

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

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**LCCMR ID: 209-F**

**Project Title:**

Nature and Technology Meet on the Prairie

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**LCCMR 2010 Funding Priority:**

F. Environmental Education

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**Total Project Budget: \$** \$85,000

**Proposed Project Time Period for the Funding Requested:** 2 years, 2010 - 2012

**Other Non-State Funds: \$** \$65,000

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**Summary:**

The Hamden Slough Outdoor Classroom will help students understand and appreciate wetlands and prairies and their importance to Minnesota. [Capital project]

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**Location:**

**Region:** NW

**County Name:** Becker

**City / Township:**

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

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## **MAIN PROPOSAL**

### **PROJECT TITLE: Nature and Technology Meet on the Prairie**

#### **I. PROJECT STATEMENT**

The Hamden Slough Outdoor Classroom near Audubon Minnesota will focus on junior high, high school, and college students. The Classroom will have a strong technology component. This spring we have installed a web camera on a prairie chicken lek at the north end of the refuge and will soon have live video on the web. We are currently developing a science/math curriculum around these birds. During the summer the camera will be moved to wetlands or mudflats to study waterfowl or shorebirds, respectively.

We will also establish long-term research plots for vegetation (biomass and biodiversity), invasive plant species, soils and soil carbon, water quality, bird, and invertebrate monitoring. Students will collect data each year and enter the data into an online database. Once established students will be able to compare their data to previous years, examine how especially hot/cold/dry/wet years affect certain variables, and make inferences about the effects of long-term changes. After several years of data are collected, students will be able to follow trends through time to examine the effects of climate change on their local ecosystem.

The Center will be used primarily as an outdoor laboratory. Students will go into the field to collect data and then return to the Classroom to sort, weigh, and process the data. They can then return to their classroom for analyses. During the school year, the curriculum will be designed primarily for 8-12 grade students, but will not exclude younger students. During the summer, we will host camps for younger students. These camps will be staffed by Environmental Education majors from nearby colleges to help increase our investment in the upcoming generation.

The Classroom will also have a strong community outreach component. We will host field days, have permanent self-guided hiking paths, and the classroom could provide a place for community groups to meet.

While there are several environmental education centers in the state of Minnesota, there are few that serve the Fargo-Moorhead, Detroit Lakes-Perham area. The Fergus Fall Wetlands Learning Center is too distant to allow for data collection and processing, and the MSU-Moorhead Regional Science Center near Buffalo River State Park has few wetlands, which would be the focus of this classroom. Both of these have a curriculum primarily focused on the elementary school populations. We will be innovative by focusing on older students who are capable of more in depth scientific investigation.

#### **II. DESCRIPTION OF PROJECT RESULTS**

This project will create an innovative outdoor classroom that integrates emerging technologies with fieldwork to allow area students to study the effects of climate change on grasslands and wetlands in the Prairie Pothole Region. The Outdoor Classroom will be built by local vocational students and staffed by college environmental education majors to involve the maximum number of the younger generation in the project. The

ultimate goal will be to increase the awareness the natural environment and the plants and animals that live in it, understand the role wetlands and grasslands play in our lives (carbon sequestration, flood water retention), and understand the effects of climate change on the ecosystems of Minnesota.

<b>Result 1: <u>Construction of Building</u></b>	<b>Budget: \$ <u>85,000</u></b>
<b>Deliverable</b>	<b>Completion Date</b>
1) Pouring Foundation and Construction	4/11

<b>Results 2: <u>Curriculum Development</u></b>	<b>Budget: <u>Match</u></b>
<b>Deliverable</b>	<b>Completion Date</b>
1) Set-up long-term monitoring plots	8/10
2) Discussion with local schools on their needs	4/11
3) Develop curriculum for 6-12 grade	6/11
4) Develop curriculum for summer programs, grades 3-5	2/12

### **III. PROJECT STRATEGY**

#### **A. Project Team/Partners**

The lead partner on the grant will be the Friends of the Detroit Lakes Wetland Management District. Additional partners will be the Perham School District who will supply labor for the construction as well as teaching staff for the summer. We feel that having local students construct the building will provide more community buy-in than the traditional Federal bidding/contracting process. During the summer the classroom will be staffed by Environmental Education majors from nearby colleges in Moorhead, Crookston, Bemidji, etc. The USFWS will oversee management of the refuge and provide expertise and consultation for students on management of wetlands and prairies as well as the wildlife in these habitats.

#### **B. Timeline Requirements**

The initial construction of the building will be completed under the funding period of this grant. The initial curriculum development will also be done in the first 18 months, although obviously curriculum will need to be frequently updated.

#### **C. Long-Term Strategy**

We plan this Outdoor Classroom to be a permanent member of the regional community. Infrastructure/Utilities will be covered by the USFWS. Funding for student intern salaries we be from future grant-writing through Federal grant programs. Volunteers and members of the DL Friends group will staff the Classroom during off-peak periods.

## Project Budget - Nature and Technology Meet on the Prairie

### IV. TOTAL PROJECT REQUEST BUDGET ([2] years)

BUDGET ITEM <i>(See list of Eligible &amp; Non-Eligible Costs, p. 13)</i>	AMOUNT
<b>Equipment/Tools/Supplies:</b>	\$ -
Building Materials for 40' X 60' wood framed outdoor classroom (full itemized list of materials can be sent upon request)	\$ 70,000
Concrete Pad and apron for 40' X 60' classroom	\$ 15,000
<b>TOTAL PROJECT BUDGET REQUEST TO LCCMR</b>	<b>\$ 85,000</b>

### V. OTHER FUNDS

SOURCE OF FUNDS	AMOUNT	Status
<b>Other Non-State \$ Being Applied to Project During Project Period:</b>		
<b>Federal Funds- US Fish and Wildlife Service- Building Materials/Displays</b>	\$ 15,000	<i>Secure</i>
<b>Federal Funds- US Fish and Wildlife Service/Friends of the DLWMD- Displays/Educational materials</b>	\$ 50,000	<i>Pending</i>
<b>In-kind Services During Project Period:</b>		
<b>10 students, 3 hours per day for 170 days at \$7.00/hour paid by Rural MN CEP</b>	\$ 35,700	Secured
<b>Federal in-kind labor for site prep</b>	\$ 15,000	Secured
<b>One half pay of instructor salary and benefits paid by Perham Independent school district 549</b>	\$ 30,000	Secured
<b>Funding History:</b>		
<b>Rural Minnesota Comprehensive Employment Program</b>	\$35,700	
Independent School District 549	\$30,000	

Dr Greg Hoch received his MS and PhD in Ecology from Kansas State University. He moved to Minnesota seven years ago where he has been active in research with grassland plant communities, wetland bird communities, and forest birds. He has managed three DNR Heritage Enhancement Grants, an LCCMR grant, and two DNR Conservation Partnership grants. He is the President-Elect of the Minnesota Chapter of The Wildlife Society. He has been a college professor in biology for the last seven years.

The Friends of the Detroit Lakes Wetland Management District is a group of citizen volunteers whose goal is to support the activities of Wetland Management Office personnel as well as participate in environmental education initiatives in the Detroit Lakes Area.

