intersection between education and sustainability across all seven continents. Building on the work and success of Earthducation, we are proposing a parallel 3-year, 7-expedition adventure learning project focused entirely on Minnesota to create an educational narrative and associated sustainability curriculum on the 7 most commonly defined geographical regions in the state: the Twin Cities, the St. Croix River Valley, the Arrowhead, the Central Lakes area, the Red River Valley, Prairieland, and Bluff Country. Earthducation:MN will accomplish the following **goals**: (1) address MN state goals related to sustainability education; (2) travel to all 7 MN regions and develop a state perspective of sustainability through local stories, interviews, photos, and video; (3) provide an online interactive MN *EnviroNetwork* (e.g., lt.umn.edu/environetwork) for Minnesotans to share their sustainability perspective; (4) provide K-12 educators with a comprehensive curriculum to teach history, geography, and local perspectives on sustainability; (5) provide an outlet for people from diverse socioeconomic status, race, and ethnicity to share their perspectives on sustainability.

Earthducation:MN will achieve the following **outcomes**: (1) the Earthducation:MN curriculum will be used in educational settings including, but not limited to, K-12 schools, state parks, homeschoolers, and organizations such as 4-H and scouting clubs; (2) populations from diverse socioeconomic status, age, race, and ethnicity will share their perspectives on sustainability; (3) educators will meet sustainability goals within their local curriculum; (4) educators will participate in sustainability workshops provided by the Earthducation:MN team. Prior to traveling to the noted 7 regions, we will develop and deliver an online learning environment and comprehensive sustainability curriculum focused on addressing MN standards and statutes. Then, as we travel to these regions, the documented interviews and media will be shared in real-time so learners and educators can participate in the exploration. All data will be archived for use in future years.

II. DESCRIPTION OF PROJECT ACTIVITIES

Activity 1: Development of Online Learning Environment and Curriculum Budget: \$163,235 - 35%

At LTML, we will develop a comprehensive sustainability online learning environment and curriculum that will encompass all seven MN regions and expeditions.

Outcome	Completion Date
1. Online learning environment developed.	April, 2014
2. Sustainability curriculum written for regions 1 – 3.	April, 2014
3. Sustainability curriculum written for regions 4 – 5.	April, 2015
4. Sustainability curriculum written for regions 6 – 7.	July, 2016

Earthducation:MN – Exploring Sustainability throughout Minnesota

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Activity 2: Development of online MN EnviroNetwork for sharing narratives Budget: \$116,597 - 25%

Outcome	Completion Date
1. Design and develop a MN-based EnviroNetwork	April, 2014

Activity 3: Delivery of 7 MN Sustainability Expeditions Budget: \$93,277 - 20%

We will travel to all 7 regions of MN over three years capturing and sharing sustainability stories and other media for use in the online learning environment.

Outcome	Completion Date
1. Educational Expeditions for Regions 1 – 3.	April, 2014
2. Educational Expeditions for Regions 4 – 5.	April, 2015
3. Educational Expeditions for Regions 6 – 7.	July, 2016

Activity 4: Outreach and Dissemination of Earthducation:MN. Budget: \$93,277 - 20%

LTML and the MN Alliance for Geographic Education (MAGE), with a network of over 2,000 teachers throughout MN, will develop yearly summer workshops related to Earthducation:MN.

Outcome	Completion Date
1. MN Education Workshops for Expeditions 1 - 3	April, 2014
2. MN Education Workshops for Expeditions 4 -5	April, 2015
3 MN Education Workshops for Expeditions 6 - 7	July, 2016

Assessment of Outcomes: The success of Earthducation:MN will be measured and evaluated annually through: (1) the number of Earthducation:MN online users, (2) the extent to which Earthducation:MN is integrated within K-12 schools throughout MN, (3) the extent to which sustainability is discussed within the *EnviroNetwork*, (4) attendance and surveys conducted at the annual teacher workshops, (5) surveys and observations of schools and organizations participating in the project.

III. PROJECT STRATEGY

A. Project Team/Partners: Earthducation:MN will be developed by the team of designers and researchers at the Learning Technologies Media Lab (LTML) at the University of Minnesota. This team consists of Dr. Aaron Doering, Dr. Charles Miller, and Dr. Cassandra Scharber, professors of learning technologies and co-directors of the LTML. Mr. Brad Hosack, LTML lead designer, will lead the development and deployment of Earthducation:MN. LTML graduate assistants, along with LTML staff, will complete the MN expeditions.

