



# Environment and Natural Resources Trust Fund

2027 Request for Proposal

## General Information

**Proposal ID:** 2027-451

**Proposal Title:** Protect and Sustain Red Lake's Fisheries and Peatlands

## Project Manager Information

**Name:** Mark Edlund

**Organization:** Science Museum of Minnesota - St. Croix Watershed Research Station

**Office Telephone:** (651) 433-5953

**Email:** medlund@smm.org

## Project Basic Information

**Project Summary:** Past peatland management has impacted Red Lake area water quality, fisheries, and peatlands. We will test how to best manage our peatlands to protect fisheries, natural resources, and traditional uses.

**ENRTF Funds Requested:** \$1,324,000

**Proposed Project Completion:** June 30, 2030

**LCCMR Funding Category:** Fish and Wildlife (D)

## Project Location

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

Region(s): NW

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

Statewide

**When will the work impact occur?**

During the Project and In the Future

## Narrative

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

The Red Lakes support a world-class fishery utilized by state/tribal and winter/open water anglers and supporting a robust tribal commercial fishery. Red Lake has the largest patterned peatlands in the US and historical management including ditching has impacted water quality, fisheries, and peatland function. Ditching leads to water quality degradation, increased fire risk, and enhanced mercury availability and export resulting in higher levels of contamination in Red Lake fishes. Current efforts to restore peatland function may help alleviate these concerns; however, we do not have a clear understanding where key areas of concern are in the peatlands, how peatland restoration is best targeted to curtail water quality and contaminant impacts, and what restoration strategies might be most effective. Initial monitoring efforts have clearly indicated that the drained areas most likely need to be targeted, but these data are limited in spatial coverage, haven't considered undrained peatland function, and are limited to two years of monitoring for key water quality and mercury yields. Combining intensive waterway and peatland monitoring, historical reconstruction of peatland function in drained and undrained areas, and testing of restoration approaches, we will guide future efforts to protect Red Lake water quality and fisheries.

### **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.**

Understanding the impact, consequences and solutions to past peatland management is imperative to protecting Red Lake water quality and fisheries. For two years, we will use intensive monitoring of 12 tributary systems distributed across drained and undrained watersheds entering the Red Lakes to measure current water quality parameters and mercury loads that impact the lakes in conjunction with lakewide water quality and fisheries monitoring. To determine modern and past trends we will analyze sediment cores from peatland ponds and lakes to provide historical context on natural and impacted peatlands and to understand how peatlands are responding to past and current conditions including meteorological changes. We will also establish a peatland monitoring network that considers intensively drained, moderately drained, and undrained peatlands to understand current peatland function in relation to water quality and mercury outflows, historical impact of drainage on peatland function, fire, and hydrology. Last we will set up a before and after study on a peatland restoration funded with other sources to test how well restoration efforts mitigate water quality and mercury impacts. Together with broad outreach, education, and agency buy-in, these data will guide future management actions to protect and sustain Red Lake fisheries and water quality.

### **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?**

Project outcomes will protect Red Lake water quality and fisheries for all Minnesotans and tribal members by:

- 1) identifying hot spots of water quality and mercury degradation in the Red Lake peatlands
- 2) show how drained vs undrained peatlands have impacted Red Lake fisheries, water quality, and peatland landscapes
- 3) test and develop methodology for peatland restoration to preserve and sustain peatland function, fire risk, and minimize impacts to water quality and fisheries.

Together these outcomes will guide state/tribal agencies in implementing restoration of peatlands, and a future built around protecting Red Lake's fisheries, water quality, and traditional uses.

## Activities and Milestones

### Activity 1: Measure threat to Red Lake water quality and fisheries with intensive monitoring and historical reconstruction

**Activity Budget:** \$408,123

**Activity Description:**

Past management of peatlands around Red Lake has led to water quality degradation and increase mercury loading that affects the lakes and fisheries. Past monitoring efforts have not been able to fully quantify watershed loadings around the basin notably in the undrained and seasonally running parts of the basin. We will intensively monitor 12 sites around the Red Lakes for 2 years to measure water quality and mercury loading to the lakes. Sites will be monitoring monthly for May to September with two additional sites monitored seasonally (May-June). Water quality parameters (SRP, TP/TN, NH3, NOx, DIC/DOC, cations/anions, TSS, Hg, MeHg) will be coupled with field measures of flow, pH, oxygen, conductivity, temperature) to estimate two years of annual loads and identify hot spots of impairment to direct action (Activity 4). Fisheries sampling by the Red Lake DNR will monitor community structure and mercury levels in walleye tissue. A subset of fish will be analyzed for mercury isotopes to constrain sources of mercury entering the food web (atmospheric vs watershed). Sediment cores will be collected at six integrator basins near the monitoring sites and analyzed with multiple tests to reconstruct 200 years of water quality and mercury history.

**Activity Milestones:**

Description	Approximate Completion Date
Monitor water quality in 12 sites and 2 seasonal sites May-Oct 2028	December 31, 2028
Monitor fisheries, tissue mercury levels and sources in field year 2028	December 31, 2028
Analyze mercury records in cores collected earlier from the Red Lakes	December 31, 2028
Monitor water quality in 12 sites and 2 seasonal sites May-Oct 2029	December 31, 2029
Monitor fisheries, tissue mercury levels and sources in field year 2029	December 31, 2029
Recover new sediment cores from 6 sites; analyze environmental history from 8 Red Lake cores	April 30, 2030

### Activity 2: Measure impacts of drained versus undrained peatlands on water quality, mercury cycling, fire risk, and peatland function

**Activity Budget:** \$358,279

**Activity Description:**

Peatland drainage is documented to increase the release of the methyl-mercury, affect downstream water quality, and raise the risk of wildfire due to lowered water table depths (WTD). We will document current and historical peatland conditions at three sites (two drained, one undrained) around Red Lake. We will take a minimum of twelve 1m long peat cores at each site located up and down gradient of existing ditches. These cores will be dated using radiocarbon and pollen indicators. They will be analyzed along their length to a depth equivalent to 1700 AD for density of peat and water content, total mercury, mercury methylation at their surfaces, for testate amoeba (small animals that record past WTD), and charcoal (a proxy for fire). This will provide approximately 200 years of history prior to drainage (1915-1940), drainage impact period, and post-drainage peatland function. At each site we will emplace digital water depth monitoring equipment in the peat to coordinate with downstream monitoring and peatland function. We will link modern and historical results to monitoring of water quality and mercury in lakes and fishes (Activity 1 and 4) and the early impacts of remediation projects (Activity 3).

**Activity Milestones:**

Description	Approximate Completion Date
Recover peatcores from 3 monitored peatland and establish peatland monitoring stations	December 31, 2027
Analyze peatcores for dating, water content, mercury, fire history, molecular biology, and management impacts	December 31, 2029

### Activity 3: Test impacts of peatland restoration projects on water quality and fisheries risk to guide management

**Activity Budget:** \$390,289

**Activity Description:**

Two of our three peatland sites are located near ditches scheduled to be restored using other funding sources. We will test the sites with a before-after design to document the effectiveness of this new restoration effort. We will collect water quality, mercury, and peat at these sites in 2027 (see Activity 2 above) and install digital water depth, temperature, and oxygen monitors at each site to get pre-restoration conditions. We will do water quality, mercury, and peat sampling at the same sites in 2028 and 2029 following restoration. A third site that is located in undrained peatland will be similarly monitored 2027-2029. This design will allow us to contrast conditions before and after restoration while factoring out changes due to weather. Water table depth, temperature and oxygen control bacterial populations which convert mercury to toxic forms. In each year we will conduct environmental-DNA analyses on our peat samples to identify the abundance of bacteria that produce toxic mercury. We will contrast changes over the three years with outflows from the same ditches to the lake (Activity 1). These data will guide management recommendations on peatland restoration (Activity 4).

**Activity Milestones:**

Description	Approximate Completion Date
Sample water quality at 3 outlet sites - undrained, drained, heavily drained - in 2027	December 31, 2027
Recover water gauge data for field year 2028 at 3 variously drained sites following restoration	December 31, 2028
Recover peat for mercury and molecular analysis in 2028 at 3 sites following restoration	December 31, 2028
Recover water gauge data for field year 2029 at 3 variously drained sites following restoration	December 31, 2029
Recover peat for mercury and molecular analysis in 2029 at 3 sites following restoration	December 31, 2029

### Activity 4: Develop, communicate and implement management strategy to protect Red Lake water quality, peatlands, and fisheries

**Activity Budget:** \$167,309

**Activity Description:**

Understanding the extent and threat of past peatland management on Red Lake fisheries and water quality is the first step in implementing management response. Results from Activities 1 and 2 will provide the first full analysis of current and historical impacts of peatland management on fisheries, water quality, and peatland function to prioritize management targets. Activity 3 will take results of a before-after analysis of peatland mitigation projects to inform peatland restoration and monitoring strategy across the Red Lake peatlands and broader Minnesota. This activity will result in a) established monitoring protocols and sites for testing peatland function on fisheries and on drained, undrained, and restored lands, b) coordination of agency planning and remediation response to minimize future impacts to water quality and fisheries, and c) reporting and publication of findings. Through reporting, presentations, and outreach (RLDNR, MNDNR, MN Waters Conference, social media), we will help the public, stakeholders, agencies, and anglers recognize issues and support efforts to mitigate past management impacts to fully support a future of excellent

water quality and fisheries in Red Lake. A partnership between SMM and the Headwaters Science Center will be supported to bring peatland STEMEd to area public and tribal schools.

**Activity Milestones:**

Description	Approximate Completion Date
Convene resource managers to review protocols, monitoring, initial results, and management needs Yr1	June 30, 2028
Convene resource managers to review protocols, monitoring, ongoing results, and management needs Yr2	June 30, 2029
Evaluate peatland restoration effectiveness and develop management strategies protecting Red Lake fisheries and water quality	June 30, 2030
Develop reports, factsheets, and outreach to inform Minnesotans on protecting Red Lake health	June 30, 2030

## Project Partners and Collaborators

Name	Organization	Role	Receiving Funds
Shane Bowe	Red Lake Dept of Natural Resources	Oversee water quality and peatland sampling in Red Lake and its watershed. Provide logistic support for monitoring and coring activities.	Yes
Patrick Brown	Red Lake Dept of Natural Resources	Oversees fishery sampling on Upper and Lower Red Lake. Will coordinate annual collection and subsampling of fishes for population and contaminant studies.	Yes
Tyler Orgon	Red Lake Dept of Natural Resources	Tyler is a water quality and mercury specialist who will lead both sampling and analytical analysis of water quality and mercury concentrations in sediment and fishes.	Yes
Charles Umbanhowar	St Olaf College	Prof. Umbanhowar is an expert on peatland ecology and paleoecology and will manage peatland coring and analysis (dating, subsampling, pollen, charcoal), undergraduate training, and restoration effectiveness.	Yes
Sarah Janssen	USGS	Sarah runs a mercury analysis lab that has focused on peatland mercury cycling. In addition to analysis of total mercury, methylmercury, and mercury isotopes, Sarah will provide key input on project synthesis and management recommendations.	Yes
Charlie Tucker	MN Dept of Natural Resources	Charlie will provide logistical support for peatland sampling as well as historical context for fire and peatland management in the Red Lake area.	No
Jill Coleman Wasik	Univ of Wisconsin - River Falls	Jill was trained at the St Croix Watershed Research Station on mercury dynamics in peatlands, and mercury fate and sources and is currently of a professor at UWRF. Jill will provide expertise on water quality analysis, watershed mercury yields, and restoration effectiveness.	Yes
Kayla Bowe	Red Lake Dept of Natural Resources	Kayla coordinates budget, sampling, sample handling, and data control for the RLDNR	Yes

## 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.**

In collaboration with our tribal, state, federal, and academic partners—Red Lake DNR, Minnesota DNR, USGS, St Olaf, and UWRF—all data and project results will be publicly available. We will disseminate project findings along three linked paths:

We will develop scientific reports, publications, and factsheets intended to inform managers and lay-persons on the threats to Red Lakes’s walleye fishery and water quality posed by past peatland management efforts, and how the lakes and peatlands can be managed in the future to ensure a healthy and robust fishery, lake, and peatland.

We will share the findings with the public. We will do public outreach in the Red Lake area through a partnership between SMM and the Headwater Science Center with focus on K-12 students, and we will also create general news releases and social media to the public through the SMM (e.g. <https://smm.org/blog/>), St Olaf and partner organizations with the goal of connecting with regional and local media. SCWRS scientists will highlight this work at public events hosted by the Science Museum of Minnesota, which is open to all the Museum’s thousands of daily visitors.

We will coordinate with tribal, state, federal, academic partners, conservation groups ,and researchers through annually convening the group to discuss protocols, data, finding, and lastly to inform future management strategy. We will use research presentations (MN Water Conf, MN Lakes Assoc, MN Academy of Science, Lake of the Woods Forum) to provide broader research and agency groups with findings. Finally, we will present at national meetings (e.g. AGU) and

prepare a range of publications, reports, management recommendations.

All dissemination efforts related to this project will prominently acknowledge the support of the Environment and Natural Resources Trust Fund (ENRTF) and the Legislative-Citizen Commission on Minnesota Resources (LCCMR).

## 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?**

Project results will be shared and implemented with professional publications, reports, management plans, and presentations at state meetings. In collaboration with our tribal, state, federal, and academic partners we will determine sources of water quality and mercury degradation to Red Lake, test solutions, and inform management next steps. Funding sources have been identified to assist in future peatland remediation (EPA-CPRG) based on our management findings. We'll use the reach of the Science Museum of Minnesota's exhibit, virtual, and education programming to share findings around Red Lake and across Minnesota.

## Other ENRTF Appropriations Awarded in the Last Six Years

Name	Appropriation	Amount Awarded
Salt Threatens Minnesota Water Quality and Fisheries	M.L. 2022, , Chp. 94, Art. , Sec. 2, Subd. 04l	\$1,228,000
Didymo II – The North Shore Threat Continues	M.L. 2023, , Chp. 60, Art. 2, Sec. 2, Subd. 04k	\$394,000

## Project Manager and Organization Qualifications

**Project Manager Name:** Mark Edlund

**Job Title:** Senior Scientist

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

Edlund has served as an aquatic biologist with the Science Museum of Minnesota's St Croix Watershed Research Station for over 25 years. Edlund's work has centered on use of algae for analysis of ecological change in Minnesota's lakes and rivers. Much of this work has centered on analysis of sediment cores to understand historical changes in Minnesota's aquatic ecosystems. Importantly, these data have been used to inform Minnesota's lake standards, to develop remediation plans for bringing lakes back to good condition and guided policy development on border systems including the St Croix River and Lake of the Woods. He has managed grants totaling over six million dollars and published over 135 peer-reviewed manuscript and 85 agency reports.

**Organization:** Science Museum of Minnesota - St. Croix Watershed Research Station

**Organization Description:**

The Science Museum of Minnesota (SMM) is a private, non-profit 501(c)3 institution dedicated to encouraging public understanding of science through research and education. The St. Croix Watershed Research Station is the environmental research center of the SMM with the mission "we do the science that helps make our rivers and lakes clean" through research and outreach. The SCWRS supports an active year-round program in environmental research and graduate-student training, guided by a dedicated in-house research staff with direct ties to area universities and colleges. It collaborates closely with federal, state, tribal, and local agencies responsible for managing the St. Croix and upper Mississippi rivers and is a full partner with the National Park Service for resource management in parks of the western Great Lakes region. Its research has played a central role in setting management policy for the St. Croix and

Mississippi rivers, Lake of the Woods, the Red Lakes, and for establishing water-quality standards for Minnesota lakes and for developing long-term monitoring plans for the National Park Service.

## Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	\$ Amount
<b>Personnel</b>								
Senior Scientist		Project Manager, Fieldwork, Sediment analysis, Data handling, Reporting			26%	1.5		\$189,513
Assistant Scientist		Sediment analysis, Data analysis and reporting			12%	1		\$85,315
Director, Center for Climate and Water		Data Management, analysis, and reporting			26%	0.24		\$32,084
Assistant Scientist		Fieldwork, Molecular data analysis, Data handling, reporting			26%	0.66		\$63,347
Laboratory Technician I		Fieldwork and lab support, sample preparation and analysis			26%	1		\$61,169
Summer Environmental Intern		Fieldwork, Sample preparation and analysis			12%	0.5		\$19,712
STEM Education Manager		The STEM Education Managers will supervise SMM staff, assign tasks, and oversee delivery of key project milestones.			26%	0.03		\$6,000
Program Specialist		The Program Specialists will work with non-SMM partners as well as Library, Materials, and Instruction staff to coordinate development of project deliverables, create task lists, establish timelines, and evaluate progress day to day.			26%	0.04		\$6,000
Material Coordinator		The Materials Coordinators will support equipment prototyping and iteration, working closely with Library and Instruction staff as well as non-SMM partners.			26%	0.04		\$6,000
Library Coordinator		The Library Coordinator will work closely with other SMM staff and non-SMM partners to develop instructional materials kits and educational resources that align with project goals.			26%	0.07		\$10,000
Learning & Instruction Specialist		The Learning and Instruction Specialists will work closely with other SMM staff and non-SMM partners to develop instructional materials kits and educational resources that align with project goals.			26%	0.08		\$12,000

							<b>Sub Total</b>	<b>\$491,140</b>
<b>Contracts and Services</b>								
UMGC Univ MN Genomics Center or competitive bid	Service Contract	Genetic sequencing of peat and sediment samples, 300 samples at \$50 per, \$15000				-		\$15,000
St Olaf College	Subaward	Peatcore analysis, Summer salary for Prof Umbanhowar and interns (\$57638, 9% fringe), travel for peatland sampling and meeting (\$3220 and \$2000 respectively), summer student housing (\$3315), analytical costs for peat analysis (LOI, charcoal, amoeba, carbon dating, pollen, \$158000)				0.75		\$218,953
Red Lake Department of Natural Resources	Subaward	Natural Resources Personnel (\$126193, 34% fringe), Field site coordination, water quality sampling, peatland sampling (\$12000 boat/marshmaster), BSU Masters research assistantship (2 yr at \$330000 per year, \$66000), fish Hg analysis (240 samples \$50 per, \$12000), water quality supplies (loggers 12 at \$419, \$5028)				1		\$221,221
M3 Research Laboratory, USGS Madison	Service Contract	Mercury (Hg) analysis of water, sediment, peat, and fishes. Total Hg (480 samples \$110 per, \$52800), MethylHg (252 samples, \$165 per, \$41580), Hg isotopes (52 samples, \$300 per, \$15600)				-		\$109,980
Univ of Wisconsin-River Falls	Subaward	Prof Coleman-Wasik will be providing fieldwork, data analysis, and reporting. Subaward includes summer salary for 2.5 summers, \$37954, 47% fringe		X		0.63		\$37,954
Science Museum of Minnesota - St. Croix Watershed Research Station	Internal services or fees (uncommon)	210-Pb dating of 6 sediment cores (\$2,400/core), Loss on ignition on 6 sediment cores (\$800/core), diatom identification on 6 cores (\$6000/core), Sediment TP on 6 cores (\$675/core), water quality analysis on 180 samples (\$169.50/sample)				-		\$89,760
							<b>Sub Total</b>	<b>\$692,868</b>
<b>Equipment, Tools, and Supplies</b>								

	Tools and Supplies	Water quality kits, lab/microscope/coring supplies, molecular sampling and extraction, \$6531, \$2000, \$15000 respectively	Laboratory and consumable supplies for water quality sampling, microscopy, sediment coring, and molecular sampling and extraction					\$23,530
	Tools and Supplies	Raw materials for fabrication of outreach/education kits for SMM STEM Ed programming	Materials and fabrication of outreach/education kits for SMM STEM Ed programming					\$5,000
							<b>Sub Total</b>	<b>\$28,530</b>
<b>Capital Equipment</b>								
		Material and instrumentation for 36 peatland piezometers to measure water table and water quality, Supplies/hardware (\$332 per piezometer), water table depth (\$628 per piezometer), data logger kit (\$540 per piezometer), Depth/Redox (\$1000 per piezometer), Total \$90000	Material and instrumentation for 36 peatland piezometers to measure water table and water quality for pre and post-monitoring peatland restoration sites	X				\$90,000
							<b>Sub Total</b>	<b>\$90,000</b>
<b>Acquisitions and Stewardship</b>								
							<b>Sub Total</b>	<b>-</b>
<b>Travel In Minnesota</b>								
	Miles/ Meals/ Lodging	Fieldwork trips (2 trips for sediment coring, 2 people, 3 days, 2 nights), (3 trips for peatland monitoring set up and repeat annual visits, 4 people, 4 days, 3 nights) from SCWRS to Waskish, \$15780 total	Fieldwork trips to collection sediment cores and set up and sample peatland monitoring stations					\$15,780
	Conference Registration Miles/ Meals/ Lodging	3 people attend for two years MN Waters Conference, 2 people attend for 2 years the MN Lake Management Soc, 2 people attend for 3 years the Rainy-Lake of the Woods Watershed Meeting. \$5682 total	Professional meeting attendance to present findings to broad scientific and agency representatives, MN Water Conf, MN Lake Management Soc, Rainy-Lake of Woods Forum					\$5,682
							<b>Sub Total</b>	<b>\$21,462</b>
<b>Travel Outside Minnesota</b>								

