



Environment and Natural Resources Trust Fund

2025 Request for Proposal

General Information

Proposal ID: 2025-210

Proposal Title: Expanding Access to Spatial Data in Minnesota

Project Manager Information

Name: Will Bartsch

Organization: U of MN - Duluth - NRRRI

Office Telephone: (218) 788-2669

Email: wbartsch@d.umn.edu

Project Basic Information

Project Summary: We will expand access to spatial data statewide using the MN Natural Resource Atlas through online tutorials and free training for local government, non-government organizations, and community involvement groups.

ENRTF Funds Requested: \$65,000

Proposed Project Completion: June 30, 2028

LCCMR Funding Category: Small Projects (H)

Secondary Category: Foundational Natural Resource Data and Information (A)

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

Narrative

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

People make better decisions when they have access to good data. Data provides critical context to issues and insights for science-based solutions. Minnesota has a diverse array of high quality, spatial data, but much is inaccessible without advanced training or expensive Geographic Information System (GIS) software. Lacking the ability to use GIS, often due to either technical or economic barriers, many local governments, small non-governmental organizations, small business, and community members are left with an incomplete set of information for understanding issues and making decisions that affect Minnesota's natural resources.

By making spatial data, and the critical information that it contains, more broadly accessible and understandable, more Minnesota residents, organizations, and under served groups can be part of constructive, science-based dialogue, and informed decision-making to protect, conserve, and enhance our state's natural resources.

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 Minnesota Natural Resource Atlas (mnatlas.org), developed by the Natural Resources Research Institute (NRRI) with funding from the Minnesota State Legislature, ENRTF, DIRRR, and the U of MN, is a free and intuitive online GIS that requires minimal training (60-90 minutes of guidance for new users). Individuals and organizations without the skills, training, or licensing needed to manipulate expensive desktop GIS can easily and quickly view, analyze, and share over 500 layers of spatial data within the Atlas. NRRI has driven growth in Atlas users, currently at 150 unique users per weekday, through their successful training program. To date, NRRI has conducted more than 60 testing/training/demonstration events with about 1300 individuals participating. Funding through LCCMR will allow us to build on this success through a three-year user support and training program. In addition, the funding will support development of tutorials, case studies, and a network of trained "facilitators", who can train their own new users. The training will be primarily remote but will include a limited number of in-person training events targeted towards local governments, natural resource focused non-profits, and volunteer community science groups.

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?

NRRI will improve our user support documentation and expand training for the MN Natural Resource Atlas to reach more people and organizations. We will update our existing tutorial documents, create video tutorials, and develop two case studies that demonstrate how to evaluate an issue or inform a process. We will work primarily with local government units (LGU), but also with the U of MN Extension to identify target users and deliver training events, including advanced training for Extension's Master Naturalist Program. We will conduct at least 15 remote training sessions annually and in-person training at conferences for statewide LGU associations.

Activities and Milestones

Activity 1: Update existing tutorials, create video tutorials, and develop case studies.

Activity Budget: \$12,500

Activity Description:

Minnesota Natural Resource Atlas users, especially new users, would benefit from expanded user support materials. Our current materials are limited to six pdf tutorials on topics that demonstrate core functionality. We will reorganize and restructure the tutorials, breaking them into smaller operations and pairing them with matching videos. This approach will benefit users by breaking down our tutorials into smaller, easier to complete tutorials provided in both pdf and video formats, as we know from previous training sessions and surveys that users would prefer to have access to multiple formats.

We will also work closely with a local unit of government or natural resource-focused NGO to develop two case studies in which we document how to most effectively use the Atlas to better understand an issue or to complete a routine operation that requires evaluating spatial data. These case studies will be pdf documents and will be paired with videos that demonstrate the associated Atlas operations.

Activity Milestones:

Description	Approximate Completion Date
Update existing tutorials	September 30, 2025
Create video tutorials	November 30, 2025
Develop case studies	February 28, 2026

Activity 2: Deliver training remotely and at annual conferences of local government units.

Activity Budget: \$52,500

Activity Description:

We will build on our past training success to raise awareness of the Atlas and expand access to spatial data. Our primary strategy will be to target local government units and our secondary strategy will be to target engaged citizens through the U of MN Extension’s volunteer monitoring and stewardship programs, particularly Minnesota Master Naturalists.

We will engage LGUs both directly and indirectly. We will work directly with Soil and Water Conservation Districts (SWCD) to offer remote training to their staff and to have them help us identify and recruit other LGU employees (e.g., township and county) to those training sessions. We will work with the Board of Soil and Water Resources (BWSR) to offer training through their Monday Tech Talks (remote), Spring Training (remote), and Academy (in-person). And, we will attend one annual conference each year for either the Minnesota Association of Townships or the Minnesota Association of SWCDs to engage with members and provide training.

