

Environment and Natural Resources Trust Fund (ENRTF) 2010 Work Program

Date of Report: November 24, 2009, updated January 28, 2010

Date of Next Progress Report: December 17, 2010

Date of Work Program Approval:

Project Completion Date: June 30, 2012

I. PROJECT TITLE: Innovative Model for Environmental and Outdoor Education in Grades 7-12

Project Manager: Beth Aune, Director of Academic Standards and P-16 Initiatives

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Location: A work station for the project coordinator will be established at the Minnesota Department of Education, 1500 Highway 36 West, Roseville, Minnesota. Project activities will be implemented statewide.

Total ENRTF Project Budget:	ENRTF Appropriation	\$ 300,000
	Minus Amount Spent:	\$ 0
	Equal Balance:	\$ 300,000

Legal Citation: ML 2010, Chap.[____], Sec.[____], Subd.____.

Appropriation Language:

II. PROJECT SUMMARY AND RESULTS:

This project uses environmental and outdoor education strategies to develop academic knowledge and skills. Professional development and program incentive grants will be provided to help teachers use the environment and outdoors as a context for student learning in science, mathematics, social studies and physical education. Activities of this project align with the state goals for environmental education (Minn. Statute § 115A.073), strategies outlined in *A Greenprint for Minnesota*; and recommendations of the *Outdoor Education Legislative Report-2009* submitted by the Outdoor Education Advisory Committee.

Goals:

1. Students will master state academic standards through environmental and outdoor education approaches.
2. Students will develop environmental and outdoor knowledge and skills.

Results:

1. Project coordination and professional development for secondary teachers will be delivered regionally through a “train-the-trainer” model.
2. Incentives for innovative environmental and outdoor education models will be provided through mini-grants.

Outcomes:

1. At least 25 middle and high school teachers from five regions will gain knowledge, skills and resources to help students meet the project goals.
2. Five to ten proposals from secondary schools will receive funding to implement model environmental and outdoor education programs that implement the project goals. These programs will reach at least 750 students, 200 or more of whom are considered to be underachieving or at risk of underachieving.

III. PROGRESS SUMMARY AS OF *[insert date of Work Program progress report]:*

IV. OUTLINE OF PROJECT RESULTS:

RESULT 1: Professional development for secondary education teachers delivered regionally through a “train-the-trainer” model

Description: The purpose of the professional development component is to equip teachers with the knowledge, skills and resources necessary to help students:

1. Master state and local academic standards through an environmental and outdoor education approach.
2. Develop their environmental and outdoor skills and knowledge.

The professional development content will include the following objectives for teachers:

1. Understand and use environmental concepts to inform decisions about maintaining a sustainable lifestyle and taking actions on environmental issues.
2. Improve outdoor skills to foster appreciation of the outdoors and lifelong recreational habits that contribute to emotional and physical well-being.
3. Identify possible environmental and outdoor applications of Minnesota’s K-12 academic standards in one or more of the following subjects: science, mathematics, social studies and physical education.
4. Learn about instructional strategies that utilize the outdoors and environment as an integrating context.
5. Develop action plans that demonstrate understanding and application of the professional development program objectives.

The objectives and content of the professional development will be further refined by the leaders of the professional development program as described in the next section. The following are some examples of content that could be included in the teacher training. Teacher could learn how to help students:

- Apply knowledge of the ways that species adapt to their environment by exploring the shelters that various animals use in the forest and learning how to build shelters for human survival in the wilderness.
- Learn about food chains in a lake ecosystem and how to apply that knowledge to determine locations and fishing strategies for catching a particular species.
- Map a small plot of land for identification of plants and animals that live there using mapping, data collection and geometry skills.
- Develop a personal fitness plan through a comparison of outdoor activities in terms of caloric expenditure, environmental impact, and contribution to mental and emotional well-being.
- Design projects to study a natural area and create management plans toward achieving student-developed goals (e.g., improving a stream for trout habitat or developing a trail for bird observation and cross-country skiing).

The Minnesota Department of Education will hire one full-time unclassified staff to coordinate the efficient use of regional and state resources in the design and implementation of professional development and program grants that use an environmental and outdoor education approach. Under the coordinator's leadership, a statewide system of professional development will be created using a "train-the-trainer" model. An *advisory committee* will be formed consisting of: 1) Licensed teachers from multiple disciplines including, but not limited to, science, physical education, social studies and mathematics who possess interest and/or knowledge in environmental and outdoor education; 2) Providers of outdoor education and environmental education such as environmental learning centers, outdoor industry partners, and members of conservation and sporting organizations with expertise in certain facets of outdoor recreation.

A set of *state trainers*, selected by the project coordinator, will plan professional development activities (training modules) and develop resources that can be used in various regions of the state. The state trainers will be educators who have knowledge and skills of best practices in professional development, especially in the areas of environmental and outdoor education. The state trainers will provide professional development to participants who will become regional trainers. *Regional trainers* will provide professional development to middle school and high school teachers in their respective regions with preference given to interdisciplinary school teams of teachers. The regional trainers will continue to provide follow-up and ongoing technical assistance for teachers in their region for the duration of the grant period. The coordinator will select educators with secondary classroom knowledge and experience, especially in the areas of environmental and outdoor education, to be regional trainers

Summary Budget Information for Result 1: ENRTF Budget: \$ 184,900
Amount Spent: \$ 0
Balance: \$ 184,900

Deliverable/Outcome	Completion Date	Budget
<p>1. Coordinator and advisory committee develop the program plans including:</p> <ul style="list-style-type: none"> A. The structure, content, scope and delivery of professional development; B. Names of possible state and regional trainers; C. Strategies for the recruitment of teachers; and D. Resources for use in teacher training. <p>This outcome will involve the project coordinator and the advisory committee of approximately 12 people.</p>	October 31, 2010	\$ 32,500
<p>2. State trainers participate in a two-day workshop to accomplish the following:</p> <ul style="list-style-type: none"> A. Create a template and structure for the regional professional development plans (i.e., training modules); B. Develop the evaluation plan for the professional development to be provided to teachers; and C. Plan a three-day workshop for regional trainers. <p>This outcome will involve the project coordinator and 5 state trainers and the evaluator.</p>	January 31, 2011	\$ 14,200
<p>3. State and regional trainers participate in a three-day workshop. Regional trainers, in collaboration with the state trainers, will accomplish the following:</p> <ul style="list-style-type: none"> A. Write the first draft of a professional development plan (i.e., training module) for each region that includes summer teacher training and three group follow-up sessions. The plan will identify the professional development outcomes and activities, strategies for recruiting teacher participants, 	April 20, 2011	\$ 30,900

<p>resources for teachers, and details regarding workshop logistics. (by February 28, 2011)</p> <p>B. Regional trainers submit their completed professional development plans for their respective regions to MDE.(by April 20, 2011)</p> <p>This outcome will involve the project coordinator, 5 state trainers, 6 regional trainers and the evaluator.</p>		
<p>4. Six regional trainers provide summer training to a minimum of 25 middle and high school teachers in five regions who collectively serve 750 or more students. Participants commit to implement environmental and outdoor education with their students and attend follow-up sessions during the school year.</p> <p>This outcome will involve at least 25 teachers plus 6 regional trainers, the coordinator and evaluator.</p>	August 31, 2011	\$ 41,000
<p>5. Teachers implement environmental and outdoor education experiences and regional trainers provide group follow-up sessions and ongoing teacher support during the 2011-2012 school year. Teachers will submit their lessons to the regional trainers for possible inclusion on the SEEK (Sharing Environmental Knowledge) website.</p> <p>This outcome will involve at least 750 students, 6 regional trainers, the coordinator and evaluator.</p>	May 15, 2012	\$ 52,600
<p>6. Conduct an evaluation of the professional development program component. Write a report of the professional development program activities, including results and recommendations for teacher training and student learning experiences that should continue beyond the LCCMR grant period. Identify model lessons that could be posted on the SEEK (Sharing Environmental Knowledge) website.</p> <p>This outcome will involve the evaluator and the coordinator, the 12 advisory board members, the 5 state trainers, and 6 regional trainers.</p>	August 1, 2012	\$ 13,700
TOTAL for two years (Result 1)		\$ 184,900

Result Completion Date: June 30, 2012. Work Program progress reports will be submitted not later than January 2011, July 2011 and January 2012.

Result Status as of January 2011:

Result Status as of July 2011:

Result Status as of January 2012:

Final Report Summary:

RESULT 2: Incentives for innovative environmental and outdoor education models provided through mini-grants.

Description: Middle schools and high schools will be invited to submit proposals for the design and implementation of innovative environmental and outdoor education programs that bolster student achievement in middle school or high school science, physical education, social studies and/or mathematics. Other non-profit providers of environmental and outdoor education may partner with middle schools and high schools to develop the grant proposals and implement the grant activities. Funding priority will be given to programs that target traditionally underachieving or at-risk student populations. A small number of programs (5-10) will receive grants ranging from \$3,000 to \$10,000 apiece. Funded proposals, collectively, will reach at least 750 students, 200 or more of whom are considered to be underachieving or at risk of underachieving.

Summary Budget Information for Result 2: ENRTF Budget: \$ 115,100
 Amount Spent: \$ 0
 Balance: \$ 115,100

Deliverable/Outcome	Completion Date	Budget
1. Design and announce the RFP for innovative environmental and outdoor education programs. This outcome will involve the coordinator, approximately 4 advisory committee members and the evaluator.	January 30, 2011	\$ 12,200
2. Select 5-10 proposals to be funded \$3,000 – \$10,000 per proposal. This outcome will involve the coordinator, evaluator and approximately 4 volunteers, following established guidelines of the MDE grants division.	April 10, 2011	\$ 7,700
3. Implement and support the grant programs (July 1, 2011 – May 15, 2012).	May 15, 2012	\$ 65,300

This outcome will involve the coordinator, evaluator, 6 regional trainers, approximately 10 teacher grant recipients, and at least 750 students.		
4. Monitor and evaluate the grant programs (July 1, 2011 – June 30, 2012). This outcome will involve the coordinator, evaluator and approximately 10 teacher grant recipients.	June 30, 2012	\$ 14,600
5. Write a report of the grant program activities including results and recommendations for activities that should continue beyond the LCCMR grant period. This outcome will involve the coordinator, evaluator and advisory committee.	August 1, 2012	\$ 15,300
Total for two years (Result 2)		\$ 115,100

Result Completion Date: June 30, 2012. Work Program progress reports will be submitted not later than January 2011, July 2011 and January 2012.

Result Status as of January 2011:

Result Status as of July 2011:

Result Status as of January 2012:

Final Report Summary:

V. TOTAL ENRTF PROJECT BUDGET:

Personnel: \$ 184,000 for fulltime project coordinator

Contracts: \$ 60,000 (\$10,000 for program evaluation; \$50,000 for innovation mini-grants)

Equipment/Tools/Supplies: \$ 4,000

Acquisition (Fee Title or Permanent Easements): \$ 0

Travel: \$ 20,600 in-state travel following state guidelines for travel expense reimbursement. This amount includes mileage, meals and housing for at least 25 teachers, 6 State Trainers, 6 Regional Trainers, and 12 advisory committee members, as identified in the table of Part IV Result 1, to attend meetings and training workshops.

- Mileage is limited to people who live greater than 50 miles from the event sites.

- Housing is for the regional training events, which will be held at residential environmental learning centers. Training events at environmental centers are estimated at \$40 per day for meals and housing.
- Meeting expenses are estimated at \$9/day for meal expenses.

Travel expenses will be reimbursed at applicable state employee rates for the Project Coordinator and the Evaluator to attend events and visit grantee schools.

Additional Budget Items: \$ 31,400. This amount includes the following—

1. Reimbursements for substitute teachers to enable 25 teachers to attend follow-up workshops. (Substitute reimbursement: \$125/day for 3 days)
2. Stipends for up to 5 State and 6 Regional Trainers to develop and present training and follow-up workshops and to provide support to teachers during the project. The number of trainers who will need stipends will depend on the number who are participating while receiving a salary from another entity.
 - State trainer stipend: \$200/day for training events plus \$300 for professional development planning and delivery
 - Regional trainer stipend: \$200/day

TOTAL ENRTF PROJECT BUDGET: \$ 300,000

Explanation of Capital Expenditures Greater Than \$3,500: NA

VI. PROJECT STRATEGY:

A. Project Partners: The Department of Natural Resources (DNR) is partnering with the Minnesota Department of Education (MDE) on this project. MDE's contact at DNR will be C.B. Bylander, DNR Outreach Section Chief. Both agencies co-chaired the legislatively mandated Outdoor Education Advisory Committee which published the *Outdoor Education Legislative Report – 2009*. Other partners will include the following--

- *Project Coordinator:* Fulltime staff person to be hired at the Minnesota Department of Education with expertise in implementing environmental education and/or outdoor education within a standards-based curriculum at the secondary level (grades 7-12).
- *Evaluator:* Consultant to be contracted by the Minnesota Department of Education who will plan and implement the evaluation activities throughout the duration of the project. Contractor will be selected using criteria developed by the Minnesota Department of Education.
- *Advisory Committee:* Leaders in environmental education and outdoor education from state agencies, environmental learning centers, school curriculum coordinators, and postsecondary education and others with expertise in environmental or outdoor education or school curriculum.
- *State Trainers:* Educators with knowledge and skills of best practices in professional development, especially in the areas of environmental and outdoor education.
- *Regional Trainers:* Educators with secondary classroom knowledge and experience, especially in the areas of environmental and outdoor education.

B. Project Impact and Long-term Strategy:

This project is a direct response to state and national trends that show declining participation in outdoor recreation, a decreased understanding of the natural world, and a shift to a more sedentary lifestyle. These trends are linked, in part, to issues identified by the Outdoor Education Advisory Committee in its *Outdoor Education Legislative Report – 2009*; and in the document, *A GreenPrint for Minnesota: State Plan for Environmental Education, third edition*. This project addresses four strategic themes identified in the reports: 1) increasing understanding of outdoor education and its benefits, 2) improving understanding of ecological systems, 3) garnering resources to support implementation of outdoor education, and 4) making environmental and outdoor education “academically relevant” through connections to state standards.

Specifically, this project will improve the achievement of students in grades 7-12 by using the environment and the outdoors as a context for academic learning. In addition to mastering selected academic standards, students will develop their outdoor skills and increase their understanding of the natural environment. These goals will be achieved by providing professional development to teachers, and funding innovative programs—two strategies identified in the *Outdoor Education Legislative Report – 2009*. An evaluation plan will be designed during the initial stages of the project to ensure that the professional development and innovation grant activities are appropriately monitored and reported, and that subsequent conclusions about the project results are well-informed. Also, the ongoing evaluation will permit adjustments in program activities to achieve the desired results.

A description of the project and its impact or results will be reported in a written evaluation following the conclusion of the project. The report will identify project activities that demonstrate the greatest potential for improving the academic achievement of secondary students by using the environment and outdoors as a context for learning. These “promising” activities can be the basis for future grant proposals, curriculum improvement efforts, and professional development intended to reach a wider audience of teachers and students. For example, exemplary lesson plans developed by teachers will provide concrete illustrations of how to integrate environmental concepts and outdoor skills with Minnesota’s academic standards. These model lesson plans will be reported on the SEEK (Sharing Environmental Knowledge) website and incorporated into the professional development carried out by the regional Math and Science Teacher Academies. Resources to assist teachers in their planning of standards-based environmental and outdoor education activities will be posted on the SEEK site, as well. Insights and “lessons learned” through this project will benefit educators in environmental learning centers and state agencies (e.g., DNR, PCA, MDE) and other providers of environmental and outdoor education.

C. Other Funds Proposed to be Spent during the Project Period:

The Minnesota Department of Education will provide in-kind support including a workspace at its Roseville site, office technology (computer, telephone, audio-visual equipment, etc.), transportation support, workshop and meeting space, and professional collaboration with state instructional specialists in the content areas. It is anticipated that the Department of Natural Resources, other state agencies and educational entities are likely to contribute staff time toward one or more parts of the project.

D. Spending History: None

VII. DISSEMINATION: Information about the project results will be shared in the following ways:

- A final report, including findings of a project evaluation, will be created.
- Six regional professional development plans (i.e., training modules) and selected model lesson plans will be compiled for access by educators and the public on the Minnesota Department of Education and/or SEEK (Sharing Environmental Knowledge) websites.

VIII. REPORTING REQUIREMENTS: Periodic work program progress reports will be submitted not later than January 2011, July 2011 and January 2012. A final work program report and associated products will be submitted between June 30 and August 1, 2012 as requested by the LCCMR.

IX. RESEARCH PROJECTS: NA

Attachment A: Budget Detail for 2010 Projects - Summary and a Budget page for each partner (if applicable)								
Project Title: Innovative Model for Environmental and Outdoor Education in Grades 7-12								
Project Manager Name: Beth Aune, Minnesota Department of Education								
Trust Fund Appropriation: \$ 300,000								
1) See list of non-eligible expenses, do not include any of these items in your budget sheet								
2) Remove any budget item lines not applicable								
2010 Trust Fund Budget	<u>Result 1 Budget:</u>	<u>Amount Spent</u> <i>(date)</i>	<u>Balance (date)</u>	<u>Result 2 Budget:</u>	<u>Amount Spent</u> <i>(date)</i>	<u>Balance (date)</u>	TOTAL BUDGET	TOTAL BALANCE
	Professional development			Innovation mini-grants				
BUDGET ITEM								
PERSONNEL: wages and benefits: Project Coordinator	126,500			57,500			184,000	
Contracts								
Professional/technical: Evaluator contracted via MDE evaluation criteria	5,000			5,000			10,000	
Other contracts Grants to schools via RFP developed by advisory committee members				50,000			50,000	
Supplies Instructional materials	4,000						4,000	
Travel expenses in Minnesota meals, lodging and mileage for planning, training, support and evaluation	18,100			2,500			20,600	
Substitutes for teacher participants and stipends for presenters	31,400						31,400	
COLUMN TOTAL	\$185,000	\$0	\$185,000	\$115,000	\$0	\$115,000	\$300,000	\$0