



Environment and Natural Resources Trust Fund

2021 Request for Proposal

General Information

Proposal ID: 2021-383

Proposal Title: Balancing Aquatic Plant Communities for Recreation and Conservation

Project Manager Information

Name: John James

Organization: Fish and Waters Conservation Fund

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Project Basic Information

Project Summary: Experimentally determine ways to favor low colony forming submerged plants over undesirable high biomass surface matting plants to balance recreational uses with having an intact ecosystem for the lakes' biota

Funds Requested: \$569,000

Proposed Project Completion: 2024-06-30

LCCMR Funding Category: Aquatic and Terrestrial Invasive Species (D)

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?

During the Project and In the Future

Narrative

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

Kohlman, Gervais, Spoon and Keller Lakes grow nuisance levels of curly-leaf pondweed ("CLP"), coontail, filamentous algae, waterlilies and nonrooted surface plants like duckweed and watermeal. Plant communities dominated by these plants inhibit recreational use because they form surface mats, making it difficult to swim, boat or fish. They also provide substandard conditions for native biota. In such lakes, lower growing plants, such as flatstem pondweed, muskgrass and water celery, occur to a limited extent. With CLP, the life cycle and phenology create unique problems. CLP comes up early, creating a surface mat that shades out sunlight, harming rooted native plants. Then, having sucked up phosphorus from the sediment, it senesces early, releasing phosphorus into the water column, where it feeds blooms of coontail and filamentous algae, which continue the surface matting that deprives desirable native rooted plants of sunlight, making them weak competitors. The lakes' plant volume exceeds ecologically desirable levels and the surface matting reduces recreational value.

The problem and solution are identified by PhD limnologist Dr. Daniel McEwen, chief scientist of Limnopro, in a point intercept study covering 510 points on these lakes and a draft multi-year Lake Vegetation Management Plan ("LVMP"). They should be reviewed. Map attached.

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

First, we will shift the balance from nuisance plants to lower growing native plants and reduce plant volume to balance recreational with conservation needs. We will build habitat suitability models for desirable plants to identify areas where they might flourish but are currently absent, and use targeted chemical and mechanical treatments to remove nuisance plants at critical times for desirable plant growth. We will do experimental transplanting of native plants within these lakes. We will also manage water clarity by controlling external and internal phosphorus loadings to get light to the bottom at critical times. This is a novel approach to biocontrol. The potential benefit to Minnesota lakes is the same as with other biocontrol methods: reductions in both spending on plant management and the volume of chemicals put into lakes.

Second, we will encourage homeowners, lake users, and governmental and nongovernmental employees to do things differently to protect the lakes, especially minimizing harmful runoff. This includes using RWMWD programs.

Third, we will use the Civic Governance policymaking process to accomplish the first two by forming partnerships among all of the foregoing groups of people.

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?

1. Improve the lakes ecologically and recreationally through better aquatic plant balance by using native plants for biocontrol instead of top down fish manipulation or insects.
2. Reduce future aquatic plant management costs.
3. Create sustainable partnerships to maintain progress into the future.
4. Demonstrate experimental science's importance to aquatic plant management by solving the problem raised by MAISRC's Mike Verhoeven at the 2019 Showcase: Restoring native plants after curlyleaf and milfoil control: What's holding them back?

5. Demonstrate Civic Governance as a useful approach to Minnesota's water challenges, including 1W1P.

Activities and Milestones

Activity 1: Improving the aquatic plant balance

Activity Budget: \$532,500

Activity Description:

Improving aquatic plant balance requires various surveys, including point intercept surveys of the spring and fall plant communities, meandering surveys to satisfy DNR requirements and determine the coverage and edges of nonrooted floating plants, and sonar mapping of depth, sediment hardness and plant biovolume, allowing comparison of plant communities to science-based management objectives. Sediment surveys will identify top habitats for transplanting desirable natives and monitor CLP turions in measuring CLP control. Surface water dissolved oxygen content will be measured under waterlily canopies and compared with similar areas to determine if the waterlilies cause anoxic conditions warranting waterlily control.

Based on surveys, we will negotiate DNR permits for herbicide and mechanical harvesting treatment of CLP, coontail and filamentous algae, and transplantation and horticulture of desirable plants. Treatments will be targeted to the greatest potential for flourishing desirable natives, speeding improved plant balance and volume, and reducing future treatment costs, with potential significant statewide savings.

A test plot program is planned, with control and experimental plots to try various combinations of methods including, but not limited to, chemical treatments. Alum treatments and a water draw down may be recommended to improve light conditions for low growing plants.

