



Environment and Natural Resources Trust Fund

2027 Request for Proposal

General Information

Proposal ID: 2027-244

Proposal Title: Aligning Conservation Programs with Farmer Needs

Project Manager Information

Name: Sarah Roth

Organization: U of MN - Water Resources Center

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Project Basic Information

Project Summary: Determining if conservation programs are adequately meeting farmers' needs related to soil health practice adoption - and action planning programmatic improvements for increased effectiveness.

ENRTF Funds Requested: \$357,000

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.

A plethora of public and private conservation programs exist in Minnesota that aim to increase voluntary soil health practice adoption among farmers. But little is known how these existing programs align with farmers' needs and how the programs can better address barriers to adoption. A 2024 statewide survey of Minnesota farmers identified the key barriers of soil health practice adoption - and farmers' desired changes in order to increase adoption. Resource and support needs include data surrounding the financial risks, increased program flexibility, seeing successful examples in-field, connecting with other farmers using the practices, assistance with market identification, among other needs. Many of these needs agencies and program implementers have control over, but may not be prioritizing. If programs more adequately address farmers' support needs and barriers to adoption, farmers will be more likely to adopt and maintain soil health practices, leading directly to improved water quality throughout Minnesota.

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.

We already have important survey data from farmers that provides critical insights on how soil health programs could be improved or modified to increase adoption rates. But, that survey data is not integrated into agency or NGO programming. As a result, soil health programs are missing opportunities to have greater impact and better meet farmer needs. Therefore, we need to bring together agency and programmatic leaders in a collaborative action planning process to integrate the best available social science research and data to improve program design and delivery. The outcome will be changes in program design and implementation, increased practice adoption rate, and improved environmental outcomes that will benefit both producers and the environment.

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?

Conservation professionals tasked with implementing programs to increase farmer adoption of soil health practices will:

- 1) gain research-backed knowledge of farmers' needs related to practice adoption
- 2) develop an understanding of how their programs are - or are not - adequately meeting farmers' needs; and
- 3) co-create concrete action steps they can take towards improving programs.

Improving programs alignment with actual farmer needs will lead to more soil health practices in the ground, which in turn leads to enhanced water-holding capacity of soil, reduced nutrient and pollution transfer, increased carbon sequestration, and overall improved quality of our waters.

Activities and Milestones

Activity 1: Online survey of conservation professionals

Activity Budget: \$34,435

Activity Description:

An online Qualtrics survey will be developed and conducted with conservation professionals: public agency staff and NGO staff involved in managing or implementing conservation programs aimed at farmer soil health practice adoption. The survey will be used to: a) assess staff's perceptions of the conservation programs they are involved in, including the importance and effectiveness of various programmatic aspects and gaps in knowledge, skills, or capacity; and b) receive feedback on potential metrics for the program evaluation. Metrics may include the programs' flexibility level, resource distribution among categories like cost-share, level of technical assistance provided, or mentorship opportunities.

Survey data will be analyzed and used to refine the metrics being developed for the program analysis. Importance versus effectiveness data will also feed into the workshop development to demonstrate gaps in programs. Findings from the survey will also be incorporated into summary reports and conference presentations. Pradhananga will lead Activity 1.

Activity Milestones:

Description	Approximate Completion Date
Survey development	November 30, 2027
Survey distribution	February 28, 2028
Survey analysis	May 31, 2028

Activity 2: Development and Testing of Metrics for Program Analysis

Activity Budget: \$39,538

Activity Description:

A comprehensive and iterative approach will be used to develop the metrics used in the forthcoming program analysis. First, a literature review will be conducted to look for comparable analysis processes and example metrics. Next, data from the 2024 statewide Minnesota farmer soil health survey will be analyzed to determine priority programmatic needs. Draft metrics will then be developed and incorporated into the online survey of conservation professionals to gather feedback. Following the online survey, metrics will be refined and rubrics will be prepared for the program analysis. Incorporating a scholarly literature review, stakeholder feedback, and existing datasets will ensure the metrics and approach for program evaluation is relevant and effective. Roth will lead Activity 2.

Activity Milestones:

Description	Approximate Completion Date
Literature review	November 30, 2027
Review of 2024 Farmer Survey dataset	November 30, 2027
Draft metrics development	February 28, 2028
Refine metrics following online survey with conservation professionals	August 31, 2028

Activity 3: Analysis of existing conservation programs

Activity Budget: \$56,969

Activity Description:

Following the development of the metrics for which programs will be assessed against, a scoring rubric will be developed. Next, data and documents will be collected on the various existing public and private conservation programs in Minnesota, from the local to the federal level. Document analysis will be used to score programs against the metrics and compare across the state. Results from the analysis will be synthesized in a variety of formats, including a summary report and a standalone fact sheet. The analysis will demonstrate how existing programs are adequately meeting farmer needs in regards to soil health practice adoption - as well as the gaps that exist, both by program and overall. A graduate student (TBA) will lead Activity 3.

Activity Milestones:

Description	Approximate Completion Date
Develop rubric for analysis using tested metrics	November 30, 2028
Collect data and documents of existing conservation programs	May 31, 2029
Analyze existing programs against tested metrics	August 31, 2029
Synthesize program analysis findings	November 30, 2029

Activity 4: Action planning workshops with conservation professionals

Activity Budget: \$80,758

Activity Description:

Once existing programs are evaluated against our tested metrics, it is not enough to just write up and share the results - we need to take steps to improve these programs. Program modifications and improvements cannot be suggested alone in a silo either. Using a hands-on workshop, we will bring together the staff who manage and implement these programs to co-create priority improvements to programs - and map out action steps to get there. Using a tested workshop methodology, participants will:

- 1) understand key barriers to farmer practice adoption and program participation - and their desired needs
- 2) hear and reflect on findings from the online survey and program analysis;
- 3) co-create priority programmatic improvements, modifications, and innovations
- 4) develop an action plan to make these improvements at their respective organizations and agencies

The workshop process and its resulting outputs will be synthesized and returned to participants - and detailed in a summary report. Roth will lead Activity 4.

Activity Milestones:

Description	Approximate Completion Date
Workshop planning and development	November 30, 2029
Workshop recruiting	December 31, 2029
Conduct workshop	March 31, 2030
Synthesize process and outputs	May 31, 2030

Activity 5: Reporting and Presenting

Activity Budget: \$145,300

Activity Description:

Throughout this work, the team will be documenting and synthesizing the unique process and approach to the project. A comprehensive summary report will be developed documenting the entire project. A standalone fact sheet will be developed and distributed featuring the findings from the online survey compared to the 2024 farmer soil health

statewide survey. A graduate student will present on their program analysis at the Minnesota Water Resources Conference and the International Association of Society & Natural Resources Conference - the premier conference featuring research about farmer conservation practice adoption behavior. Additionally, a peer-reviewed manuscript will be developed to document the unique approach to the metrics development and program analysis. The project team will also actively seek out venues and strategies for sharing the results of the project with conservation professionals.

Activity Milestones:

Description	Approximate Completion Date
Development of a fact sheet highlighting Activity 1	November 30, 2029
Development of a comprehensive summary report	June 30, 2030
Development of a peer-reviewed manuscript	June 30, 2030
Presenting process and findings at various conferences	June 30, 2030

Project Partners and Collaborators

Name	Organization	Role	Receiving Funds
Amit Pradhananga	University of Minnesota, Center for Changing Landscapes	Research Associate. Overseeing and supervising graduate student researcher. Lead researcher in conducting and analyzing agency survey. Co-development of metrics for assessment of conservation programs.	Yes
Marcelle Lewandowski	Minnesota Office of Soil Health	Providing expertise and stakeholder engagement related to current soil health programming in Minnesota.	Yes
Jodi Rahn	University of Minnesota	Finance Professional for the Water Resource Center. Will ensure budget accuracy and track expenditures through project duration.	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 key end-users of the results of this project are the public (government) and private (NGO) staff who manage and implement conservation programs aimed at farmer adoption of soil health practices. These staff will be engaged regularly during the project - as well as after. The staff will be among those surveyed in the online survey and the main participants of the action planning workshop near the projects' completion. Findings from earlier stages of the project will be disseminated to these key stakeholders both during the workshop, as well as before and after through our development of a summary fact sheet, presentations at a variety of conferences and events in-person and virtually, and through summary reports. The workshop's main purpose is to ensure the results of the research are being directly applied by those who have the ability and control to make programmatic decisions that can impact farmer adoption. Additionally, we plan to share the unique project approach and results through an open-access peer-reviewed manuscript. The results will be relevant and applicable to many beyond academic institutions, thus ensuring they are open-access is vital.

The collaboration of key staff at Minnesota Office of Soil Health in this project will also ensure we are reaching the right audiences with our outreach and dissemination efforts, as they are actively engaged in this target community.

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?

A key component of this work is the action-planning workshop with conservation professional staff that will focus on developing actual programmatic improvements. Examples may include streamlined paperwork processes, equipment rental opportunities, market-building mentorships, or an increased focus on technical support versus cost-share funding. Results of the assessment of existing programs will be reported on during the project at relevant conferences - and used to recruit participation in the action-planning workshop. The workshop will give conservation professionals a roadmap for improving their individual programs after project completion. A written report will be developed detailing the process and outcomes of the workshop.

Project Manager and Organization Qualifications

Project Manager Name: Sarah Roth

Job Title: Research & Extension Coordinator

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

Sarah has 10 years of experience managing research projects of various scales from conception through completion. She also has 10 years of experience managing and administering grant programs, ensuring reporting compliance, and tracking project progress measures. As an experienced social scientist, she has worked in the agriculture space for 8 years assessing the drivers and barriers to conservation practice adoption by farmers. She led the recent statewide farmer soil health survey aimed at understanding the barriers to soil health practice adoption across the state. The findings from that project directly influence the next steps of the proposed project, so Sarah is well equipped to spearhead this effort.

Organization: U of MN - Water Resources Center

Organization Description:

The University of Minnesota's Water Resources Center's (WRC) mission is to address current and emerging water challenges through collaborative research, education, and engagement in Minnesota and beyond. We use this mission to guide our vision of clean and abundant water for all. Authorized by Congress as one of the nation's 54 water resources research institutes, we also connect the research expertise at the University to research problems at the national level.

Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	\$ Amount
Personnel								
Sarah Roth/Project Manager		Managing overall project including budget & reporting. Leading Activities 1 and 4.			36.6%	0.75		\$107,610
Marcelle Lewandowski/Collaborator		Providing expertise and stakeholder engagement related to current soil health programming in Minnesota. Expertise will inform Activities 2 and 4 especially.			36.6%	0.09		\$14,452
Amit Pradhananga / Researcher / Student Advisor		Leading Activity 1. Collaborator in Activity 2. Supervisor for student worker, overseeing Activity 3.			36.6%	0.75		\$106,436
Graduate Student Researcher (Name TBD)		Leading Activity 3. Assisting Activities 4 & 5.			24.2%	1		\$76,119
							Sub Total	\$304,617
Contracts and Services								
MN Landscape Arboretum	Service Contract	Venue rental for workshop. \$1000 for full day space rental at MN Landscape Arboretum, including AV setup, participant parking, tables/chairs.				0		\$1,000
							Sub Total	\$1,000
Equipment, Tools, and Supplies								
	Tools and Supplies	1 (4-pack) of post-it sticky flip chart pads, 4 packs flip chart markers, 2 pack colored dot stickers, 2 pack sticker name tags, 4 collapsible easels, 1 pair scissors, 2-pack scotch tape, 4 (10-pack) small notebooks	Supplies for implementing the action planning workshop.					\$364
	Tools and Supplies	Estimated \$18pp for catered continental breakfast and coffee. Estimated \$22pp for catered hot lunch. Cookies/bars \$3pp. Beverages estimated \$2pp. Required catering staff \$30/hr x 2 staff x 6 hours = \$360. Plus tip.	Food for an estimated 40 workshop participants + 5 staff. Venue requires approved caterer. Catering estimates based on light continental breakfast, hot lunch, dessert, and refreshments for 45, plus the required catering staff hourly rate. Venue requires approved caterer.	X				\$2,500

							Sub Total	\$2,864
Capital Equipment								
							Sub Total	-
Acquisitions and Stewardship								
							Sub Total	-
Travel In Minnesota								
	Miles/ Meals/ Lodging	Roundtrip (69 miles) at .725/mile for 5 people= \$250	Travel to and from workshop venue.					\$250
	Conference Registration Miles/ Meals/ Lodging	1 student registration fee to the MN Water Resources Conference (\$150); 1 professional member registration fee to the MN Water Resources Conference (\$550)	Graduate student will present results of program analysis stage of research.					\$700
							Sub Total	\$950
Travel Outside Minnesota								
	Conference Registration Miles/ Meals/ Lodging	Funding for one graduate student (who is leading a key component of the research) to attend and present research results at the International Association of Society & Natural Resources (IASNR) Conference. Estimated airfare (\$450), estimated registration (\$500), estimated lodging for 6 nights (\$700), estimated per diem for 7 days (\$460) ground transportation (\$100).	The graduate student will attend and present at the IASNR conference - receiving valuable feedback on research results, demonstrating innovative research in the social science community, and making strong connections in the workforce.	X				\$2,210
							Sub Total	\$2,210
Printing and Publication								
	Publication	Publication of 1 open-source, peer-reviewed manuscript.	Publishing open-source is critical to ensuring results are reachable by a wide variety of audiences, rather than behind a paywall.					\$4,300
	Printing	2 Conference poster printing (\$125 x 2)	Printing poster to present at conferences including MN Water Resources Conference and IASNR.					\$250
	Printing	2-page glossy fact sheet printing (250 copies)	Distributing key findings to important agency and NGO					\$500

			audiences around the current gaps in conservation programs					
	Printing	Action planning worksheet packets x 40, Action cards for workshop activity x 40, Agendas x 40	Printing agendas, action cards and action planning worksheets to be used by participants in the workshop.					\$500
							Sub Total	\$5,550
Other Expenses								
		Tuition for graduate student	Tuition for 2-year graduate student researcher - leading Activity 3, assisting Activities 4 & 5. \$19,562 for Y1 and \$20247 for Y2.					\$39,809
							Sub Total	\$39,809
							Grand Total	\$357,000

Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request
Equipment, Tools, and Supplies		Estimated \$18pp for catered continental breakfast and coffee. Estimated \$22pp for catered hot lunch. Cookies/bars \$3pp. Beverages estimated \$2pp. Required catering staff \$30/hr x 2 staff x 6 hours = \$360. Plus tip.	Food & refreshments for workshop participants. The workshop is a key component of the project to co-create action steps for improving soil health programs to better meet farmer needs. The workshop will be a full day so breakfast and lunch for all will be required.
Travel Outside Minnesota	Conference Registration Miles/Meals/Lodging	Funding for one graduate student (who is leading a key component of the research) to attend and present research results at the International Association of Society & Natural Resources (IASNR) Conference. Estimated airfare (\$450), estimated registration (\$500), estimated lodging for 6 nights (\$700), estimated per diem for 7 days (\$460) ground transportation (\$100).	The IASNR conference is the premier conference for research surrounding farmer decision making and adoption behavior related to conservation practices. Having the graduate student present their research in this format will demonstrate Minnesota's strong commitment to improving programming to meet farmer needs.

Non ENRTF Funds

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

Total Project Cost: \$357,000

This amount accurately reflects total project cost?

Yes

Attachments

Required Attachments

Visual Component

File: [08b6c1c5-47d.pdf](#)

Alternate Text for Visual Component

A short project summary plus a graphic of the 4 main project activities, with a resulting outcome. Logos of 3 UMN units involved in proposal....

Supplemental Attachments

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

Title	File
UofM Letter of Support	49b4b762-92a.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?

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?

Yes, Sponsored Projects Administration

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:

Amit Pradhananga, Marcelle Lewandowski, Bonnie Keeler, Jodi Rahn - University of Minnesota

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