



Environment and Natural Resources Trust Fund

2027 Request for Proposal

General Information

Proposal ID: 2027-218

Proposal Title: Better Training, Better Shoreline Restorations, Healthier Lakes

Project Manager Information

Name: Daniel Larkin

Organization: U of MN - College of Food, Agricultural and Natural Resource Sciences

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Project Basic Information

Project Summary: We propose a new training partnership hosted by UMN Extension to increase capacity for statewide efforts to protect Minnesota's vanishing natural shorelines through a shoreline restoration certification program

ENRTF Funds Requested: \$432,000

Proposed Project Completion: June 30, 2030

LCCMR Funding Category: Water (B)

Project Location

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

Statewide

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.

Minnesota's natural shorelines are essential for the health of our lakes. Natural shorelines support clean water, healthy fisheries, wildlife, recreational opportunities, and local economies. Unfortunately, it is estimated that >40% of natural shorelines along Minnesota lakes have been lost. Shoreline conversion from natural vegetation to turfgrass and hardscaping means more phosphorus going into lakes, increased algae growth, lower water clarity, and less habitat for fish, waterbirds, and other wildlife. Fortunately, the state has stepped up, with millions from the Clean Water, Land and Legacy Amendment invested in shoreline projects and improvements in regulatory processes. Still, in practice, shoreline restoration outcomes often fall short of goals. Deficiencies in planning, design, and implementation of restorations can result in missed opportunities to make the most of the state's investments. One impediment to better shoreline restorations—highlighted by the Natural Shoreline Partnership, Legacy Fund Restoration Evaluation Program/Panel, and the BWSR Technical Training program—is a lack of training for natural-resources professionals engaged in shoreline restoration. These include Soil and Water Conservation and Watershed District staff overseeing shoreline restorations; planning, zoning, and permitting staff in state/local government that administer shoreline regulations and permit restoration plans; and private-sector contractors who install restorations.

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.

Statewide partnerships have identified training capacity for natural-resource and regulatory professionals as a critical need to overcome deficiencies in shoreline restoration and make the most of Minnesota's shoreline investments. University of Minnesota Extension, in partnership with the Minnesota Department of Natural Resources, Minnesota Board of Water and Soil Resources, and the Stearns Conservation District—and in collaboration with a broader group of organizations and experts serving on the Natural Shoreline Partnership—proposes to launch a statewide Shoreline Restoration Training and Certification Program. Shoreline restoration is a technically challenging “bioengineering” endeavor that requires knowledge of not only engineering and regulatory requirements, but also biological and ecological considerations. We will provide this comprehensive training through a rigorous certification program. A dedicated Extension Educator will develop and implement science-based training that fills critical professional-development needs and maximizes state return-on-investment for effective, resilient, and cost-effective shoreline restoration. We anticipate that the audience for such training will be substantial. Initial funding from LCCMR would be used to build a training program that can be sustained over the long term through reinvestment of revenue back into the program.

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?

This project will build long-term, statewide capacity to protect and restore Minnesota's natural shorelines by training and certifying professionals who plan, permit, and install shoreline restorations. Certified professionals will be better equipped to design and implement high-quality restorations that protect water quality, enhance fish and wildlife habitat, and preserve the ecological function of Minnesota's shorelines. The potential impact is high given the large number of organizations engaged in this work. By improving the quality of shoreline restorations, this program will maximize return-on-investment from the state's substantial funding of shoreline protection and help reverse the ongoing loss of Minnesota's natural shorelines.

Activities and Milestones

Activity 1: Launch project and develop curriculum

Activity Budget: \$151,200

Activity Description:

The first activity will establish the foundation for the Shoreline Restoration Training and Certification Program. A newly hired Extension Educator will be onboarded and, working closely with the project manager and partners, will conduct a needs assessment to ensure the curriculum addresses the most critical gaps in professional knowledge and practice related to shoreline restoration. The needs assessment will draw on input from natural-resource professionals, regulatory staff, and private-sector contractors across the state. Findings will inform development of comprehensive, science-based curricula covering shoreline restoration planning, design, and implementation. Curriculum development will be guided by the project team and feedback from the Natural Shoreline Partnership. We will draw on existing training resources, including BWSR Academy and Stearns County's shoreline contractor training program, and adapt and expand upon these programs to develop a comprehensive statewide training program.

Activity Milestones:

Description	Approximate Completion Date
Onboard newly hired Extension Educator	October 31, 2027
Complete needs assessment	March 31, 2028
Complete development of initial curriculum	November 30, 2028

Activity 2: Pilot and refine training program

Activity Budget: \$151,200

Activity Description:

Through Activity 2, we will test and refine the training program prior to full launch. We anticipate a hybrid model including both online and in-person training components. The Extension Educator will pilot online curricula and in-person training with cohorts of professionals representing the program's target audiences. Our preliminary plan is to develop custom tracks for three groups:

- (1) Technical Track: Deep-dive training for staff from SWCDs, watershed districts, and other relevant agencies to improve project design and oversight;
- (2) Contractor/Consultant Track: A training program to support a knowledgeable private-sector workforce. This track was inspired by a training mandated by a Stearns Co. ordinance for lake shoreline contractors; and
- (3) Regulatory Track: Education for planning/zoning and other regulatory professionals (e.g., DNR Hydrologists, BWSR Board Conservationists) to better align permitting decisions with ecological considerations.

Based on results from Activities 1-2, these tracks may be refined. Pilots will be used to assess quality and effectiveness of the learning experience. Participant feedback, derived from surveys and structured discussions, will be used to evaluate and revise the curriculum. This iterative process will ensure the final program is rigorous, practical, and well-suited to the different audiences it is designed to serve.

Activity Milestones:

Description	Approximate Completion Date
Pilot online curriculum	February 28, 2029
Pilot in-person training	June 30, 2029
Evaluate and revise training	September 30, 2029

Activity 3: Fully launch and implement training and certification program

Activity Budget: \$129,600

Activity Description:

Building on the refined curriculum developed and piloted in earlier activities, Activity 3 will bring the Shoreline Restoration Training and Certification Program to full implementation. A registration-based revenue model will be established to support the program's long-term sustainability. The full training and certification program will be formally launched and made available to natural-resource professionals statewide. Outreach efforts, in coordination with partner organizations represented by the project team and the Natural Shoreline Partnership, will promote the program as a professional standard for shoreline restoration practice. By the time we complete this activity, our intent is to have the program positioned to continue beyond the LCCMR-funded period, with a business plan for long-term sustainability. This model—developing Extension-based natural-resources training and certification programs using LCCMR funding and sustaining them beyond the grant period through registration revenue and other support—has been highly successful, including for the Ecological Restoration Training Cooperative and the AIS Detectors Program. Note that while these programs also address ecological restoration and aquatic resources, they do not fulfill the training needs addressed in this proposal.

Activity Milestones:

Description	Approximate Completion Date
Establish registration-based revenue model	January 31, 2030
Launch full training and certification program	January 31, 2030
Outreach, dissemination, and continuation of program	June 30, 2030

Project Partners and Collaborators

Name	Organization	Role	Receiving Funds
Daniel Shaw	Board of Water & Soil Resources	Senior Ecologist/Vegetation Specialist with expertise in restoration planning, design, and implementation. Will serve as an advisor for the project, review and provide feedback on training/curriculum, provide input on shoreline restoration best practices, provide guidance to help align project with BWSR and other state initiatives.	No
Paul Radomski	Minnesota Department of Natural Resources	Research Scientist with expertise in lake ecology and management. Will serve as an advisor for the project, review and provide feedback on training/curriculum, provide input on shoreline restoration best practices, provide guidance to help align project with MN DNR and other state initiatives.	No
Jon Hansen	Minnesota Department of Natural Resources	Lake Ecology Unit leader with expertise in lake ecology and management. Will serve as an advisor for the project, review and provide feedback on training/curriculum, provide input on shoreline restoration best practices, provide guidance to help align project with MN DNR and other state initiatives.	No
Jeff Hrubes	Board of Water & Soil Resources	Clean Water Specialist with expertise in water quality and shoreline restoration and management. Will serve as an advisor for the project, review and provide feedback on training/curriculum, provide input on shoreline restoration best practices, provide guidance to help align project with BWSR and other state initiatives.	No
Greg Berg	Stearns Conservation District	Implementation Team Manager & Riparian Resources Specialist with expertise in shoreline restoration best practices and training. Will serve as an advisor for the project, review and provide feedback on training/curriculum, provide input on shoreline restoration best practices, provide guidance to help align project with Stearns Co. and other shoreline initiatives.	Yes
Eli Sagor	University of Minnesota	Extension Program Leader - Natural Resources Team with expertise in natural resources management and development and implementation of Extension programs for natural resources professionals. Will provide leadership for the Extension Educator.	No
Joel Larson	University of Minnesota	Extension Program Leader - Water Team with expertise in water resources management and development and implementation of Extension programs for water resources professionals. Will provide leadership for the Extension Educator.	No

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.

The primary means of dissemination of project results will be the online and in-person curricula developed for the Shoreline Restoration Training Program. We will also disseminate results to state, local, not-for-profit, federal, and Tribal staff, as well as students training for such positions, through (1) appropriate professional meetings (e.g., Minnesota Lake Management Symposium, Minnesota Water Resources Conference, Minnesota Association of Soil and Water Conservation Districts Annual Convention, Minnesota Association of Watershed Districts, Association of Minnesota Counties, Minnesota Planning and Zoning Administrators Association, Association of Minnesota Cities and Townships), and (2) outreach to partners (e.g., through regularly scheduled meetings of the Natural Shoreline Partnership and DNR-organized local-government unit forums and newsletters). Description and evaluation of the Shoreline Restoration Training Program may also be submitted to applied scientific journals (e.g., Lake and Reservoir Management, Ecological Restoration). We will follow ENRTF Acknowledgement Requirements and Guidelines in all of our dissemination and outreach activities, including in products and trainings beyond the end of the grant.

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?

The Shoreline Restoration Training and Certification Program will be designed with a focus on long-term sustainability. Revenue generated through registration fees, University support, and pursuit of other state funding sources will be used to sustain and grow the program beyond the initial funding period, a model that has been successful for past Extension programs initiated with LCCMR seed funding. UMN Extension will provide continuity as the program's long-term home. The program will serve multiple audiences and partner organizations will promote the program as a professional standard for shoreline restoration practice statewide, ensuring a broad, replenishing audience for training and certification.

Other ENRTF Appropriations Awarded in the Last Six Years

Name	Appropriation	Amount Awarded
Optimizing Non-Native Cattail Treatment Effectiveness in Prairie Wetlands	M.L. 2025, First Special Session, Chp. 1, Art. 2, Sec. 2, Subd. 06b	\$942,000

Project Manager and Organization Qualifications

Project Manager Name: Daniel Larkin

Job Title: Professor & Extension Specialist

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

Dan Larkin is a Professor & Extension Specialist in the Department of Fisheries, Wildlife and Conservation Biology at the University of Minnesota-Twin Cities. He and his research team work on applied challenges in ecological restoration and invasive plant management in terrestrial, wetland, and aquatic habitats. Through extension, he trains volunteers and professionals to support ecological restoration and invasive-species response efforts. Dan has a Ph.D. in Botany from the University of Wisconsin-Madison and studied Biology as an undergraduate at the University of California, Santa Cruz.

Organization: U of MN - College of Food, Agricultural and Natural Resource Sciences

Organization Description:

The mission of the Department of Fisheries, Wildlife and Conservation Biology is to inspire and create solutions for biological conservation and management in a diverse and changing world.

Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	\$ Amount
Personnel								
Extension Educator		Full-time educator (new hire, TBD) developing and implementing training program			27%	3		\$352,615
Dan Larkin/Professor & Extension Specialist		Project manager, guiding and working with Extension Educator to develop training program. Summer salary: 1.5 weeks per year for 3 years			27%	0.09		\$23,392
Undergraduate assistant		Perform assigned tasks			0%	0.3		\$12,000
							Sub Total	\$388,007
Contracts and Services								
Stearns Conservation District	Subaward	Greg Berg (SCD) will serve as a key collaborator and project advisor. We will adapt aspects of the Stearns Co. shoreline ordinance and training program for contractors for a statewide scale				0.12		\$21,600
							Sub Total	\$21,600
Equipment, Tools, and Supplies								
	Tools and Supplies	Office and general operating supplies	Office, postage, and other miscellaneous supplies needed to develop training program, host meetings, etc.					\$5,000
	Tools and Supplies	Lab and/or field supplies	Scientific tools and supplies for use in training program					\$5,000
							Sub Total	\$10,000
Capital Equipment								
							Sub Total	-
Acquisitions and Stewardship								

							Sub Total	-
Travel In Minnesota								
	Miles/ Meals/ Lodging	Mileage for 10 trips per year, averaging 150 miles per trip, 1 person, \$0.725 per mile. Plus lodging and meals for overnight trips	Meetings with project partners, delivery of trainings, outreach presentations at relevant meetings					\$9,393
							Sub Total	\$9,393
Travel Outside Minnesota								
							Sub Total	-
Printing and Publication								
	Printing	Printing of materials	Providing printed materials for participants in training programs					\$3,000
							Sub Total	\$3,000
Other Expenses								
							Sub Total	-
							Grand Total	\$432,000

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	-

Total Project Cost: \$432,000

This amount accurately reflects total project cost?

Yes

Attachments

Required Attachments

Visual Component

File: [4b9d2746-658.pdf](#)

Alternate Text for Visual Component

We propose a new training partnership hosted by UMN Extension to increase capacity for statewide efforts to protect Minnesota's vanishing natural shorelines and the lakes that depend on them...

Supplemental Attachments

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

Title	File
Letter of Support from Stearns Conservation District	ccded510-2dd.pdf
Letter of support from Cass County	d5f9f266-daf.pdf
Letter of commitment from subaward recipient	a4d2a974-35a.pdf
UMN approval letter	d772536e-350.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 UMN Policy on travel applies.

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

Yes

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

Yes

Do you wish to request reinvestment of any revenues into your project instead of returning revenue to the ENRTF? If so, describe here (1) the source and estimated amounts of any revenue and (2) how you propose to use those revenues:

Yes, (1) When the training program is fully developed and launched, it will generate revenue from participant registration costs. Based on ongoing Extension training programs that were initially developed with LCCMR support (Ecological Restoration Training Cooperative, AIS Detectors), we anticipate that annual revenue will likely be in the tens of thousands. (2) We propose to reinvest generated revenue to sustain the Shoreline Restoration training program beyond the initial, LCCMR-supported phase. These funds would go entirely to reinvestment in the program, primarily salary for the hired Extension Educator, to make it at least substantially self-sustaining

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")?

No

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

Greg Berg (Stearns Conservation District), Jon Hansen (MN DNR), Jeff Hrubes (BWSR), Joel Larson (UMN Extension), Paul Radomski (MN DNR), Eli Sagor (UMN Extension), Dan Shaw (BWSR)

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