Activity Milestones:

Description	Completion Date
Desirable low growing rooted native plants greatly increased	2024-06-30
CLP, coontail and filamentous algae greatly reduced. Possibly other nuisance plants as well	2024-06-30
Biovolume: % of water column filled with plants at particular point; target under 60%	2024-06-30
Occupancy: area occupied by plants; target less than 50%	2024-06-30

Activity 2: Using the Civic Governance policymaking process to form lasting partnerships and spur behavior changes

Activity Budget: \$36,500

Activity Description:

Civic Governance focuses on these Civic Standards: (1) All those impacted by the problem help define the problem in light of civic principles and the realities of their situation. (2) All are accountable for contributing resources (leadership/time, knowledge, constituencies and dollars) to solve the problem. (3) All are engaged in decision and policy making that contributes to the common good. (4) All implement policies grounded in civic principles in the places where they have the authority to act.

Our project, the KGSK Save Our Lakes Initiative "KGSK SOLI"), is led by five capable, concerned homeowners working in FWCF's Local Lake and Watershed Assistance Program.. About 1/3 of 180+ homeowners have contributed financially.

We engaged Limnopro to provide expert problem definition and solutions. We are partnering with the DNR, RWMWD and RC. We plan to engage more homeowners, businesses benefiting from lake users, nonresident boaters, Maplewood

and Little Canada.

This will produce financial contributions, behavior changes reducing runoff, and active homeowners ensuring that the KGSK SOLI endures through partnering with the DNR, RWMWD and RC.

These efforts require many one on one and larger meetings, which is why we seek funding for the Civic Governance effort.

Activity Milestones:

Description	Completion Date
Spoon Lake access gets more effective boat inspection process through cooperative efforts with RC	2022-06-30
KGSK SOLI citizen participants are viewed as responsible partners by DNR, RWMWD and RC	2022-06-30
Businesses and nonresident lake users contribute financially to lake improvement efforts	2024-06-30
Homeowner support for efforts to improve the lakes expands considerably	2024-06-30
Homeowners collaborate with RC and RWMWD to secure funding for additional efforts	2024-06-30
No new AIS in these lakes	2024-06-30
Numerous landowners make changes to reduce runoff	2024-06-30
KGSK governing group grows in number from greater interest in taking responsibility for the lakes	2024-06-30

Project Partners and Collaborators

Name	Organization	Role	Receiving Funds
Dr. Daniel McEwen	Limnopro Aquatic Science, Inc. ("Limnopro")	Project design, technical consulting, management and performance of operations	Yes
Keegan Lund, Kylie Cattoor, Rob Dodd	DNR	Consulting on technical issues, issuing permits, spreading what we learn across DNR and the state	No
Bill Bartodziej, Paige Ahlborg	Ramsey-Washington Metro Watershed District ("RWMWD")	Consulting on technical issues, coordinating operations with RWMWD operations, hopefully funding 2020-21 work and special projects (e.g., alum treatment), partnering to get Clean Water Fund grants, spreading what we learn across RWMWD	No
Several homeowners	KGSK Save Our Lakes Initiative	Serve as governing team for this effort, and model behavior for other homeowners	No
Many homeowners	KGSK Save Our Lakes Initiative	Become active citizens, change behaviors, contribute financially	No
Business owners and managers	Businesses that benefit from users of KGSK Lakes	Become active citizens, contribute financially	No
Nonresident lake users	N/A	Observe clean, drain, dry rules for boating, perhaps some make financial contributions and a few become actively involved	No
Jeff Forester	Salaried ED of MLR through which he will provide services; unpaid president and director of FWCF	Provide civic organizing services, spread what we learn across the state	Yes
Peg Michaels	Civic Organizing, Inc.	Consult on Civic Governance implementation; license use of intellectual property	Yes
Justin Townsend	Ramsey County ("RC"), Parks and Rec Dept, Soil and Water Division	He is the RC AIS Coordinator. Consulting on technical issues, coordinating operations with RC operations, leading improvement of boat inspection methodology that is key to success in dealing with AIS (but not funded by this grant), spreading what we learn across RC and beyond, as he is leading effectively	No

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 be funded?

We expect ongoing effort will cost less than what is done during the project and that it will be funded by financial contributions from many of those shown as collaborators, and perhaps foundations and/or RWMWD operations and/or Clean Water Fund dollars through RWMWD. Learning from this project will be spread by RWMWD, RC, DNR, FWCF and MLR. Learning relevant to Civic Governance efforts will be spread by the Midwest Active Citizenship Initiative.

Project Manager and Organization Qualifications

Project Manager Name: John James

Job Title: Treasurer and member of Board of Directors

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

On the scientific side, the project manager is Dr. Daniel McEwen of Limnopro Aquatic Science, Inc. The Commission should interview him and review the point intercept study and LVMP he has prepared.

On the Civic Governance side, Jeff Forester should be interviewed due to his leadership on water problems and using Civic Governance to solve them.

James is project lead organizer, working with others to create a sustainable KGSK Save Our Lakes Initiative.

