



Environment and Natural Resources Trust Fund (ENRTF) M.L. 2017 LCCMR Work Plan

Date of Submission: November 14, 2016

Date of Next Status Update Report: December 1, 2017

Date of Work Plan Approval: 06/07/2017

Project Completion Date: June 30, 2020

Does this submission include an amendment request? ___

PROJECT TITLE: Connecting Youth to Minnesota Waterways through Outdoor Classrooms

Project Manager: Meg Krueger

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Location: Statewide

Total ENRTF Project Budget:

ENRTF Appropriation: \$1,200,000

Amount Spent: \$0

Balance: \$1,200,000

Legal Citation: M.L. 2017, Chp. 96, Sec. 2, Subd. 05a

Appropriation Language:

\$1,200,000 the first year is from the trust fund to the commissioner of natural resources for an agreement with Wilderness Inquiry to provide place-based environmental education science water experiences to approximately 20,000 middle- and high-school students. This appropriation is available until June 30, 2020, by which time the project must be completed and final products delivered.

I. PROJECT TITLE: Floating Classroom: Connecting 20,000 Youth to Minnesota Waterways

II. PROJECT STATEMENT:

Floating Classroom: Connecting 20,000 Youth to Minnesota Waterways (“Floating Classroom”) will serve 20,000 diverse Minnesota youth (grades 4-12) over three years, creating opportunities to engage in environmental science through accessing Minnesota waterways and public lands. Youth will assess natural resources, collect scientific data, engage in outdoor recreation, develop a stewardship ethic, and be exposed to outdoor-related employment opportunities.

Through collaboration with agencies such as the National Park Service, Minnesota DNR, Conservation Corps of Minnesota and others, Wilderness Inquiry will provide opportunities for youth to participate in hands-on exploration of State Water Trails. The Floating Classroom offers students the chance to collect data on Minnesota waterways and contribute to statewide databases tracking watershed health and quality. This exposure to scientific method connects youth to their local waterways and offers a platform for cultivating a conservation ethic. Students will also have the opportunity to care for public lands through restoration projects in Minnesota State Parks and other public lands.

To ensure the health of Minnesota ecosystems, our natural resources must be cared for and protected by the next generation. Through exposure to outdoor spaces and hands-on experiences in the outdoors, Minnesota’s youth develop a stewardship ethic and learn to care for their natural resources as active, engaged citizens.

Floating Classroom activity outcomes include:

- 19,400 youth engage in hands-on exploration, recreation, and assessment of Minnesota waterways.
- 600 youth participate in a multi-day expedition along Minnesota waterways. Youth restore and maintain public lands, discover pathways into outdoor-related employment, and learn about outdoor recreation opportunities in their area.
- Youth compile scientific data and contribute to statewide online databases, tracking the health of waterways and ecosystems in Minnesota.
- Youth receive documentation of program completion, recognizing their achievements and outlining their skills for future employment opportunities.

Minnesota benefits from its youth cultivating a stewardship ethic and learning to access outdoor spaces for recreation and environmental education. The deep connections Minnesota youth develop with their environment and public lands leads to sustained care and awareness of Minnesota’s natural resources. This pro-social engagement encourages positive citizenship and active community building. The Floating Classroom fosters an ethic of conservation as well as an appreciation of natural outdoor spaces in Minnesota’s young people, ensuring healthy waterways and ecosystems for the future.

III. OVERALL PROJECT STATUS UPDATES:

Project Status as of December 15, 2017:

Project Status as of June 15, 2018:

Project Status as of December 15, 2018:

Project Status as of June 15, 2019:

Project Status as of December 15, 2019:

Overall Project Outcomes and Results:

IV. PROJECT ACTIVITIES AND OUTCOMES:

ACTIVITY 1: Engage 20,000 youth in environmental science and recreation opportunities along Minnesota's waterways

Description: 19,400 Minnesota youth, grades 4-12, practice scientific methods through hands-on environmental science education and recreation activities. Students engage in multiple water-focused science activities, paddle 24' Voyageur Canoes or 17' tandem canoes, and earn an environmental science certificate by completing these modules:

- Water quality testing and collection (pH, temperature, phosphorus, nitrates, clarity)
- Inventorying aquatic and terrestrial invasive and native species
- Assessing recreational opportunities such as fishing, canoeing, and hiking

As a result of exploring and assessing Minnesota waterways (including the Mississippi River, Minnesota River, Sauk River, Rum River, Crow River, Red River, St. Louis River, and other local lakes and public lands) 19,400 youth access recreational opportunities in their area, experience hands-on environmental science education, develop a stewardship ethic, and realize ongoing opportunities into career and academic pathways. Data and assessments will be collected in the field and compiled in an online waterway map that students can access from school. The online portal will also include information about ongoing outdoor activities and employment pathways to create more continuity and alignment between outdoor educational experiences, classroom learning, and lifelong care for the outdoors. The "Floating Classroom" leverages existing curriculum and assessment tools to highlight the health, accessibility, and recreation resources of local waterways.

The program can serve up to 200 youth each day, focusing on diverse students who wouldn't normally have access to similar opportunities, primarily from public schools and other youth programs. Each program day costs an average of \$46 per student.

(Estimated cost \$46 x 19,400 students = \$892,400)

An additional 600 students will participate in multi-day expeditions and learn to restore and maintain healthy and bio diverse natural environments on public lands. Groups of 6-30 youth paddle canoes and engage deeply in environmental science and stewardship in areas such as Fort Snelling State Park, Nerstrand State Park, William O'Brien State Park, Itasca State Park, as well as other municipal and regional parks, state and federal public lands and waterways. A subsection of these 600 students (10%) will pilot an "Adopt-a-Campsite" project in partnership with the Minnesota DNR.

"Adopt-a-Campsite" activities include facilities upkeep, fire pit maintenance, portage clearing, invasive species removal, trash clean up, general site improvements, and information-sharing for campsites. Youth will:

- Participate in hands-on environmental science education and recreation
- Improve and maintain waterways through service projects such as invasive species removal
- Earn an environmental-skills certification, highlighting resume-building skills learned in scientific data collection, resource management, leadership, Leave No Trace, and more

Multi-day expeditions prepare youth to improve their waterways, overcome challenges, learn about work opportunities in the outdoor industry, and adopt sustainable lifestyles. Multi-day expeditions cost an average of \$388 per student.

(Estimated cost \$387.66 x 600 youth = \$232,600)

Summary Budget Information for Activity 1:

ENRTF Budget: \$ 1,125,000

Amount Spent: \$ 0
Balance: \$ 1,125,000

Outcome	Completion Date
1. 19,400 youth explore and assess Minnesota waterways	6/30/2020
2. 600 youth conduct intensive multi-day waterway assessments	6/30/2020

Activity 1 Status as of December 15, 2017:

Activity 1 Status as of June 15, 2018:

Activity 1 Status as of December 15, 2018:

Activity 1 Status as of June 15, 2019:

Activity 1 Status as of December 15, 2019:

Final Report Summary:

ACTIVITY 2: Disseminate data and evaluation of project

Description:

Evaluation of project: Wilderness Inquiry partners with the University of Minnesota’s Center for Applied Research and Educational Improvement (CAREI) to design, administer, and analyze the project evaluation. They will be contracted to do the following:

Year 1:

- Design an evaluation instrument, including survey and interview questions
- Administer evaluation tool to measure program effectiveness and the ability to develop environmental-based skills and socio-emotional growth in youth, including the development of:
 - A stewardship ethic
 - An increased awareness of sustainable lifestyle habits and active recreational opportunities on Minnesota’s public lands and waterways
 - Scientific skills, such as water quality data collection and analysis

Year 2:

- Year 1 data analysis and program adjustment recommendations
- Continue to administer evaluation instrument, collecting both qualitative and quantitative data

Year 3:

- Develop final written report
- Share and disseminate through online portal and conferences

(Evaluation costs: \$20,000/year for first two years, \$5,000 for final year to provide a report and assist with dissemination)