LTML will also work with Dr. David Lanegran, professor of geography at Macalester College and co-director of the Minnesota Alliance for Geographic Education (MAGE), who will collaborate with Dr. Aaron Doering on the outreach and dissemination of the Earthducation:MN project. Dr. Lanegran and Dr. Doering will lead the Earthducation:MN annual workshops.

B. Timeline Requirements: Earthducation:MN will be designed, developed, and delivered over a three-year period. During year one, the online learning and environment, curriculum, and *EnviroNetwork* will be developed and disseminated for regions 1-3 of Minnesota. During year two, the online learning environment, curriculum, and *EnviroNetwork* will be developed and disseminated for regions 4-5 of Minnesota. During year three, the online learning environment, curriculum, and *EnviroNetwork* will be developed and disseminated for regions 6-7 of Minnesota. There will be a professional development workshop annually.

C. Long-Term Strategy and Future Funding Needs: The LTML will strive to obtain additional funding sources to provide for sustainability of the project beyond the three proposed years so that future generations can contribute to the online environment learning about the history and geography of Minnesota along with the many perspectives about the environment and sustainability.

2012-2013 Detailed Project Budget

INSTRUCTIONS AND TEMPLATE (1 PAGE LIMIT)

Attach budget, in MS-EXCEL format, to your "2012-2013 LCCMR Proposal Submit Form".

(1-page limit, single-sided, 10 pt. font minimum. Retain bold text and DELETE all instructions typed in italics. ADD OR DELETE ROWS AS NECESSARY. If a category is not applicable write "N/A", leave it blank, or delete the row.)

IV. TOTAL ENRTF REQUEST BUDGET: 3 years

BUDGET ITEM (See list of Eligible and Non-Eligible Costs, p. 11)	AMOUNT
Personnel:	\$ -
Dr. Aaron Doering , Project Director, 13% academic year effort Y1, 1% Y2 & Y3 (base salary \$82,620 in Y1, 3% inflation applied each year, fringe benefits 34.13% of salary: Y1 \$10,740 salary/\$3,666 fringe; Y2 \$851 salary/\$290 fringe; Y3 \$877 salary/\$299 fringe) This level of effort provides Dr. Doering with protected time for work on this project in Year 1. He will be responsible for curriculum design and project management.	\$16,723
Dr. Charles Miller , Project Director, 1% academic year effort Y1, 13% Y2, 1% Y3 (base salary \$73,197 in Y1, 3% inflation applied each year, fringe benefits 34.13% of salary: Y1 \$732 salary/\$250 fringe; Y2 \$9,801 salary/\$3,345 fringe; Y3 \$776 salary/\$265 fringe) This level of effort provides Dr. Miller with protected time for work on this project in Year 2. He will be responsible for curriculum design and project management.	\$15,169
Dr. Cassandra Scharber , Project Director, 1% academic year effort Y1 & Y2, 13% Y3 (base salary \$73,197 in Y1, 3% inflation applied each year, fringe benefits 34.13% of salary: Y1 \$732 salary/\$250 fringe; Y2 \$754 salary/\$257 fringe; Y3 \$10,095 salary/\$3,445 fringe) This level of effort provides Dr. Scharber with protected time for work on this project in Year 3. She will be responsible for curriculum design and project management.	\$15,534
Bradford Hosack , LTML Lead Developer, 75% calendar year effort Y1-Y3 (base salary \$63,660 in Y1, 3% inflation applied each year, fringe benefits 37.06% of salary: Y1 \$47,746 salary/\$17,695 fringe; Y2 \$49,178 salary/\$18,226 fringe; Y3 \$50,654 salary/\$18,772 fringe) Mr. Hosack will be responsible for developing the websites and online connections needed for the project.	\$202,271
Andrew Johnson , Project Manager, 10% calendar year effort Y1-Y3 (base salary \$63,648 in Y1, 3% inflation applied each year, fringe benefits 34.13% of salary: Y1 \$6,365 salary/\$2,172 fringe; Y2 \$6,556 salary/\$2,238 fringe; Y3 \$6,753 salary/\$2,305 fringe) Mr. Johnson will be responsible for coordinating project logistics and managing connections with outside parties.	\$26,388
Two Graduate Research Fellows , 50% calendar year effort Y1-Y3 (base salary \$75,376 in Y1 for two GRFs, 3% inflation applied each year, no fringe benefits: Y1 \$37,688 total salary; Y2 \$38,819 total salary; Y3 \$39,983 total salary) These GRFs will be work on curriculum development tasks as assigned by the project directors and help complete the project expeditions.	\$116,490
One Graduate Research Fellow , 50% calendar year effort Y1-Y3 (base salary \$37,688 in Y1 for one GRF, 3% inflation applied each year, no fringe benefits: Y1 \$18,844 total salary; Y2 \$19,409 total salary, Y3 \$19,992 total salary) This GRF will be work on application development tasks as assigned by the project directors and Mr. Hosack.	\$58,245
Travel: Three project team members will conduct an expedition to each of the 6 MN geographical areas outside the Twin Cities. Costs are estimated at \$2,594.33 per trip. This estimate includes U of MN car rental at \$453 (\$338/week + 23 cents/mile x 500 miles), food at \$966 (\$46/day x 3 people x 7 days), lodging at \$924 (\$77/night x 2 rooms x 6 nights), and internet access at \$251 to transfer project data back to the U of MN in real time (\$17.95/room x 2 rooms x 7 days). \$2,594.33 x 6 trips = \$15,566	\$15,566
	\$ -
TOTAL ENVIRONMENT AND NATURAL RESOURCES TRUST FUND \$ REQUEST =	\$ 466,386

