



Environment and Natural Resources Trust Fund

2027 Request for Proposal

General Information

Proposal ID: 2027-184

Proposal Title: Minnesota Master Naturalist Teacher Institute

Project Manager Information

Name: Robert Blair

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

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Project Basic Information

Project Summary: Minnesota Master Naturalist Teacher Institute trains 72 middle and high school teachers in Minnesota biomes, building content knowledge and confidence to engage students in rigorous scientific investigations and outdoor learning.

ENRTF Funds Requested: \$446,000

Proposed Project Completion: June 30, 2029

LCCMR Funding Category: Education and Outdoor Recreation (C)

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 signature native biomes (Deciduous Forest, Coniferous Forest, and Prairie Grassland) define the state's natural heritage, yet many Minnesota students never experience them meaningfully. Middle and high school teachers, pressed to meet classroom content standards, rarely take students outdoors to explore native forests, river corridors, or prairie remnants, even when these landscapes are accessible from their schools. The barriers are consistent across the state. Teachers report insufficient content knowledge to feel confident identifying species, reading landscapes, or facilitating scientific inquiry in outdoor settings. Without that confidence, field-based teaching remains aspirational rather than routine. Professional development programs seldom address this gap directly; most emphasize classroom content rather than outdoor pedagogy and natural history literacy. In Minnesota, there is no structured community of practice to support classroom teachers who are teaching outdoors. Generations of students are growing up unfamiliar with the ecosystems that define their region, support biodiversity, filter water, and shape Minnesota's economy and identity. A student who cannot identify an oak, a marsh, or a native prairie remnant is unlikely to advocate for protecting these places as an adult. Building teacher capacity in natural history knowledge and outdoor pedagogy is a prerequisite for building Minnesota's next generation of environmental stewards.

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.

Minnesota Master Naturalist Teacher Institute is a collaboration between University of Minnesota Extension's Minnesota Master Naturalist program and the Driven to Discover Teacher Professional Development program. Together, they immerse three cohorts of 24 teachers in five-day summer institutes, grounded in biome-specific curricula and designed specifically to meet educator needs.

Proposed locations:

Cohort 1 (July 2027) explores the Coniferous Forest biome at Wolf Ridge Environmental Learning Center (Finland)

Cohort 2 (June 2028) explores the Deciduous Forest Biome at Saint John's Arboretum (Collegeville)

Cohort 3 (June 2029) explores Prairie Grassland at Prairie Woods Environmental Learning Center (Spicer)

Each site provides direct access to its featured ecosystem. Daily programming integrates species identification, ecological processes, and natural history with a scientific inquiry, giving teachers a replicable model they can apply to their classrooms. Each teacher develops an implementation plan aligned to Minnesota Science Standards. Citizen science capstone projects equip teachers to guide students in authentic, regionally relevant data collection.

The cohort model is central: teachers build collegial peer networks that sustain outdoor teaching beyond the institute. Cohorts 1 and 2 receive year-long follow-through via quarterly Zoom implementation meetings, creating a lasting community of practice. Cohort 3 completes the immersive institute within the grant period.

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?

At project completion, 72 Minnesota middle and high school teachers across all regions of the state will have proficiency in their regional biome's natural history and confidence leading outdoor inquiry with students. Participating teachers will contribute data in a participatory (aka citizen) science project connected to their regional landscape. Regional communities of practice will be established as teachers build collegial relationships that support outdoor teaching beyond the institute. Textbooks, field guides, lesson plans, and participatory science protocols will be provided to participants who will carry this learning into their classrooms, collectively reaching thousands of Minnesota students each year.

Activities and Milestones

Activity 1: Cohort 1: North Woods, Great Lakes at Wolf Ridge Environmental Learning Center in Finland, MN.

Activity Budget: \$160,925

Activity Description:

Wolf Ridge Environmental Learning Center in Finland, Minnesota, July 2027. Wolf Ridge's boreal forest, lakeshores, and wetland systems provide the ideal setting to experience concepts in the Minnesota Master Naturalist Northwoods and Great Lakes curriculum. Daily programming integrates field-based natural history, tree and shrub identification, bird and mammal observation, aquatic ecology, soil science, and geology, with the Driven to Discover scientific investigation framework.

Following the institute, quarterly Implementation meetings via Zoom (October, January, April, and June) will establish a regional outdoor learning community of practice that provides support to teachers throughout the school year and allows participants to exchange implementation ideas. Between the summer institute and the fall quarterly meeting, teachers will participate in public science (aka citizen science) projects as their Minnesota Master Naturalist capstone project. The capstone project is a required, hands-on service project that allows trainees to apply knowledge from the 40-hour course to real-world conservation, education, or research needs. Each teacher receives a biome textbook and field guide, curriculum materials, classroom implementation resources, and a stipend. All Cohort 1 activities occur within Fiscal Year 1 (July 2027–June 2028).

Activity Milestones:

Description	Approximate Completion Date
Recruit participants and select Cohort 1; finalize curriculum and Wolf Ridge institute logistics	July 31, 2027
Conduct five-day Summer Institute and build community of practice with 24 teachers at Wolf Ridge	July 31, 2027
Cohort 1 teachers extend community of practice with quarterly implementation meetings via Zoom.	June 30, 2028

Activity 2: Cohort 2: Big Woods, Big Rivers at Saint John's Abbey Arboretum in Collegeville, MN.

Activity Budget: \$160,925

Activity Description:

Cohort 2 convenes 24 teachers for a five-day summer institute at Saint John's Abbey Arboretum in Collegeville, Minnesota, June 2028. The Arboretum encompasses nearly 3,000 acres of lakes, wetlands, and hardwood forest situated in the thin band of northern hardwood forest running diagonally across Minnesota—placing it squarely in the heart of the Deciduous Forest biome and making it an excellent location to study the Minnesota Master Naturalist Big Woods, Big Rivers curriculum. Programming mirrors the Cohort 1 framework: natural history field instruction, species identification, ecological processes, and scientific inquiry methodology. Teachers will participate in citizen science projects suited to the forest biome and are meaningful to their school region. Lead Teachers contribute as peer mentors, sharing classroom implementation experiences which further enhance the outdoor learning community of practice for teachers striving to teach with nature. The Cohort 2 summer institute takes place at the end of Fiscal Year 1 (June 2028). Year-long follow-through quarterly Implementation meetings via Zoom (October, January, April, and June) occur during Fiscal Year 2 (July 2028-June 2029), allowing teachers to complete a full implementation cycle within the grant period. All 24 Cohort 2 teachers receive the same materials, stipends, and support as Cohort 1.

Activity Milestones:

Description	Approximate Completion Date
Recruit Cohort 2; incorporate Cohort 1 observations; finalize curriculum and Saint John's Arboretum institute logistics.	June 30, 2028
Conduct five-day Summer Institute; build community of practice with 24 teachers at Saint John's Arboretum.	June 30, 2028
Cohort 2 teachers extend community of practice with quarterly implementation meetings via Zoom.	June 30, 2029

Activity 3: Cohort 3: Prairies & Potholes at Prairie Woods Environmental Learning Center in Spicer, MN.

Activity Budget: \$124,150

Activity Description:

Cohort 3 convenes 24 teachers for a five-day summer institute at Prairie Woods Environmental Learning Center in Spicer, Minnesota, June 2029. Prairie Woods is situated in the glacially shaped lakes and prairie country of west-central Minnesota, providing immediate access to native prairie remnants, restored prairies, pothole wetlands, and oak savanna, the core learning landscapes of the Minnesota Master Naturalist Prairies & Potholes curriculum. Programming follows the structure developed by the two previous cohorts. Daily programming integrates prairie plant and wildlife identification, soil and geology exploration, wetland ecology, and Driven to Discover scientific inquiry methodology. Teachers will participate in citizen science projects suited to the prairie biome and meaningful to their school region. The Cohort 3 institute is the culminating program event within the grant period, occurring in the final month of Fiscal Year 2. Cohort 3 will complete their Minnesota Master Naturalist capstone project outside the grant window but will receive continued support through the state office of the Minnesota Master Naturalist program as a part of their certification process. Program coordination costs distributed across all three activities support final reporting and materials dissemination through June 2029.

Activity Milestones:

Description	Approximate Completion Date
Recruit Cohort 3; finalize curriculum and Prairie Woods institute logistics; complete FY2 interim report.	June 30, 2029
Conduct five-day Summer Institute with 24 teachers at Prairie Woods Environmental Learning Center.	June 30, 2029
Final project report submitted; all 72 teachers have completed summer institute training.	June 30, 2029

Project Partners and Collaborators

Name	Organization	Role	Receiving Funds
Participating Teachers	Schools Across Minnesota	Participatory	Yes
Minnesota Master Naturalists Program	University of Minnesota Extension	The Minnesota Master Naturalist Program is a statewide network spanning all of Minnesota's biome regions focused on environmental education and conservation stewardship. An Extension educator will be present at each teacher institute and provide biome-specific ecology expertise, field support, and an established certification framework for natural history literacy across Minnesota.	Yes

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.

Minnesota Master Naturalist Teacher Institute will directly engage 72 teachers from a wide variety of school districts, with special emphasis on Greater Minnesota schools. Educating teachers has an exponential impact. Each teacher, on average, will reach 150 students per year. By 2032 (5 years from the start of the grant), our institutes' participants will reach over 43,000 students. Many of the students who will be reached by participating teachers will share their new biome-focused natural history knowledge with their families. Summer institute educators are encouraged to share resources with colleagues in their schools and districts. Additional teachers and youth program leaders will be able to access the Driven to Discover curriculum guide through the University of Minnesota online conservancy for free. The Minnesota Master Naturalist program serves as a primary dissemination partner. Program staff present outcomes at Minnesota Master Naturalist regional and national meetings, the DNR School Forest annual conference, and at the Minnesota Science Teachers Association annual conference, connecting results to the broader K-12 educator community. All program materials acknowledge LCCMR and ENRTF funding with required logos and attribution language on print materials, digital resources, and presentations.

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?

Program sustainability is built into the design. The Minnesota Master Naturalist program, with trained volunteer naturalists statewide, may provide field support beyond the grant period. Regional outdoor learning communities of practice established for Cohorts 1 and 2 are structured to continue independently. Teachers can implement and share with colleagues the Driven to Discover citizen science curriculum for years, available for free at the University's conservancy website. Participatory science capstone experiences equip teachers to guide students in authentic, regionally relevant data collection through established national platforms that provide ongoing educator resources and project support beyond the institute.

Other ENRTF Appropriations Awarded in the Last Six Years

Name	Appropriation	Amount Awarded
Minnesota Master Naturalist: Nature For New Minnesotans	M.L. 2021, First Special Session, Chp. 6, Art. 6, Sec. 2, Subd. 05d	\$293,000
Phenology Investigations in Minnesota Schools	M.L. 2024, , Chp. 83, Art. , Sec. 2, Subd. 05d	\$392,000

Project Manager and Organization Qualifications

Project Manager Name: Robert Blair

Job Title: Professor

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

Dr. Robert Blair is a Professor in the Department of Fisheries, Wildlife, and Conservation Biology at the University of Minnesota, where his work sits at the intersection of conservation biology, citizen science, and environmental education. He is a co-author of the Minnesota Master Naturalist curriculum and a co-founder of the Minnesota Master Naturalist program, launched in 2005, which has since grown into a statewide network of trained volunteer naturalists across all of Minnesota's biome regions.

Dr. Blair also leads the Driven to Discover Teacher Professional Development Program, which utilizes an NSF-funded curriculum to engage teachers in citizen science and rigorous scientific investigation on ecological topics, including phenology, bird migration, and pollinator science.

Dr. Blair has managed numerous grants supporting teacher professional development and has a strong track record with LCCMR-funded projects, demonstrating his capacity to deliver complex, multi-year programs on time and within budget.

As Project Manager, Dr. Blair will oversee curriculum development, institute coordination across all three cohort sites, and reporting requirements. His deep familiarity with both the Minnesota Master Naturalist and Driven to Discover programs as their co-founder and director, respectively, makes him uniquely qualified to lead this collaboration and ensure its outcomes are realized for Minnesota teachers and students.

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

Organization Description:

Driven-to-Discover is a nationally recognized a teacher professional development program based at the University of Minnesota. Over two decades, this program has offered effective professional development for teachers in K-12 classrooms. Central to the program's success is the NSF-funded Driven-to-Discover curriculum, which emphasizes authentic scientific practices over traditional textbook approaches. Through structured professional development, teachers gain the skills and confidence to facilitate genuine research experiences in their classrooms, enabling students to engage in the scientific process firsthand.

The program's quantitative impact demonstrates its effectiveness. Since 2004, more than 1,500 educators have completed trainings and workshops, with each teacher reaching an average of 150 students per year. This systematic approach has influenced over 270,000 students, fostering scientific literacy and research competency across the educational landscape.

The Minnesota Master Naturalist program fosters understanding, appreciation, and stewardship of Minnesota's natural environment by developing a corps of informed and skilled volunteers. Since its inception, it has trained, more than 5,200 Minnesota Master Naturalist volunteers have attended a biome course, had 245 instructors hold more than 300 biome courses with Minnesota Master Naturalist volunteers have recording more than 1 million volunteer hours with a \$34 million in impact.across the state.

Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	\$ Amount
Personnel								
Rob Blair, PI & Lead Scientist		Oversees and manages project			36.6%	0.2		\$52,500
Workshop Developer		Arranges and schedules institute			32.3%	1		\$97,786
Program Director		Organizes logistics, supplies, budgeting			32.3%	1		\$97,045
Lead Teacher		In-service teacher as instructor at institute			8%	0.12		\$9,875
Lead teacher		In-service teacher as instructor at institute			8%	0.12		\$9,875
Master Naturalist Staff		Assist in planning throughout year and instruction at institute			36.6%	0.2		\$27,275
							Sub Total	\$294,356
Contracts and Services								
University of Minnesota	Internal services or fees (uncommon)	Award graduate credit and maintain transcripts				0.02		\$10,800
Teacher Institute Venues (e.g. ELCs)	Service Contract	Meals & Lodging for participants for duration of the 5 day teacher institute		X		0.24		\$43,200
Teacher Institute Venue Instruction Space Rental	Service Contract	Facility rental for instructional space at institute venue				0.02		\$4,500
							Sub Total	\$58,500

Equipment, Tools, and Supplies								
	Tools and Supplies	Workshop supplies	Supplies used in teaching the workshop					\$1,054
	Tools and Supplies	Participant Books and Course Materials	Books and teaching materials for teachers (\$150 per teacher)					\$10,800
	Tools and Supplies	Classroom Implementation Supplies	Material to assist in implementing lessons in classrooms (\$100 per teacher)					\$7,200
							Sub Total	\$19,054
Capital Equipment								
							Sub Total	-
Acquisitions and Stewardship								
							Sub Total	-
Travel In Minnesota								
	Miles/ Meals/ Lodging	Mileage for Staff Travel to off-site locations - 6 staff x 9 trips @ 0.725 per mile	Reimburse travel expenses for staff (6 staff x 9 trips @ 0.725 per mile)					\$5,006
	Miles/ Meals/ Lodging	Meals & Lodging for Staff at off-site locations	Food and lodging for staff day prior to institute for set up of workshop					\$3,204
	Miles/ Meals/ Lodging	Meals & Lodging for Staff at Institute Venue	Meals and lodging during institute					\$9,000
							Sub Total	\$17,210
Travel Outside Minnesota								
							Sub Total	-
Printing and Publication								
	Printing	Printing of Educational Materials	Teacher materials at workshop -- \$40 x 72 teachers over two years					\$2,880
							Sub Total	\$2,880

Other Expenses								
		Teacher Stipends	Stipends for Teachers - 24 teachers x 5 days x \$150 per day /per institute	X				\$54,000
							Sub Total	\$54,000
							Grand Total	\$446,000

Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request
Contracts and Services - Teacher Institute Venues (e.g. ELCs)	Service Contract	Meals & Lodging for participants for duration of the 5 day teacher institute	The five-day teacher institutes will be held at economical environmental learning centers, camps, or college campuses in proximity to the featured biome for each cohort. Lodging, food and refreshments will be reasonable and proportionate to the type of event being held.
Other Expenses		Teacher Stipends	The stipend will be paid upon successfully fulfilling the requirements of the program, including participating in all five days of the institute, preparing an implementation plan, and completing workshop reflections. Teachers receive stipends to attend professional development workshops outside of their contracted time. This is often dictated by their contracts and is used to offset expenses for attending including travel expenses and child care. This is a mandatory feature of grants from the Minnesota Department of Higher Education and the National Science Foundation.

Non ENRTF Funds

Category	Specific Source	Use	Status	Amount
State				
In-Kind	University of Minnesota	For grant-funded courses, the University waives tuition for students but requires the payment of a processing fee (Currently \$150). One credit of graduate tuition is currently \$1,773.50 per credit x 72 participants = \$127,692	Secured	\$127,692
			State Sub Total	\$127,692
Non-State				
			Non State Sub Total	-
			Funds Total	\$127,692

Total Project Cost: \$573,692

This amount accurately reflects total project cost?

Yes

Attachments

Required Attachments

Visual Component

File: [1ab746de-c06.pdf](#)

Alternate Text for Visual Component

The poster promotes the Minnesota Master Naturalist Teacher Institute, a University of Minnesota program training 72 middle and high school educators across 3 cohorts (2027–2029) in natural history and outdoor pedagogy. It highlights three regional ecosystems, immersive training components, and a projected reach of 7,000+ students statewide....

Supplemental Attachments

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

Title	File
UMN Sponsored Projects Approval	2ae279c3-069.pdf
MN Master Naturalist for Teacher Institute Program Poster	5e6c1f3c-cf2.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?

No

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:

Jess Paulson, Jennifer Schultz, Pat McDonald (Driven to Discover) and Andrew Strauss (Minnesota Master Naturalist) all from the 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