Environment and Natural Resources Trust Fund

2027 Request for Proposal

General Information

Proposal ID: 2027-542

Proposal Title: Recovering the Natural Balance of Fish Lake

Project Manager Information

Name: Emily Dick

Organization: Prior Lake-Spring Lake Watershed District

Office Telephone: (952) 440-0068

Email: edick@plslwd.org

Project Basic Information

Project Summary: Fish Lake is a rare lake which can be entirely restored to a natural clear state equilibrium by tying up the errs of the past with one alum treatment.

ENRTF Funds Requested: $666,000

Proposed Project Completion: September 30, 2028

LCCMR Funding Category: Water (B)

Project Location

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

Region(s): Metro

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

Statewide

When will the work impact occur?

In the Future

Narrative

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

Like many metro lakes, Fish Lake has suffered the cost of decades of human impacts on the landscape, and is currently impaired for nutrients. Unlike many lakes nationwide, Fish Lake has a silver bullet which can permanently restore it to its natural clear state equilibrium. Fish Lake has the rare advantage of a very small watershed, which means the area of nutrient runoff is very small. After studying the lake in 2023, it was found that the vast majority of the water quality issues were stemming from sins of the past, nutrient rich soils deposited on the lakebed. This grant proposal seeks to fund an alum treatment to address the lakebed and render the nutrients unavailable for algae growth. Fish Lake (70006900) is a popular fishing destination with a public boat ramp. However, recreation is limited by prevalent algae blooms, starting as early as ice-off. Alum treatments strip the phosphorus out of the water column and provide dramatic increases in water clarity and quality instantly. Often times alum treatments need to be repeated to maintain clarity, however, on Fish Lake the hydrology is such that one alum treatment would permanently restore the lake to a clear water state.

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.

The proposed solution is a sediment inactivation treatment which can address lake bottom deposition from historic feedlots. Alum is the most common sediment inactivation strategy used in the Upper Midwest. Alum (aluminum sulfate) is a nontoxic liquid that is commonly used in water treatment plants to clarify drinking water. Alum is applied to lakes using specialized equipment that ensures the precise placement of material in the lake. When added to lake water, alum removes phosphates through precipitation, forming a heavier than water particulate known as a floc. This floc then settles to the lake bottom to create a barrier that binds to the phosphorus released from the sediments. The floc permanently binds to the phosphorus, i.e. the existing internal load is inactivated, and no further alum treatments would be needed to meet lake water quality 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?

It is anticipated that the alum treatment would provide the long term water quality improvements sufficient to remove the lake from the impaired waters list for nutrients. Fish Lake will be restored to equilibrium in the clear lake state and see much more favorable clarity and water quality. Fish Lake is publicly accessible and a popular destination for fishing. Clear water will improve the conditions which support abundant and diverse plant, fish, and other animal populations.

Activities and Milestones

Activity 1: Engineering and Legal Services

Activity Budget: $45,000

Activity Description:
An engineering firm, EOR, was retained for the feasibility study of the Fish Lake Alum Treatment. Engineering services for the implementation alum treatment would include finalizing design, plans and specs, bid administration, application observation, and involvement at community meetings. The District legal counsel, Smith Partners, is on retainer to review bid packages, contracts and insurance coverage.

Activity Milestones:

Description	Approximate Completion Date
Bid Documentation and Administration	August 31, 2027
Construction Administration	May 31, 2028
Community Engagement	July 31, 2028
Legal Counsel	July 31, 2028

Activity 2: Project Management

Activity Budget: $36,000

Activity Description:
This activity includes project management and coordination from Watershed District staff between engineering services, contractor, public and other partners. It also includes community engagement planning, noticing, etc. It also includes administrative costs of bid notices and community mailers.

Activity Milestones:

Description	Approximate Completion Date
Contracting of Alum Applicator	August 31, 2027
Permitting and Staging Access Complete	September 30, 2027
Community Engagement	July 31, 2028
Review of Engineer Deliverables (Bid Package, Pay Requests)	July 31, 2028

Activity 3: Alum Treatment

Activity Budget: $585,000

Activity Description:
This activity encompasses the actual treatment of the lake. Alum treatments are completed in two 50% doses to allow for adaptive management of treatment rates.

Activity Milestones:

Description	Approximate Completion Date
First 50% Alum Dose	October 31, 2027
Post-Treatment Soil Cores	November 30, 2027
Second 50% Alum Dose- May 2028	May 31, 2028

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 a part of the alum treatment, thorough community engagement and outreach will be completed. A communications plan will be developed to include: public meetings, mailers, local news articles, website updates, social media use, and signage at the boat ramp.

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?
This grant funding seeks to support the completion of this project, with results fully realized. There is no long-term maintenance expected due to the lake returning to natural equilibrium. Fish Lake's small watershed size makes that balance feasible and resilient to regional changes.

Project Manager and Organization Qualifications

Project Manager Name: Emily Dick

Job Title: Water Resources Project Manager II

Provide description of the project manager's qualifications to manage the proposed project.
Emily has twelve years of experience as a natural resource manager, specializing in capital project implementation, water rights, fisheries, streamflow restoration and community partnerships. Combined with an academic research background in biology, she possesses diverse experience that contributes to a wide variety of projects, ranging from stormwater projects, aquifer recharge, flood storage and water mitigation banks. Throughout her career she has coordinated a myriad of partnerships between local leadership, landowners, tribal nations, government, and private industry to create conservation solutions that fit within landowner and community visions.

Organization: Prior Lake-Spring Lake Watershed District

Organization Description:
The Prior Lake-Spring Lake Watershed District (PLSLWD) was established on March 4, 1970 by order of the Minnesota Water Resources Board (MWRB) under the authority of the Minnesota Watershed Act (Minnesota Statutes, Chapter 112). The order was in response to a petition filed by resident landowners within the watershed seeking establishment of the District for the purposes of wisely managing and conserving the waters and natural resources of the watershed.

The Prior Lake-Spring Lake Watershed District is directed by a ten year Water Resources Management Plan which is developed through community input, staff recommendation, and board direction. The current priorities of the District are to improve water quality, reduce flooding, and manage for aquatic invasive species.

Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	$ Amount
Personnel								
Project Manager		Project Manager			25%	0.1		$20,000
District Administrator		Authorized Signatory/Oversight			25%	0.01		$5,000
Project Support		This role will provide support for community engagement and project administration details.			25%	0.05		$10,000
							Sub Total	**$35,000**
Contracts and Services								
Engineering Services- TBD, EOR Inc.	Subaward	The engineering firm will provide final bid documents, bid administration, lead permitting, application observation and coordination between applicator and the District.				0.2		$35,000
Smith Partners	Subaward	Legal counsel on bid package, contracting, and other matters related to the implementation of the alum treatment.				0.01		$10,000
Alum Applicator TBD, SOLitude	Subaward	The contractor will be applying the alum treatment				0.1		$583,000
							Sub Total	**$628,000**
Equipment, Tools, and Supplies								
							Sub Total	-
Capital Equipment								
							Sub Total	-
Acquisitions and Stewardship								

							Sub Total	**-**
Travel In Minnesota								
	Miles/ Meals/ Lodging	This line item reflects project management mileage to Fish Lake and nearby community outreach. The drive to the site is roughly 11 miles, assuming 40 trips, at current government rate of $0.725/mile. Rounded down to $300 due to grant requirements for rounding.	The mileage encompasses travel to coordinate at the site and conduct community engagement.					$300
							Sub Total	**$300**
Travel Outside Minnesota								
							Sub Total	**-**
Printing and Publication								
	Printing	Community Mailer to 200 landowners, once for each treatment	The mailers will notice the public of the planned treatment, schedule, and FAQs.					$200
	Publication	Bid Notice	Statute requires that competitive bids be advertised in the newspaper.					$500
							Sub Total	**$700**
Other Expenses								
		Contingency	Unknowns of Market prices in 2027/28					$2,000
							Sub Total	**$2,000**
							Grand Total	**$666,000**

Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request

Non ENRTF Funds

Category	Specific Source	Use	Status	Amount
State				
			State Sub Total	**-**
Non-State				
Cash	PLSLWD Levy	Partial payment of alum treatment	Pending	$222,000
			Non State Sub Total	**$222,000**
			Funds Total	**$222,000**

Total Project Cost: $888,000

This amount accurately reflects total project cost?

Yes

Attachments

Required Attachments

Visual Component

File: 9f6922f3-d5d.pdf

Alternate Text for Visual Component

The map shows a proposed treatment area on Fish Lake, Scott County, as well as the Phosphorus fractionation that informs dosing rates of the alum treatment across the lake. The map identifies a public boat ramp on the lake and inset map shows SW metro location....

Financial Capacity

Title	File
2024 Final Audit Presentation	da2a00cb-384.pdf

Board Resolution or Letter

Title	File
Board Resolution in Support	281718b7-ab2.pdf

Supplemental Attachments

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

Title	File
Algae Bloom in May	12d00d92-948.jpe
Algae Bloom on Fish Lake At Ice Off	007ca497-c74.png
Fish Lake Alum Feasibility Study	9bb4aefe-a5f.pdf
Capital Project Budget Addendum	1d663431-085.pdf
Capital Construction Project Questionnaire	3340f2d7-9c9.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?

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?

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?

Yes

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:

Emily Dick, Prior Lake-Spring Lake Watershed District

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

N/A