V. OTHER FUNDS

SOURCE OF FUNDS	AMOUNT	Status
Other Non-State \$ Being Applied to Project During Project Period: The fringe benefit rates listed above exclude University of Minnesota standard fringe benefit categories other than FICA/Medicare, retirement, and health insurance. Fringe benefit costs not requested from ENRTF will be paid by the Learning Technologies Media Lab.	\$ 5,559	Secured

Project Manager Qualifications/Organization Description

Qualifications of Key Personnel

Aaron Doering, Ph.D. is an expert on Adventure Learning (AL) and the leading AL researcher in the fields of Instructional Design and Learning Sciences. Dr. Doering has successfully completed 9 AL expeditions over the past 10 years and has received support in excess of \$2 million for past and current AL project support. He currently holds the Bonnie Westby-Huebner Endowed Chair in Education and Technology, is a Laureate of the prestigious humanitarian Tech Awards for his recent AL projects, and is a fellow for the UMN Institute on the Environment. Dr. Doering gives hundreds of talks a year on adventure learning and his research is focused on how adventure learning impacts the classroom experience. He has published over 80 journal articles, books, book chapters, and conference proceedings and is also the coauthor of *Integrating Educational Technology into Teaching*, the leading text in the field of technology integration.

Charles Miller, Ph.D. is a leader in the design and development of online learning environments with more than 15 years of design and research experience. Dr. Miller is a world-renowned designer awarded by organizations including USA Today, The Washington Post, American Scientist, IBM, Adobe, and Yahoo for his work with collaborators from around the globe. Recently, his development work received top honors two years in a row at the Association for Educational Communication and Technology (AECT) Outstanding Achievement in Innovative Instructional Design Showcase. Dr. Miller has lead the design and development of more than 20 online and mobile learning environments, more than 80 websites, and has published over 70 journal articles, book chapters, and conference proceedings on topics ranging from aesthetics and e-assessment to information visualization and role-based design.

Cassandra Scharber, Ph.D. is a leader in the field of K-16 technology integration and has overseen several successful AL and integration projects over the past 8 years. Dr. Scharber is a highly established, award-winning researcher whose research explores the nexus of literacy, power, and technology and the possibilities technology offers in aiding the transformation of teaching and learning. She is currently the co-editor of the Digital Literacies column for the *Journal of Adolescent and Adult Literacy*. To date, she has published over 25 journal articles and book chapters. Dr. Scharber's research interests include 1-to-1 laptop initiatives, technology integration in K12 settings, digital literacies, and teacher preparation and development.

Organization Description

University of Minnesota

The University of Minnesota is a major center of education, creative scholarship, research, and service (www.umn.edu). It is one of the largest universities in the U.S., with approximately 53,000 students. The University has several technology resources available, including Academic and Distributed Computing Services, the Digital Media Center, the Digital Technology Center, and the Office of Information Technology. Its College of Education and Human Development (CEHD; www.education.umn.edu) includes eight academic departments, seven college-wide centers, and over 190 faculty members in every important curricular, organizational, and research aspect of education. CEHD also houses more than a dozen major research centers. CEHD's departments are consistently ranked in the top academic units by U.S. News and World Report.

Learning Technologies Media Lab

The Learning Technologies Media Lab's mission is to create and inspire opportunities for global collaboration in addressing humanity's most pressing educational, social, and environmental issues by designing and evaluating innovative technology-mediated solutions for learners, educators, researchers, and organizations. The Lab is provided with the necessary financial, technological, logistical, personnel, space-related, and evaluation/research-related resources to ensure successful design, development, and implementation of small- and wide-scale online educational projects and research initiatives.