							<b>Sub Total</b>	-
<b>Printing and Publication</b>								
							<b>Sub Total</b>	-
<b>Other Expenses</b>								
							<b>Sub Total</b>	-
							<b>Grand Total</b>	<b>\$1,324,000</b>

## Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request
<b>Contracts and Services</b> - Univ of Wisconsin-River Falls	Subaward	Prof Coleman-Wasik will be providing fieldwork, data analysis, and reporting. Subaward includes summer salary for 2.5 summers, \$37954, 47% fringe	Dr Coleman-Wasik was trained in mercury dynamics at our SCWRS and offers data analytical services that are specific to peatland mercury dynamics.
<b>Capital Equipment</b>		Material and instrumentation for 36 peatland piezometers to measure water table and water quality, Supplies/hardware (\$332 per piezometer), water table depth (\$628 per piezometer), data logger kit (\$540 per piezometer), Depth/Redox (\$1000 per piezometer), Total \$90000	The construction, placement, and monitoring information given by piezometers and accompanied by repeat peat sampling will provide key information to guide future management, monitoring, and remediation strategy in the Red Lake peatlands to further protection of Red Lake water quality and fisheries. <b>Additional Explanation</b> : Piezometers and instrumentation will be available for use the project participants including Red Lake DNR, MN DNR and SMM to continue monitoring peatland condition and function as well as continues monitoring of restoration sites.

Non ENRTF Funds

Category	Specific Source	Use	Status	Amount
<b>State</b>				
			<b>State Sub Total</b>	-
<b>Non-State</b>				
In-Kind	Unrecovered indirects (48.73%) from Science Museum of Minnesota Direct expenses	Covering for overhead of facilities and administration	Pending	\$645,185
			<b>Non State Sub Total</b>	<b>\$645,185</b>
			<b>Funds Total</b>	<b>\$645,185</b>

**Total Project Cost: \$1,969,185**

**This amount accurately reflects total project cost?**

Yes

## Attachments

### Required Attachments

#### *Visual Component*

File: [dc687829-7e1.pdf](#)

#### *Alternate Text for Visual Component*

Past peatland management has impacted Red Lake water quality, fisheries, and peatlands. Ditched peatland areas contribute significantly more mercury that ends up in our fish. We will test how to best restore and manage our peatlands to protect fisheries, natural resources, and traditional uses....

### Supplemental Attachments

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

Title	File
Letter of Support Science Museum of Minnesota	<a href="#">daddd59c-95a.pdf</a>
Letter of Support UWRF	<a href="#">9db4e194-06b.pdf</a>
Letter of Support USGS Mercury analysis lab	<a href="#">7a9e4add-4e9.pdf</a>
SMM Federal Auditor's Report	<a href="#">43fd60f2-86a.pdf</a>
Proof of Good Standing State of MN	<a href="#">3d16d93a-d97.pdf</a>
SMM 990 Form	<a href="#">e5ef64c2-27f.pdf</a>
Letter of Support from Red Lake DNR	<a href="#">70a5353e-a25.pdf</a>
Support letter from St Olaf	<a href="#">2a5680eb-a35.pdf</a>

## 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?**

Yes, I understand the Commissioner's Plan applies.

**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?**

Yes

**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")?**

No

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

Only listed project partners contributed to completion of this proposal.

**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