We will advertise our remote training through multiple U of MN Extension newsletters that reach several volunteer monitoring and stewardship groups, but will also provide advanced training requested by Master Naturalists designed to both provide training to current participants and increase the

Activity Milestones:

Description	Approximate Completion Date
Complete 15 remote training sessions, one BWSR training, and attend one conference	June 30, 2026

Complete 15 remote training sessions, one BWSR training, the Extension training, and attend one conference	June 30, 2027
Complete 15 Remote training sessions, one BWSR training, and attend one conference	June 30, 2028

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 University of Minnesota has demonstrated a commitment to ensure the Minnesota Natural Resource Atlas is maintained, updated, and accessible to both existing users and those introduced to the Atlas through this training program. A combination of both internal and external funds have been used to accomplish this and they will continue to actively pursue other funding opportunities for this purpose.

Other ENRTF Appropriations Awarded in the Last Six Years

Name	Appropriation	Amount Awarded
Forest Health: Statewide Application of Forest Management Assessment Tool	M.L. 2021, First Special Session, Chp. 6, Art. 6, Sec. 2, Subd. 19	\$500,000

Project Manager and Organization Qualifications

Project Manager Name: Will Bartsch

Job Title: Research Group Leader

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

Will Bartsch is a Research Group Leader at the Natural Resources Research Institute. He supervises a small team of GIS analysts and developers that design, create, and deliver data products and web applications. He is currently the Principal Investigator of the Minnesota Natural Resource Atlas project and serves as a user trainer. He has extensive project management experience and is responsible for budget development and management in his role at NRRI. He has successfully managed a large variety of projects ranging from small, internally funded projects to large, externally funded, multi-year projects with multi-disciplinary teams from across the University system and budgets of more than \$500,000.

Organization: U of MN - Duluth - NRRI

Organization Description:

The Natural Resources Research Institute (NRRI) is an applied research and economic development engine for the University of Minnesota research enterprise. NRRI employs over 140 scientists, engineers and technicians to deliver on its mission of integrated research solutions that value our resources, environment and economy for a sustainable and resilient future. NRRI collaborates broadly across the University system, the state and the region to address the challenges of a natural resource based economy.

NRRI researchers have extensive experience in managing large, interdisciplinary projects. NRRI's role is as an impartial, science-based resource that develops and translates knowledge. Projects include characterizing and defining resource opportunities, minimizing waste and environmental impact, maximizing value from natural resources and maintaining/restoring ecosystem function.

Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	\$ Amount
Personnel								
Will Bartsch		Will Bartsch is the Principal Investigator and co-trainer for the MN Natural Resource Atlas project. He has experience in the development and delivery of web mapping applications.			27.06%	0.21		\$24,585
Cynthia Hagley		Cindy Hagley is a co-trainer for the MN Natural Resource Atlas. She is an experienced extension educator in natural resource and environmental issues.			27.06%	0.18		\$29,237
TBD - Undergraduate Student		The student will assist with updating and development of user support materials.			0%	0.09		\$2,895
TBD - Temp / Casual		The Temp/Casual will assist with updating and development of user support materials.			7.15%	0.01		\$474
							Sub Total	\$57,191
Contracts and Services								
							Sub Total	-
Equipment, Tools, and Supplies								
							Sub Total	-
Capital Expenditures								
							Sub Total	-
Acquisitions and Stewardship								
							Sub Total	-
Travel In Minnesota								

	Conference Registration Miles/ Meals/ Lodging	We will attend three annual conferences of associations of LGUs and a training workshop put on by the Board of Water and Soil Resources.	Attendance of these conferences and the training event allows us to access LGU employees from across the state in single events.					\$6,000
	Miles/ Meals/ Lodging	In collaboration with partners, we will identify and deliver a limited number of in-person training events. These funds will facilitate those training events.	We will strategically provide some in-person training in addition to the remote training.					\$1,809
							Sub Total	\$7,809
Travel Outside Minnesota								
							Sub Total	-
Printing and Publication								
							Sub Total	-
Other Expenses								
							Sub Total	-
							Grand Total	\$65,000

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				
In-Kind	UMN unrecovered indirect costs are calculated at the UMN negotiated rate for research of 55% modified total direct costs.	Indirect costs are those costs incurred for common or joint objectives that cannot be readily identified with a specific sponsored program or institutional activity. Examples include utilities, building maintenance, clerical salaries, and general supplies. (https://research.umn.edu/units/oca/fa-costs/direct-indirect-costs)	Secured	\$35,750
			Non State Sub Total	\$35,750
			Funds Total	\$35,750

Total Project Cost: \$100,750

This amount accurately reflects total project cost?

Yes

Attachments

Required Attachments

Visual Component

File: [d35785af-ea4.pdf](#)

Alternate Text for Visual Component

This visual highlights why there is need for this project and how we plan to accomplish it. It has one landscape photograph of a wetland with a dock and three screenshots taken from the MN Natural Resource Atlas Mapping Application. Alt text is provided for the images in the document....

Supplemental Attachments

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

Title	File
Letter of Support from Morrison SWCD	11eb3fa6-921.pdf
Letter of Support from BWSR	ec8614c3-32a.pdf
Letter of Support from Master Naturalist Program	5c083044-7db.pdf
LCCMR Transmittal Letter - Bartsch	1d5d91c4-cd6.pdf

Administrative Use

Does your project include restoration or acquisition of land rights?

No

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?

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:

