



Environment and Natural Resources Trust Fund

2027 Request for Proposal

General Information

Proposal ID: 2027-204

Proposal Title: Water Science Field Day on Public Lands

Project Manager Information

Name: Thomas Crawford

Organization: Friends of the Minnesota Valley

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Project Basic Information

Project Summary: Host water focused River Watch Field Days for public high schools in Hennepin county using hands-on field-based scientific explorations of public waters, fauna, and landscapes.

ENRTF Funds Requested: \$117,000

Proposed Project Completion: June 30, 2029

LCCMR Funding Category: Small Projects (G)

Secondary Category: Education and Outdoor Recreation (C)

Project Location

What is the best scale for describing where your work will take place?

Region(s): Metro, Central,

What is the best scale to describe the area impacted by your work?

Region(s): Central, Metro,

When will the work impact occur?

During the Project

Narrative

Describe the opportunity or problem your proposal seeks to address. Include any relevant background information.

There is a great disparity in the access to scientific field-based education opportunities between urban Minneapolis/St. Paul public school students, who are primarily students of color, and their suburban and rural counterparts. This disparity is an extension of the reduced access to natural spaces students within the cities experience. River Watch Field Days address this disparity by offering Metro Area Public School students the free opportunity to participate in field-based hands-on hydrologic and ecological studies that builds on their classroom learning, while spending time on public lands and exploring natural spaces.

Common barriers urban schools encounter when trying to access natural spaces include: the general proximity of urban schools to green spaces, and the prohibitive transportation costs to reach them; the need for outdoor programming to fulfill state standards; and the constraints on educators' class time and resources. In other words, teachers simply don't have access to the funds, equipment, time, and lesson plans needed to properly host an off-site field day in a natural setting. River Watch is experienced in hosting these field day events for students in the Minnesota River Basin, and requires LCCMR funding to offer the program to Metro Area public high schools.

What is your proposed solution to the problem or opportunity discussed above? Introduce us to the work you are seeking funding to do. You will be asked to expand on this proposed solution in Activities & Milestones.

River Watch currently offers its award-winning water sampling program to schools in the Minnesota River Basin. This includes half day long Field Days to nearby natural areas, like the Minnesota Valley Wildlife Refuge. Field Day programming comprises multiple learning stations including: chemical water data collection; macroinvertebrate collection and identification; and observing the impact of land use and climate change on our water and landscape. We seek funding to expand program staffing while offering these Field Days to Metro Area public high schools.

River Watch Field Days eliminate common barriers schools face when considering a field trip, the most immediate barrier being the cost of transportation to the natural spaces, which will be paid for by the LCCMR funding. Furthermore, they are designed to accommodate a large number of students, which helps minimize disruption to a school's curricular schedule. Lastly, Field Days fill the need for outdoor education experiences aligned with Minnesota State Science Standards for grades 9 through 12. The event's structure and planning ensures that teachers do not need to spend time creating extra educational content because they are participating in an established program with defined methods and relevant learning goals.

What are the specific project outcomes as they relate to the public purpose of protection, conservation, preservation, and enhancement of the state's natural resources?

The goal of these events is for students to establish an intellectual curiosity for investigating natural resources, and create a positive emotional connection with outdoor learning. When students encounter a safe, positive outdoor learning experience, it lays the groundwork for building a community of stewards dedicated to protecting, conserving, and enhancing natural resources. The volunteer data collection also generates valuable data for the Minnesota Pollution Control Agency's Surface Water Database. This data is used by the MPCA to detect trends in water clarity over time, and to formally assess the health of streams by comparing them to state water quality

Activities and Milestones

Activity 1: Recruit 10 Metro Area Public High Schools to Participate in River Watch Field Days

Activity Budget: \$8,000

Activity Description:

The objective of recruitment is to establish a partnership with at least 10 public schools in Minneapolis and St. Paul school districts. The goal of each partnership is to host a River Watch Field Day once a year over two school years per school. This work has already begun, as demonstrated by the letters of support (see attached documents).

1. Contact each of the 17 public non-charter high schools in the Metro Area to determine which teachers and subset of students (e.g. 10th Grade Biology Students; All 9th Graders) would make logical participants in the Field Day.
2. Contact and meet with the prospective partnering teachers to discuss what the Field Day is and how it would fit into their school year and curricular schedule.

These tasks will be carried out by the Program Director - and accomplished by meeting directly with the educators involved in science education.

The outcome of this outreach will be establishing partnerships with at least 10 different Metro Area Public High Schools who agree to participate in a Field Day during the 27-28 and 28-29 school years. These partnerships will be fostered with the goal of establishing ongoing participation in River Watch programming.

Activity Milestones:

Description	Approximate Completion Date
Complete outreach packet for dissemination to potential partner schools	July 31, 2027
Conduct outreach to Metro Area Public Non-Charter High Schools	September 30, 2027
Collect agreements from 10 Metro Area Schools to participate in a River Watch Field Day.	September 30, 2027

Activity 2: Coordinate Field Day Staffing Needs, Transportation Needs, and Site Logistics

Activity Budget: \$46,800

Activity Description:

The objective of coordinating Field Day staffing needs and logistics is to ensure both River Watch and its partnering schools are prepared for the Field Day.

The following steps will be carried out by the River Watch Program Director:

1. Hire and train 8 Temporary Program Staff (2 per station) on how to use River Watch's equipment and lead the Field Day lessons.

The stations are: water quality sampling, macroinvertebrate collection and identification, a guided nature hike, and a lesson on the cultural history of landscape.

2. Determine transportation needs for each school. Then arrange for reimbursement of school for transportation costs.

3. Coordinate schedules with the Field Day location staff, participating classes, transportation provider, and River Watch Program Staff.

Field Day locations include, but are not limited to: Fort Snelling State Park, Minnesota Valley Wildlife Refuge, Mound Springs Park.

5. Disseminate the Field Day information packet for each school. The packet includes a schedule, a map, and Staff contact information.

6. Acquire, calibrate, and maintain: multi-meter probe and sensors, buffers solutions, water sampler, Secchi tube, macroinvertebrate collection nets, containers.

The outcome of this training and coordination is that all parties will understand their role in the Field Day programming.

Activity Milestones:

Description	Approximate Completion Date
Hire 8 Temporary Program Staff	February 28, 2028
Train Program Staff on Facilitating Field Day Activities (12 Hours)	March 31, 2028
Collect, check, and calibrate equipment for the Field Day Activities	March 31, 2028
Arrange Transportation for Participating Schools	May 31, 2029
Coordinate Schedules for all parties involved in each Field Day	May 31, 2029
Create Information Packets tailored to each Field Day	May 31, 2029

Activity 3: Prepare For and Host one River Watch Field Day per Year With Each of the 10 participating schools

Activity Budget: \$62,200

Activity Description:

The objective of hosting free River Watch Field Days is to deliver outdoor hands-on water science lessons to urban student populations, who experience significant barriers to field based scientific learning opportunities.

Intellectual preparation for the Field Day is necessary for students to establish context for the chemical and biological data being collected. This is achieved through a pre-event presentation on the basics of water chemistry, pollution, land-use, and macroinvertebrate biology. The presentation can be facilitated by the teacher or River Watch Program Staff.

The day of the event, before participants arrive, the Program Staff will set up each learning station at the selected park.

Once participants arrive they will be oriented to park facilities, learning station locations, and schedule for the day. Then participants will be split into their designated groups of 20 and sent to their assigned station.

From there, each group will rotate between the four stations on a 45 minute interval. Once each group completes the stations, they will have a lunch break and return to their school.

This process will repeat with each participating school once a year for two school years. All participants will be asked to complete a survey on their experience and growth.

Activity Milestones:

Description	Approximate Completion Date
Host 1 Field Day with each participating school during Spring of 2028	May 31, 2028
Compile Satisfaction Survey Results from Participants	June 30, 2028
Host 1 Field Day with each participating school during the 2029 school year	May 31, 2029
Compile Satisfaction Survey Results from Participants	June 30, 2029

Dissemination

Describe your plans for dissemination, presentation, documentation, or sharing of data, results, samples, physical collections, and other products and how they will follow ENRTF Acknowledgement Requirements and Guidelines.

As with all River Watch sampling, the volunteer-collected data will be shared annually with two entities: Minnesota Pollution Control Agency, and the Izaak Walton League. The MPCA collects the data on their publicly available Surface Water Database. The Izaak Walton League collects their data on the publicly available Clean Water Hub. Each school will receive a copy of their data, and the other volunteer-collected data from the same sampling site. With the data comes a reflection activity that helps the classes analyze and contextualize the data.

River Watch is primarily tailored to school settings. As such, the promotional material generated from Field Days will be focused on its value to students, educators, and environmental education partners. Schools will receive a summary of their particular Field Day including attendance, sampling results, and pictures of the event, for them to share with their student community. These summaries will be collected and abridged to communicate the impact of these events to potential partners. By growing and promoting this program at a school level, we will empower the community of students to participate in other volunteer science and environmental stewardship opportunities as they progress through their lives.

Long-Term Implementation and Funding

Describe how the results will be implemented and how any ongoing effort will be funded. If not already addressed as part of the project, how will findings, results, and products developed be implemented after project completion? If additional work is needed, how will this work be funded?

With two years of fully funded Field Days for Minneapolis/St. Paul Public Schools, Friends of the Minnesota Valley is confident that we can leverage the success of the urban school program to obtain long term funding through a Legislative appropriation (one of our past and current funding sources). The appropriation request will include the schools we have reached as a result of the LCCMR grant.

All data collected through the program is sent to the MPCA, and helps further justify the importance of volunteer collected data and the effectiveness of getting students involved in high quality data collection.

Project Manager and Organization Qualifications

Project Manager Name: Thomas Crawford

Job Title: River Watch Program Director

Provide description of the project manager's qualifications to manage the proposed project.

Over the past four years, Tom Crawford, Program Director of River Watch, has provided hands-on water quality data collection experiences for students across the Minnesota River Watershed. Under his direction, participation in the sampling program has grown from 10 schools and teams in 2019 to 28 teams during the 24-25 school year. During his tenure, he has expanded the program to include participants ages 5 through Adult, adapted the curriculum to meet Minnesota State Science Standards, and developed new extra-curricular opportunities through increased organizational partnerships.

One of the most ambitious projects Tom has initiated is the River Watch Field Day events. Beginning in 2024, River Watch invited Hiawatha Collegiate Academy to Fort Snelling State Park for a day of water sampling, macroinvertebrate surveys, a hike to B'dote, and a historical exploration of the park. Since the first event, River Watch has hosted two other field days with Hiawatha school. To enhance these field days, there is a need for more program staff. Tom is prepared to train, and manage these staff, relying on his 5 years of experience managing and training mental health professionals, outdoor educators, and first aid providers.

Finally, in his time running River Watch, Tom has successfully managed the budget, and prepared annual reports for partner organizations and funders. Amidst funding cuts, Tom maintained the quality of the equipment and programming, as demonstrated in annual participant surveys, while increasing the number of participating schools and organizations.

Organization: Friends of the Minnesota Valley

Organization Description:

Friends of the Minnesota Valley works within the Minnesota River watershed to promote sound, science-based policy decisions that promote healthy and sustainable uses of its rivers, streams and other natural resources. Our programs are designed to build and engage a volunteer grassroots citizen network compatible with our goal of achieving a healthy and sustainable environment in the Minnesota River valley. As our partnerships expand, so too does Friends geographic reach, as we provide programming in the Mississippi River Watershed.

Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	\$ Amount
Personnel								
Field Day Director		The Field Day Director will: recruit and communicate with partner schools; hire and train Field Day Staff; coordinate pre-event presentations, day of logistics, and post-event evaluations; create/acquire necessary materials for outreach and field day activities; compile project reports and participant feedback.			0%	0.4		\$33,500
Field Day Program Staff (8 Staff)		Program Staff will be responsible for: attending 30 hours of Program Training; facilitating pre-event educational presentations (upon request from the teacher); Hosting the Field Day - including set up, program delivery, take down, and follow up tasks.			0%	0.84		\$61,000
							Sub Total	\$94,500
Contracts and Services								
TBD	Service Contract	Student Transportation on School Bus. No single contract, transportation to and from Field Trip will be chosen using the school districts current transportation company. Transportation funds will reimburse school's for transportation costs. The funding assumption is \$500/Field Trip in Transportation Costs.				0		\$10,000
							Sub Total	\$10,000
Equipment, Tools, and Supplies								
	Tools and Supplies	Learning Station Supplies (Safety)	First Aid Kits (6, \$15/per), Safety Vests (50, \$3/per), Hand Sanitizer (6, \$10/per)					\$400
	Tools and Supplies	Learning Station Supplies (Macroinvertebrate Survey Tools)	The supplies allow participants to collect samples of the macroinvertebrate populations in stream, ponds, and lakes. Dip Nets (5, \$100/per), Waders (10, \$50/per).					\$1,000

	Tools and Supplies	Calibrating Reagents/Buffers	There are 8 types of calibrating solutions with regularly fluctuating costs. They are necessary to calibrate the water quality data sensors so they produce lab quality data.					\$3,000
	Equipment	Water Quality Sensors	There are 4 types of water quality data sensors that are attached to the YSI Cable and calibrated with the reagents. These are necessary to collect high quality hands-on field-based data. The types are Specific Conductivity/Temperature, pH, Nitrate (NO3), and Dissolved Oxygen.					\$3,000
							Sub Total	\$7,400
Capital Equipment								
		YSI Handheld Electronic Water Quality Monitoring Device & Cable	This is the device students are trained on to conduct the field-based hands-on water quality monitoring. The device collects lab quality data. It consists of a handheld screen that communicates the data and a cable that attaches to the water quality data sensors.	X				\$5,000
							Sub Total	\$5,000
Acquisitions and Stewardship								
							Sub Total	-
Travel In Minnesota								
							Sub Total	-
Travel Outside Minnesota								
							Sub Total	-
Printing and Publication								

	Printing	Annual Reports	To detail the specifics of the field day, and communicate metrics to LCCMR and other possible funders.					\$100
							Sub Total	\$100
Other Expenses								
							Sub Total	-
							Grand Total	\$117,000

Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request
Capital Equipment		YSI Handheld Electronic Water Quality Monitoring Device & Cable	This equipment is necessary for the execution of the program. Additional Explanation : As described in the Long Term Funding Section, we intend to use this device exclusively for the population served in this program plan.

Non ENRTF Funds

Category	Specific Source	Use	Status	Amount
State				
			State Sub Total	-
Non-State				
In-Kind	Friends of the Minnesota Valley	Office Use & Office Supplies	Secured	\$1,000
In-Kind	Friends of the Minnesota Valley	Mileage Reimbursement	Secured	\$500
			Non State Sub Total	\$1,500
			Funds Total	\$1,500

Total Project Cost: \$118,500

This amount accurately reflects total project cost?

Yes

Attachments

Required Attachments

Visual Component

File: [a2f5e4ca-158.pdf](#)

Alternate Text for Visual Component

The graphic depicts previous field day groups participating in water quality sampling and macroinvertebrate collection. It describes the Field Day activities....

Financial Capacity

Title	File
Friends of the Minnesota Valley Financial Capacity Document	981d4715-c08.pdf

Board Resolution or Letter

Title	File
Friends of the Minnesota Valley Board Resolution	81542157-b29.pdf

Supplemental Attachments

Capital Project Questionnaire, Budget Supplements, Support Letter, Photos, Media, Other

Title	File
Water Quality Sampling Lesson Plan	0c5bb785-eda.pdf
Hennepin County Environment & Energy - Letter of Support	93aebd77-db3.docx
River Watch 24' 25' Annual Report	de3a617e-098.pdf
Testimonials & Survey Responses from River Watch Participants	c6753ae4-775.pdf
North High - School Letter of Support	1f4e52c2-2be.pdf
South High School - Letter of Support	155a208d-e64.pdf

Administrative Use

Does your project include restoration or acquisition of land rights?

No

Do you understand that travel expenses are only approved if they follow the "Commissioner's Plan" promulgated by the Commissioner of Management of Budget or, for University of Minnesota projects, the University of Minnesota plan?

N/A

Does your project have potential for royalties, copyrights, patents, sale of products and assets, or revenue generation?

No

Do you understand and acknowledge IP and revenue-return and sharing requirements in 116P.10?

N/A

Do you wish to request reinvestment of any revenues into your project instead of returning revenue to the ENRTF?

N/A

Does your project include original, hypothesis-driven research?

No

Does the organization have a fiscal agent for this project?

No

Does your project include the pre-design, design, construction, or renovation of a building, trail, campground, or other fixed capital asset costing \$10,000 or more or large-scale stream or wetland restoration?

No

Do you propose using an appropriation from the Environment and Natural Resources Trust Fund to conduct a project that provides children's services (as defined in Minnesota Statutes section 299C.61 Subd.7 as "the provision of care, treatment, education, training, instruction, or recreation to children")?

Yes

Do you certify that background checks are performed for background check crimes, as defined in Minnesota Statutes, section 299C.61, Subd. 2, on all employees, contractors, and volunteers who have or may have access to a child to whom children's services are provided by your organization?

Yes

Provide the name(s) and organization(s) of additional individuals assisting in the completion of this proposal:

Ted Suss - Friends of the Minnesota Valley

Do you understand that a named service contract does not constitute a funder-designated subrecipient or approval of a sole-source contract? In other words, a service contract entity is only approved if it has been selected according to the contracting rules identified in state law and policy for organizations that receive ENRTF funds through direct appropriations, or in the DNR's reimbursement manual for non-state organizations. These rules may include competitive bidding and prevailing wage requirements

Yes, I understand