Dissemination of data: Wilderness Inquiry will select a vendor through the competitive process to create an online portal to disseminate evaluations and statewide water quality data collected by students over three years. The online portal will act as an interactive map highlighting statewide program locations, student data collection, evaluation statistics, and ongoing opportunities for youth engagement in the outdoors. This webpage provides a statewide model to highlight the educational and environmental impact of connecting youth with their local waterways. In addition to the program map, this site hosts evaluation information from partners

about Floating Classroom activities to broaden dissemination. Visitors to this site will access:

- Aggregated, student-collected statewide water quality data
- Highlights from Floating Classroom, including the program impact based on evaluation data
- Overview of program locations and recreational opportunities statewide
- Opportunities for internships and jobs

To clarify the process of collecting, analyzing, and disseminating the water quality data, Wilderness Inquiry will follow these steps:

- Step 1: Youth in the field take samples of water quality data (turbidity readings, pH, dissolved oxygen, phosphorous, native/invasive species, etc)
- Step 2: Educators (WI trail staff) collect data using offline data collection tools
- Step 3: Wilderness Inquiry maintains data collected from the field in our existing database
- Step 4: Vendor develops online portal, takes data and transfers it to an interactive map of Minnesota waterways

(Costs: \$30,000 for online portal development project)

Summary Budget Information for Activity 2:

ENRTF Budget: \$ 75,000
Amount Spent: \$ 0
Balance: \$ 75,000

Outcome	Completion Date
1. CAREI Project evaluation: impact on development of a stewardship ethic, sustainable lifestyle habits, and recreational interests	6/30/2020
2. Water Quality Data Map through an online web-portal created for summary data collected and submitted by students tracking water quality, species inventory, and recreational opportunities in Activity 1. Evaluation summary and research dissemination as well as evaluation reports and summaries.	6/30/2020

Activity 2 Status as of December 15, 2017:

Activity 2 Status as of June 15, 2018:

Activity 2 Status as of December 15, 2018:

Activity 2 Status as of June 15, 2019:

Activity 2 Status as of December 15, 2019:

Final Report Summary:

V. DISSEMINATION:

Description: We will work with our partners at collaborating agencies to identify venues for disseminating information, statistical data, and summary findings about this project. Wilderness Inquiry’s website will post updates on activities, partners, and resources at < <https://www.wildernessinquiry.org/current-news/>>. Once created, The Water Quality Data Map and online portal for evaluation and research dissemination will also be available to the public.

Status as of December 15, 2017:

Status as of June 15, 2018:

Status as of December 15, 2018:

Status as of June 15, 2019:

Status as of December 15, 2019:

Final Report Summary:

VI. PROJECT BUDGET SUMMARY:

A. Preliminary ENRTF Budget Overview:

***This section represents an overview of the preliminary budget at the start of the project. It will be reconciled with actual expenditures at the time of the final report.**

Budget Category	\$ Amount	Overview Explanation
Personnel:	\$809,400	1 Program Director at .5 FTE for 3 years; 1 Program Manager at 1.0 FTE for 3 years; 2 Program Coordinators at .75 FTE for 3 years; 1 Finance and Administration Assistant at .15 FTE for 3 years Trail Guide Wages at 1:7 staff/student ratio
Professional/Technical/Service Contracts:	\$75,000	Project evaluation by CAREI (\$20,000 x 2 years, 5,000 for 3 rd year); Web-based portal development for watershed data map and evaluations; dissemination (\$30,000)
Equipment/Tools/Supplies:	\$111,000	Equipment maintenance and repair (estimated \$9,000 x 3 years); PDFs, paddles, first aid supplies, and other outdoor gear (estimated \$18,000); Biffy rental for program sites (\$200 x 30 events); Water quality testing kits, invasive species interpretive materials, youth certification cards (\$3 x 20,000 youth)
Travel Expenses in MN:	\$66,000	Travel to planning meetings with MN School districts (estimated 4,500 miles x \$.54/mile); Gear and trail Staff transportation (estimated 300 events x 100 miles round trip x \$.54/mile); Youth transportation (\$250 x 150 events); Staff food and lodging for day programming away from Twin Cities (\$100 x 100 events)
Other: Food	\$36,700	Youth food for events (600 youth x 5 days x \$9/day per youth) + (19,400 youth x \$.50)
Other: Liability Insurance	\$90,000	Liability Insurance for staff and participants on programming events (\$30,000 x 3 years)
Other: Camping fees	\$11,900	Camping fees and entrance fees to state/regional/national parks and recreation areas around the state (estimated \$125 nightly group campsite fees x 75 events); permits and licenses for participants (\$25 vehicle permits for

		17 vans x 3 years); annual permits for river and recreational access (\$400 x 3 years)
TOTAL ENRTF BUDGET:	\$1,200,000	

Summary of Personnel Costs:

- Program Director (.50 FTE) – Estimated wages \$35,000/year x 3 years = \$105,000
Responsible for directing all aspects of the Floating Classroom project to ensure timely and high quality delivery of service including oversight of hiring, training, scheduling, and supervising staff and volunteers, coordinating with schools, collecting and maintaining accurate demographic data, and executing all trip logistics.
- Program Manager (1.0 FTE) – Estimated wages \$60,000/year x 3 years = \$180,000
Responsible for managing logistic details for all events statewide. Supervises staff and ensures quality, safety, and cost effectiveness of all events. Oversees the delivery and implementation of educational curricula and timely communication with school and other partners
- Program Coordinator (.75 FTE) – Estimated wages \$30,000/year x 3 years = \$90,000
Coordinates the day-to-day details of the single and multi-day experiential programs, including hiring, training, scheduling, and supervising staff and volunteers conducting the events, coordinating with schools, collecting and maintaining accurate demographic tallies, coordinating all trip logistics including permits and reservations, transportation, gear, and food.
- Program Coordinator (.75 FTE) – Estimated wages \$30,000/year x 3 years = \$90,000
Coordinates the day-to-day details of the single and multi-day experiential programs, including hiring, training, scheduling, and supervising staff and volunteers conducting the events, coordinating with schools, collecting and maintaining accurate demographic tallies, coordinating all trip logistics including permits and reservations, transportation, gear, and food.
- Finance and Administration Assistant (.15 FTE) – Estimated wages \$6,000/year x 3 years = \$18,000
Responsible for entering participant registrations and demographic data and collecting, entering, and coding project receipts. Provides assistance with scheduling and communications correspondence for the project.
- Trail Guides – Estimated wages \$85/day x 3,840 days = \$326,400

Explanation of Use of Classified Staff: N/A

Explanation of Capital Expenditures Greater Than \$5,000: N/A

Total Number of Full-time Equivalents (FTE) Directly Funded with this ENRTF Appropriation: 9.45

Total Number of Full-time Equivalents (FTE) Estimated to Be Funded through Contracts with this ENRTF Appropriation: N/A

B. Other Funds:

Source of Funds	\$ Amount Proposed	\$ Amount Spent	Use of Other Funds
Non-state			
Public Schools in Minnesota	\$300,000	\$	Teacher and staff time to coordinate and attend events with Wilderness Inquiry
Other			
Wilderness Inquiry (in-kind support)	\$360,000	\$	All staff benefits, additional staff support including Executive Director, Outreach Director, Equipment and Facilities

National Park Service	\$150,000	\$	Program staff/Rangers, Environmental curricula and interpretation, estimates
TOTAL OTHER FUNDS:	\$510,000	\$	

VII. PROJECT STRATEGY:

A. Project Partners:

Partners receiving ENRTF funding

- University of Minnesota CAREI: \$45,000 for project data collection, evaluation, summary of findings, and dissemination.

Partners NOT receiving ENRTF funding

- Minnesota Department of Natural Resources: DNR will provide educational and interpretive curricula content on many day and multiday trips; assist in coordinating access to multiple programming sites throughout the state; work with Wilderness Inquiry to pilot the Adopt-a-Campsite program; and provide significant in-kind personnel and funding to the project.
- National Park Service: NPS will provide educational and interpretive curricula content on many day and multiday trips. NPS will broker use agreements to facilitate use of the Mississippi River with other land management agencies. NPS will provide significant in-kind personnel and funding to the project.
- Minnesota Public School Districts: School faculty contact and recruit youth, develop pre and post trip resources to align Wilderness Inquiry events with classroom learning, and provide chaperones and staff support to the project.

B. Project Impact and Long-term Strategy: Minnesota’s natural spaces provide opportunities for outdoor recreation, tranquility, and learning. Valuing these resources and cultivating enthusiasm and interest in Minnesota youth will help preserve and maintain public lands and waters for years to come. The Floating Classroom contributes to ongoing, statewide efforts to track and improve the quality and health of Minnesota waterways.

C. Funding History:

Funding Source and Use of Funds	Funding Timeframe	\$ Amount
M.L. 2014, Chp. 226, Sec. 2, Subd. 09c	FY 2014-2017	\$1,093,000
M.L. 2013, Chp. 52, Sec. 2, Subd. 07b	FY 2012-2013	\$450,000
		\$

VIII. REPORTING REQUIREMENTS:

- **The project is for 3 years, will begin on 7/1/17, and end on 6/30/20.**
- **Periodic project status update reports will be submitted on June 15 and December 15 of each year.**
- **A final report and associated products will be submitted between June 30 and August 15, 2020.**

IX. VISUAL COMPONENT or MAP(S):

See Attachment A: “Graphic_Floating_Classroom.pdf”

Environment and Natural Resources Trust Fund



M.L. 2017 Project Budget

Project Title: Connecting Youth to Minnesota Waterways through Outdoor Classrooms

Legal Citation: M.L. 2017, Chp. 96, Sec. 2, Subd. 05a

Project Manager: Meg Krueger

Organization: Wilderness Inquiry

M.L. 2017 ENRTF Appropriation: \$1,200,000

Project Length and Completion Date: 3 years, June 30, 2020

Date of Report: November 7, 2016

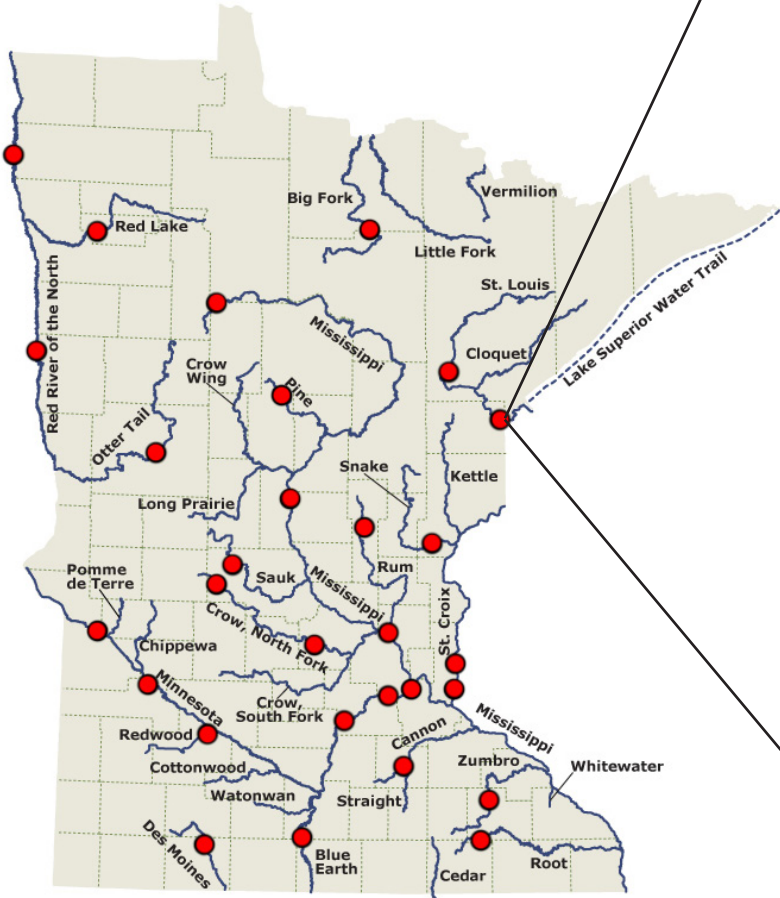
ENVIRONMENT AND NATURAL RESOURCES TRUST FUND BUDGET	Activity 1 Budget	Amount Spent	Activity 1 Balance	Activity 2 Budget	Amount Spent	Activity 2 Balance	TOTAL BUDGET	TOTAL BALANCE
BUDGET ITEM	Engage 20,000 youth in environmental science and recreation opportunities along Minnesota's waterways			Disseminate data and evaluation of project				
Personnel (Wages and Benefits)	\$809,400		\$809,400				\$809,400	
Program Director \$70,000; 50% FTE for 3 years -- 100% salary= \$105,000 total								
Program Manager \$60,000; 100% FTE for 3 years -- 100% salary= \$180,000 total								
Program Coordinator \$40,000; 75% FTE for 3 years -- 100% salary= \$90,000 total								
Program Coordinator \$40,000; 75% FTE for 3 years -- 100% salary= \$90,000 total								
Finance and Administration Assistant \$30,000; 15% FTE for 3 years -- 100% salary= \$18,000 total								
Trail Guides \$85/day x 3,840 days = \$326,400 total								
Professional/Technical/Service Contracts							\$75,000	
University of Minnesota Center for Applied Research and Educational Improvement				\$45,000		\$45,000		
Web-based portal development vendor				\$30,000		\$30,000		
Equipment/Tools/Supplies Examples of program supplies and equipment for participants and program volunteers are listed below. Please note that the items below are estimates of program supplies and equipment needed. We will bill for actual costs. Equipment maintenance and repair (\$9,000 x 3 years); PDFs, paddles, first aid supplies, and other outdoor gear (\$18,000); Biffy rental for program sites (\$200 x 30 events); Water quality testing kits, invasive species interpretive materials, youth certification cards (\$3 x 20,000 youth)	\$111,000		\$111,000				\$111,000	

