

**Environment and Natural Resources Trust Fund  
2010 Request for Proposals (RFP)**

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**LCCMR ID: 208-F**

**Project Title:**

Assessing K-6 Classrooms to Implement GreenPrint Outcomes

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**LCCMR 2010 Funding Priority:**

F. Environmental Education

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**Total Project Budget: \$** \$368,000

**Proposed Project Time Period for the Funding Requested:** 3 years, 2010 - 2013

**Other Non-State Funds: \$** \$0

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**Summary:**

Assess the current use of EE online resources by K-6 teachers. Based on assessment, build effective online delivery of EE content following Scope and Sequence benchmarks, and train teachers.

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**Location:**

**Region:** Statewide

**County Name:** Statewide

**City / Township:**

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_____ Knowledge Base	_____ Broad App.	_____ Innovation
_____ Leverage	_____ Outcomes	
_____ Partnerships	_____ Urgency	_____ TOTAL

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# MAIN PROPOSAL

**PROJECT TITLE:** Assessing K-6 Classrooms to Implement *GreenPrint* Outcomes

## I. PROJECT STATEMENT

"I'd like to, but I just don't have the time," was the response of a Minnesota 3rd grade teacher, when asked why environmental education (EE) was not part of his classroom. Our state has strong plans and goals for EE, one of which is that "Teachers have the resources necessary to integrate environmental education throughout the curriculum." (See outcomes for teachers (B) in *A GreenPrint for MN: State plan for environmental education, 3rd ed.* (2008)). But for that teacher, it was challenging to find and use existing online or printed lessons that met the MN standards. Aside from MN EE goals, research shows that kids need to get outdoors for their overall well-being -- another reason we need to help teachers integrate EE into their lessons. Digital delivery of an EE resource is desirable so that it remains current and accessible.

Consequently, the goal of this project is to first formally assess what teachers need to make an EE website relevant and user-friendly. A 2005 NSF-supported survey of rural, urban and suburban teachers found that the technology environment does not meet their needs, and they express frustration about the lack of training on these resources. 71% of teachers listed lesson plans as their #1 choice for things they wished they could find, and many wished for this information to come from websites that were known to be valid (i.e., .edu or .gov). (see *Effective Access, Teachers' use of digital resources in STEM teaching*). Our assessment will determine how to structure an online resource to better enable teachers to integrate EE into their classrooms, and what sort of training is necessary to use that resource.

Our next goal is to build a website based on the collaborative results of the survey. This website will not be a "clearinghouse" or database of existing curricula; these sites exist, but research shows they are time-consuming to use. Rather, the assessment will uncover priorities for organizing the structure of the website, with content organized around the *Environmental Literacy Scope and Sequence* (ELSS) benchmarks. (Outcome #3 of the *GreenPrint* states, "Minnesota academic standards include Environmental Literacy Scope and Sequence Benchmarks across ALL disciplines and grade levels.") Links to prior work from, e.g., Journey North, MN DNR, US EPA, NWF, NOAA, WWF, USFWS, NASA JPL, and Pheasants Forever, to name just a few, will be organized into lessons, and new material will be supplied as needed to build cohesive units. Content will be determined by EE experts, while the structure of delivery will be determined by the end-users (that is, the teachers). Finally, we will train groups of teachers to use the website, and determine future online training priorities.

## II. DESCRIPTION OF PROJECT RESULTS

**Result 1: Study existing MN teachers use of EE resources**

**Budget:** \$102,296

**Deliverables ( Outcome #3 & #2 of the *GreenPrint*)**

**Completion Date**

1. Develop the assessment tool with advisory board and focus groups  
Focus groups of teachers will be used to help develop the survey instrument along with an EE advisory panel. Sept. 30, 2010
2. Conduct survey and focus groups of K-6 teachers Jan. 30, 2011  
The survey will sample K-6 teachers throughout the state in rural, urban and suburban schools to develop an understanding of where teachers are at in implementing EE in their classrooms and what is needed to structure the online resource.
3. Report on the survey outcomes and impacts June 30, 2011  
Final survey will be delivered electronically. Analysis will be provided in a report and available online.

**Result 2: Develop website based on needs from year 1 survey**

**Budget:** \$ 119,131

<b>Deliverables (Outcome #3 and Teachers(B) of the <i>GreenPrint</i>)</b>	<b>Completion Date</b>
1. Design and implement framework for web based delivery Framework structure will be designed according to the results of the teacher survey from year 1.	June 30, 2012
2. Design and implement content and format A collaborative partnership of state agencies and university personnel will design the website content so that it follows the aforementioned benchmarks, and is aligned with state standards across the curriculum.	June 30, 2012
3. Design teacher training based on year 1 survey results.	June 30, 2012
<b>Result 3: Teacher trainings and evaluate impacts</b>	<b>Budget: \$146,573</b>
<b>Deliverables (Outcome #3 of the <i>GreenPrint</i>)</b>	<b>Completion Date</b>
1. Implement teacher trainings and use in classroom Teacher training will be provided through a sequence of trainings. A week-long training in the summer before year 3 will bring together a group of teachers who will implement the curriculum in their classrooms and provide feedback. A series of 1-day trainings state-wide will be used for further dissemination along with presentations at teacher conferences like MSTA and MAEE.	June 30, 2013
2. Revise website based on implementing in teachers classroom Teachers around the state (4 per grade, 24 total) will be trained to use the website and review for usability and applicability of the framework in their classrooms and provide feedback to the advisory panel and leadership team.	June 30, 2013
3. Final Report on website and impacts	June 30, 2013

### III. PROJECT STRATEGY

#### A. Project Team/Partners

Stephan Carlson (UMN Extension) is the Principal Investigator and has 30 years experience in EE and evaluation. A Program Coordinator who is also a technology specialist will coordinate the collaborative efforts, oversee and help with the day-to-day activities, be responsible for implementation of the online framework and text, and help develop and execute trainings. A graduate research assistant will help with the front-end assessment, oversee focus groups, help implement the framework and help with teacher training.

An advisory panel consisting of members of Minnesota environmental agencies (e.g., DNR, MPCA, Dept. of Ag.) and educational agencies (e.g., DOE, MSTA and UMN Dept. of C & I.) will be formed to assist in planning content that meets the ELSS, science, and other curricular standards and goals. This panel will include 6 teachers (to be determined) who have an interest in EE and come from urban, rural and suburban schools.

#### B. Timeline Requirements

This project requires 3 years to complete. In the first year we will assess the current state of EE resource use. The second year we will build the online framework based on survey results, and with the help of the advisory panel and focus groups. In year 3 we will disseminate through trainings and revise based on feedback.

#### C. Long-Term Strategy

The ultimate goal of this project is to help the state meet the *GreenPrint* outcomes by providing an MN EE web resource for K-6 teachers. Because the lessons are provided in electronic format, revisions and updates will be easy as science and current events change. The content will reside on the UMN Extension's website and be available to teachers state-wide. It will be linked to SEEK and provide a model for other states to follow. Teachers will also be able to provide feedback through online and interactive dialog, with eventual access to online training.

## Project Budget

### IV. TOTAL PROJECT REQUEST BUDGET ( 3 years)

<b>BUDGET ITEM:</b>	<b>AMOUNT</b>
<b>Personnel:</b>	\$ 312,281
Stephan Carlson, 25% time, (9month position) 33% frindge, Oversee the total operation of the project including budget, staffing, web based framework, evaluation	\$ 77,671
Research Assistant, (50%) Help design overall evaluation, focus group and test impact of the framework and units with teachers and students	111,417
Project Corrdinator, (75%) 37% fringe, Oversee the development of the technology component of the project from survey to educational framework	\$ 123,193
<b>Contracts:</b>	\$ 29,340
Review Team of 24 Teachers, TBA, 9 days of training and and throught year 2 at \$55 per-diem per day	11,880
Advisory Board, TBA, 6 teachers attend 4 meetings per year at \$55 per-diem =\$1320 per yr X 3 yrs.	3,960
Graphic Artist, TBA, Design web page for web based delivery of framework at \$4,500 per year	13,500
<b>Equipment/Tools/Supplies:</b>	\$ 10,289
Supplies and Handouts for 4 trainigs at \$200 per training = \$800	800
Printing and Postage, at \$200 & \$300 printing per yr. X 3 yrs.	1,500
Focus Group Meetings, Training supplies and audio recording/transcribing for 4 meetings per yr. at \$300 per meeting = \$1200 X 3 yrs.	3,600
Training Supplies, computer rental for week long training \$2,000 and 3 one day long trainigs at \$500 each = \$1500	3,500
Software, covers speicalized program software and license fee for the project	839
<b>Acquisition (Fee Title or Permanent Easements):</b>	NA
<b>Travel: ( in-state only)</b>	\$ 13,140
Advisory Board Members for 3 meetings per year at \$55 per mile =\$1,00 per yr (\$200) per trip X 6 trips = \$1200	1,200
Travel for Review team at per-diem of 24, X7 meetings per year at \$55 per-diem travel=\$9240	9,240
Disemination Travel for Carlson and project staff of 2 to 4 sites to presnt at workshops or state conferences the new framework at \$300 per person X3 staff X 3 yrs = \$1800 x 2 yrs.	2,700
<b>Additional Budget Items:</b>	\$ 3,000
Room Rental for meetings for focus groups or team meetings state-wide at \$500 per meeting X 3 yrs = \$3000	3000
<b>TOTAL PROJECT BUDGET REQUEST TO LCCMR</b>	\$ 368,000

### V. OTHER FUNDS

<b>SOURCE OF FUNDS</b>	<b>AMOUNT</b>	<b>Status</b>
<b>Other Non-State \$ Being Applied to Project During Project Period:</b>	NA	
<b>Other State \$ Being Applied to Project During Project Period:</b>		
	NA	
<b>In-kind Services During Project Period:</b>	NA	
<b>Remaining \$ from Current Trust Fund Appropriation (if applicable):</b>	NA	
<b>Funding History:</b>	NA	

**Project Manager:**

Dr. Stephan P. Carlson is a Professor/Extension Educator for the University of Minnesota Extension for the last 17 years. He has a 9 month position. He has 30 years of experience in the field of environmental education from 2 other states and has developed a number of publications and curriculums on the topic. He has been instrumental in developing the original "A *GreenPrint* for Minnesota; State Plan for Environmental Education" and the Teacher Preparation Project both reports submitted to the Office of Environmental Assistance as an LCCMR project in 1997. He teaches university courses on environmental education/interpretation at both the undergraduate and graduate levels. His research (NSF REESE, #0635559) over the last few years has focused on measuring the impact of environmental field day programs throughout Minnesota. He has developed an observation tool that reflects the "Best practices of environmental field days" and is being used through the country to assess informal out-of-school science learning experiences. He also works with a STEM program on the White Earth Reservation (NSF ITEST, #0737565) bringing hands-on science to after-school and summer school programs.

He will oversee a team of graduate student and project coordinator to develop this web base framework. His role will be that of administering the grant, overseeing the evaluation and the budget and staffing, setting the agenda for the collaborative meetings, writing reports and follow up with the staff to complete the needed tasks.

**Organization Description:**

University of Minnesota Extension is part of the Land Grant University system and has state-wide responsibility to bring the knowledge of the university to the citizen of the state. It is housed at the University of Minnesota and has offices in every county of the state.