James has 46 years' experience in business and tax law and lives on Gervais Lake. Semi-retired, he volunteers on water issues through FWCF and MLR, and the MLR Civic Organizing Agency, working with others to improve Civic Governance for solving Minnesota water problems.

With decades grappling with federal and Minnesota tax law, James copes well with complex public systems, helpful in addressing Minnesota water problems. The DNR's rules are without parallel in blindsiding people with unpublished practices amounting to rules. Nevertheless, we will stay calm and not give up. So far, front line DNR employees recognize the problems in the water. The challenge is to keep unwritten rules from making solutions impossible.

James' most significant managerial experience was 1986-91 at the Department of Revenue, as Assistant Commissioner (Compliance), then Commissioner, with responsibility for Minnesota's tax system, 1,500 employees, a multimillion dollar budget, and development of legislative proposals for consideration by the governor and legislators.

James designs conceptual systems. He helped design Minnesota's first LLC Act. He created the DOR's Appeals Office and authored statutes and rules to improve Minnesota's tax system. He created FWCF's Local Lake and Watershed Assistance Program to work with citizen groups using Civic Governance, without adding legal entities. If the LCCMR is nervous about flowing money through FWCF, he will work to meet those concerns through a fiscal agency relationship.

Organization: Fish and Waters Conservation Fund

Organization Description:

FWCF is tiny. FWCF administration is handled by Minnesota Lakes & Rivers Advocates, mostly through administrator Judy Corrigan. She is superb at handling fiscal matters. We will work with the LCCMR to ensure satisfaction with the money flow.

More important to guaranteeing wise spending is Limnopro Aquatic Science, Inc., www.limnopro.com, with which the technical and operational expertise for the vast majority of the grant resides.

Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	\$ Amount
Personnel								
							Sub Total	-
Contracts and Services								
Limnopro Aquatic Science, Inc.	Professional or Technical Service Contract	Management of and consulting on the scientific and technical aspects of the project. All Limnopro amounts are estimates. We are looking at work starting July 1, 2021, after extensive work in 2020 and spring 2021 has already been conducted. We will know more in a few weeks, but should discuss.				0		\$50,000
Limnopro Aquatic Science, Inc.	Professional or Technical Service Contract	Aquatic plant surveying. Note for all items: Our reading of M.S. 3.303 subd. 10 (2)(vi) is that the FTE equivalents are all zero because none of this work involves "a position directly attributed to the receipt of money" from the grant. If mistaken, we will correct.				0		\$49,000
Limnopro Aquatic Science, Inc.	Professional or Technical Service Contract	Transplanting treatments				-		\$53,000
Limnopro Aquatic Science, Inc.	Professional or Technical Service Contract	Experimental monitoring				-		\$58,000
Limnopro Aquatic Science, Inc.	Professional or Technical Service Contract	Sediment survey				-		\$15,000
Limnopro Aquatic Science, Inc.	Professional or Technical Service Contract	Surface water dissolved oxygen assessment				-		\$1,500
Limnopro Aquatic Science, Inc.	Professional or Technical	Mobilization to have boat, instrumentation and personnel on the lakes to do the other work noted				0		\$16,000

	Service Contract	above. May be reduced if Limnopro does not do the herbicide treatments.						
Unknown	Professional or Technical Service Contract	Herbicide treatments. Could be performed either by Limnopro or bid out. If bidding out is required, that is o.k. We need guidance on what your expectations are. E.g., would it be o.k. for Limnopro to do it if they matched low bid?				0		\$201,000
Unknown	Professional or Technical Service Contract	Mechanical harvesting. A rough estimate. Extent depends on both what DNR allows for herbicide and circumstances under which want to target areas of CLP to give most advantage to rooted natives. Limnopro does not do harvesting, so this will be contracted out.				-		\$89,000
Minnesota Lakes and Rivers Advocates	Professional or Technical Service Contract	Civic organizing leadership and consulting by Jeff Forester.				0		\$21,500
Civic Organizing, Inc.	Professional or Technical Service Contract	Permission to use intellectual property at flat rate of \$5,000 per year that also includes consulting with Peg Michaels at no extra cost				-		\$15,000
							Sub Total	\$569,000
Equipment, Tools, and Supplies								
							Sub Total	-
Capital Expenditures								
							Sub Total	-
Acquisitions and Stewardship								
							Sub Total	-
Travel In Minnesota								
							Sub Total	-

Travel Outside Minnesota								
							Sub Total	-
Printing and Publication								
							Sub Total	-
Other Expenses								
							Sub Total	-
							Grand Total	\$569,000

Classified Staff or Generally Ineligible Expenses

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

Category	Specific Source	Use	Status	Amount
State				
			State Sub Total	-
Non-State				
			Non State Sub Total	-
			Funds Total	-

Attachments

Required Attachments

Visual Component

File: [5caca402-cf4.pdf](#)

Alternate Text for Visual Component

Map showing location of Kohlman, Gervais, Spoon and Keller Lakes in Maplewood and Little Canada, Ramsey County

Financial Capacity

File: [062be2d2-a5c.pdf](#)

Board Resolution or Letter

Title	File
FWCF Board Resolution	4651c777-d79.pdf

Administrative Use

Does your project include restoration or acquisition of land rights?

No

Does your project have patent, royalties, or revenue potential?

No

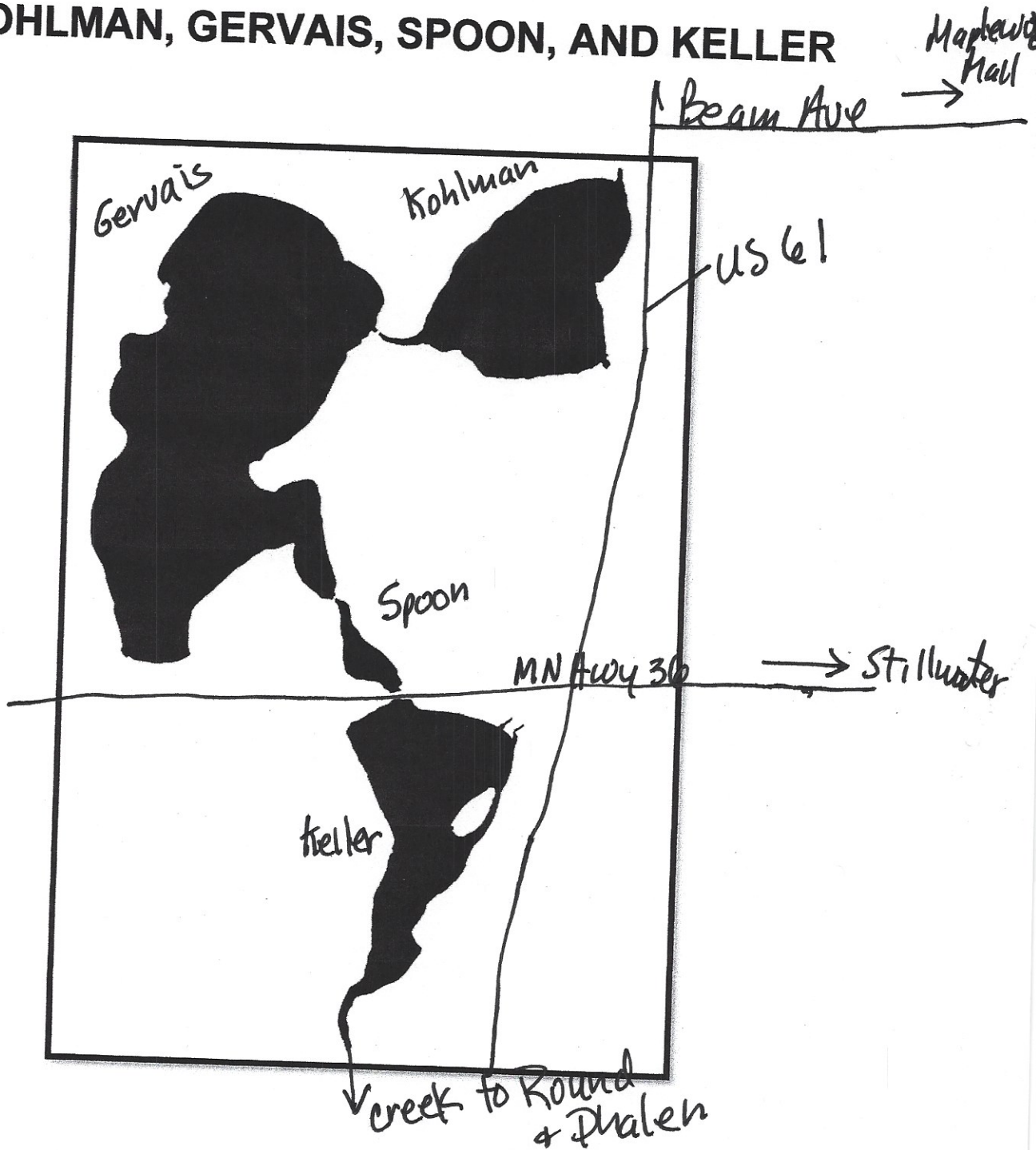
Does your project include research?

Yes

Does the organization have a fiscal agent for this project?

No

KOHLMAN, GERVAIS, SPOON, AND KELLER



LAKE VEGETATION MANAGEMENT PLANS

FY 2020 - 2022

Kohlman, Spoon, Keller are in Maplewood
Gervais in Little Canada but houses along east shore
in Maplewood except peninsula in L.C.
NE shore houses Maplewood, NW shore Little Canada