Travel expenses in Minnesota								
Travel to planning meetings with MN School districts (estimated 4,500 miles x \$.54/mile); Gear and trail Staff transportation (300 events x 100 miles round trip x \$.54/mile); Youth transportation (\$250 x 150 events); Staff food and lodging for day programming away from Twin Cities (\$100 x 100 events)	\$66,000		\$66,000				\$66,000	
Other								
Liability Insurance for staff and participants on programming events (\$30,000 x 3 years)	\$90,000		\$90,000				\$90,000	
Food for youth events (600 youth x 5 days x \$9/day per youth) + (19,400 youth x \$.50)	\$36,700		\$36,700				\$36,700	
Camping fees and entrance fees to state/regional/national parks and recreation areas around the state (estimated \$125 nightly group campsite fees x 75 events); permits and licenses for participants (\$25 vehicle permits for 17 vans x 3 years); annual permits for river and recreational access (\$400 x 3 years)	\$11,900		\$11,900				\$11,900	
COLUMN TOTAL	\$1,125,000			\$75,000			\$1,200,000	

Floating Classroom: Connecting 20,000 Youth to Minnesota Waterways

SAMPLE OF A WATERWAY REPORT

Description: 20,000 diverse middle and high school students access 30+ waterways statewide, participate in environmental science education, collect and disseminate data in the form of an online "Report Card," and earn a resume-building science certificate.



● = Potential Program/Sampling Locations

MN Floating Classroom Report Card

Date Visited: _____
 Waterway Name: _____
 GPS Coordinates: _____

Water Quality Data: (Student group average)
 Temperature: _____
 Phosphorus: _____
 Nitrates: _____
 Clarity: _____
 pH: _____

Aquatic and Terrestrial Species Inventory:
 1) _____ (Native)
 2) _____ (Native)
 3) _____ (Invasive)

Recreational Opportunities on Site:
 1) _____
 2) _____
 3) _____
Ex: Canoeing, Hiking, Fishing, Hunting (with license)

Assessment Completed by: _____
 School: _____

Summary/Narrative:



