# Environment and Natural Resources Trust Fund

2027 Request for Proposal

## General Information

**Proposal ID:** 2027-541

**Proposal Title:** Conservation Finance on School Trust Peatlands

## Project Manager Information

**Name:** Colleen Miller

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

**Office Telephone:** (608) 572-4988

**Email:** mill5773@umn.edu

## Project Basic Information

**Project Summary:** Implement conservation finance on 2-3 School Trust peatland sites to generate new revenue for public schools while restoring critical ecosystems and creating a replicable model.

**ENRTF Funds Requested:** $877,000

**Proposed Project Completion:** June 30, 2030

**LCCMR Funding Category:** Land (F)

## Project Location

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

Region(s): NE, Central,

**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 has more peatlands than any state in the lower 48—seven million acres of bogs, fens, and marshes covering over 10% of our state. Globally, these soggy, spongy grounds store 30% of the world's terrestrial carbon, filter water, buffer floods, and provide homes for iconic wildlife.

But here's the problem: about one million acres are degraded, carved up by drainage ditches dug a century ago. When peat dries out, the land holds less water, floods worsen, and the peat itself breaks down—releasing massive amounts of carbon. Dried peat can burn for weeks; both the 2021 Greenwood Fire and last spring's Jenkins Creek Fire burned through peatlands, sending thick smoke across Minnesota.

The recently updated Climate Action Framework (2026) identifies peatland restoration as one of its "Big Things Now"—immediate, high-impact actions needed to address climate change. Restoring half of our states' degraded peatlands could reduce carbon pollution equivalent to removing 500,000 cars from the road annually. However, information is needed to identify areas most at risk from past, current, and potential land uses within (e.g., legacy drainage) and surrounding areas, and potential ecosystem services gained through protection and restoration (e.g., carbon, wildlife habitat, water quality).

**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.**

School Trust Lands cover 1.4 million acres of peat soils, including many partially drained peatlands that do not generate income, offering an opportunity to lead by example. The Office of School Trust Lands (OSTL) can pursue conservation finance projects that generate revenue for public schools while restoring ecological function.

We propose a three-year project that leverages OSTL's planned feasibility analysis, as well as explores interest from county and Tribal Nation interests, to better understand ecosystem service benefits and provide foundational science to access environmental markets.

Activities include mapping and modeling to clarify ecosystem service benefits for specific parcels; developing project plans; handling technical, legal, and financial steps to bring projects to market—such as carbon credits, wetland mitigation, or conservation leases; and documenting outcomes in a "Public Lands Conservation Finance Playbook" as a template for peatland restoration statewide.

Dr. Colleen Miller, an ecosystem service scientist, will provide scientific and project oversight (25% time over three years), while a full-time Conservation Finance Coordinator at the University of Minnesota will lead day-to-day work on this project, coordinating with OSTL, DNR, as well as consultation counties, Tribal Nations, and other partners.

**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. Generate new revenue for Minnesota's public schools from restored peatlands, fulfilling the constitutional mandate to maximize returns from trust assets.
2. Restore critical peatland ecosystems on 2-3 priority sites, reducing carbon pollution, improving water quality, enhancing wildlife habitat, and increasing climate resilience.
3. Create a replicable Playbook that enables public land managers to leverage conservation finance across Minnesota's 7 million acres of peatlands, especially the roughly 1 million degraded acres spanning multiple jurisdictions.
4. Build lasting institutional capacity within OSTL, UMN, and DNR to structure ecosystem service projects as a continuous part of public land management.

## Activities and Milestones

### Activity 1: Model Peatland Restoration Potential and Establish Coordination Capacity

**Activity Budget:** $287,622

**Activity Description:**
Dr. Miller will lead a mapping and modeling exercise to quantify ecosystem service benefits from peatland restoration on School Trust and county lands. Leveraging her expertise in data science, climate change impacts, and landscape ecology, she will assess the potential for carbon storage, water-quality improvements, and biodiversity outcomes associated with restoration. Using ecosystem modeling tools like the InVEST software suite (Natural Capital Alliance, 2026), Dr. Miller will lead modeling with graduate student support. This work will provide a scientific foundation for conservation finance mechanisms by linking management scenarios with economic valuation and help partners understand the broader landscape of opportunity.
Concurrently, a full-time Conservation Finance Coordinator will be hired and housed at the University of Minnesota. The Coordinator's primary role will be to take the 2-3 priority sites already identified through OSTL's feasibility analysis (spring 2027) and move them toward completed conservation finance projects. By bringing the Coordinator on board early, they can build relationships with OSTL, DNR, counties, and Tribal partners; familiarize themselves with OSTL's site-specific findings; and work alongside Dr. Miller to ensure her modeling outputs inform OSTL's site-selection work. By the end of Year 1, the Coordinator will have developed detailed project pathways.

**Activity Milestones:**

| Description | Approximate Completion Date |
|---|---|
| Hire Conservation Finance Coordinator | September 30, 2027 |
| Compile existing peatland, soils, and land ownership data for modeling | December 31, 2027 |
| Complete initial partner consultations (OSTL, DNR, counties, Tribes) | March 31, 2028 |
| Produce maps and data summaries for partner and Coordinator use | June 30, 2028 |
| Model ecosystem service potential for priority OSTL and county lands | June 30, 2028 |
| Develop detailed project pathways for the 2-3 OSTL-identified sites | June 30, 2028 |

### Activity 2: Support Project Development and Transaction Readiness

**Activity Budget:** $295,714

**Activity Description:**
Building on the modeling from Activity 1 and OSTL's feasibility analysis, the Coordinator will help move the 2-3 priority sites toward completed transactions by providing technical support to agency partners as they pursue conservation finance pathways. This includes: for carbon projects—assisting with documentation under approved methodologies (e.g., Verra VM0036) and connecting agencies to qualified verifiers; for wetland mitigation banking—helping compile information needed for BWSR consideration and supporting agency staff as they navigate the approval process; for conservation leases—providing examples from other states (e.g., Colorado's program, see https://slb.colorado.gov/lease/ecosystem-services) and assisting with draft lease structures for agency review. The Coordinator will also support the development of draft MOUs and agreements for agency consideration. The goal is to have the first project transaction executed by June 30, 2029, and the remaining two projects completed by December 31, 2029. Dr. Miller will provide ongoing scientific oversight throughout. All final approvals, permit decisions, and executed agreements remain solely with the responsible agencies.

**Activity Milestones:**

| Description | Approximate Completion Date |
|---|---|

| | |
|---|---|
| Support development of draft MOUs and agreements for partner review | December 31, 2028 |
| Compile technical documentation for priority sites for agency consideration | March 31, 2029 |
| Support agency engagement with verification bodies, BWSR, and other reviewers | March 31, 2029 |
| Execute first conservation finance transaction | June 30, 2029 |
| Execute second and third conservation finance transactions | December 31, 2029 |
| Provide draft transaction structures and lease templates for future projects | March 31, 2030 |

## Activity 3: Monitor Outcomes and Support Replication

**Activity Budget:** $293,664

**Activity Description:**
Establish a monitoring framework to track ecological outcomes (hydrologic restoration, vegetation recovery, carbon flux) and financial outcomes (revenue generated, transaction costs, net return to Permanent School Fund) for completed projects. Dr. Miller will lead the scientific synthesis of results, working with the Coordinator and partners to document what worked, what didn't, and why. She will oversee the development of a "Public Lands Conservation Finance Playbook" that provides a replicable template for other School Trust parcels, DNR-managed lands, county tax-forfeit lands, and potentially private lands. The playbook will translate complex scientific and financial findings into practical guidance for practitioners—especially counties and Tribal nations seeking to leverage conservation finance for peatland restoration across Minnesota's 7 million acres of peatlands. Dr. Miller will present findings at regional conferences such as the Minnesota Watersheds Annual Conference and the Midwest Climate Adaptation Science Center Annual Gathering, publish case studies with partners, and brief the Legislative Permanent School Fund Commission on opportunities to scale—ensuring that the successful completion of the 2-3 pilot projects leads to broader adoption across Minnesota.

**Activity Milestones:**

| Description | Approximate Completion Date |
|---|---|
| Establish monitoring protocols for ecological and financial outcomes | June 30, 2028 |
| Draft Public Lands Conservation Finance Playbook | December 31, 2029 |
| Complete annual monitoring summaries for partner review | June 30, 2030 |
| Finalize playbook and present findings to stakeholders | June 30, 2030 |

## Project Partners and Collaborators

| Name | Organization | Role | Receiving Funds |
|---|---|---|---|
| Aaron Vande Linde | Office of School Trust Lands | Provides site access, policy expertise, and coordination with Legislative Permanent School Fund Commission and DNR | No |
| Kristen Blann | The Nature Conservancy | Technical advisor on peatland restoration, carbon science, and conservation finance strategies | No |
| Sylvia Troost | The Pew Charitable Trusts | Advisor on conservation finance policy, interstate learning, and replication strategies | No |
| Andrew Werthmann | Consultant to Pew | Technical advisor, strategy, engagement and organizing | No |
| Suzanne Rhees | Board of Water and Soil Resources | Advisor on wetland mitigation programs, restoration guidelines, and private lands partnerships | No |
| TBD | MN Department of Natural Resources | Collaborator on site implementation, technical guidance on peatland restoration and DNR-managed lands | 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.**
Results from this project will be shared with agencies, practitioners, policymakers, and the public to support improved management of Minnesota's peatlands and public lands. The primary dissemination product will be a Public Lands Conservation Finance Playbook, which will document the scientific analyses, financial structures, legal pathways, and lessons learned from the pilot projects. The playbook will be made publicly available and shared directly with the Office of School Trust Lands, Minnesota Department of Natural Resources, Board of Water and Soil Resources, counties, Tribal Nations, and conservation organizations.
Project findings will be presented at practitioner-focused venues such as the Minnesota Watersheds Annual Conference and other regional climate and natural resource meetings. Data summaries, maps, and modeling outputs will be archived in publicly accessible repositories when appropriate to ensure long-term availability. Results will also be shared through briefings for state policymakers and partners and through accessible online summaries to ensure Minnesotans can understand how ENRTF-supported work is improving the stewardship of the state's peatland ecosystems. Scientific work will also be published in peer-reviewed journals.

## 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?**
This project will help Minnesota sustain peatland protection by diversifying funding sources. In partnership with the Office of School Trust Lands, the University of Minnesota will create pilot projects that generate new funding and advance climate goals. The Coordinator will build expertise within UMN and OSTL to pursue more opportunities. The Conservation Finance Playbook will support replication by DNR, counties, and other states without new grants for each project. Monitoring could be integrated into DNR's Peatland Resilience Initiative and BWSR programs. Future expansion will leverage federal and private funding, strengthened by this pilot's proof of concept.

## Project Manager and Organization Qualifications

**Project Manager Name:** Colleen Miller

**Job Title:** Senior Biodiversity Scientist

**Provide description of the project manager's qualifications to manage the proposed project.**
Dr. Colleen R. Miller is an ecologist with expertise in sensory ecology, global change biology, ecophysiology, and data science across diverse wildlife systems. She received her Ph.D. in Ecology from Cornell University (2023), holds a Master's in Wildlife Ecology from the University of Wisconsin-Madison (2018), and has extensive experience conducting field-based and data-driven research on questions spanning agricultural insect consortia, migratory and resident bird species, and larger ecosystems.

As an Institute on the Environment Postdoctoral Fellow at the University of Minnesota, Dr. Miller used data science tools to make complex findings accessible to field scientists, managers, and decision-makers—a skill directly relevant to translating conservation finance pilot results into a replicable playbook for practitioners. She has been involved in multiple projects summarizing and estimating the effects of climate change and landscape change on natural systems, including agricultural pests and wildlife populations.

Throughout her career, Dr. Miller has been committed to research that uncovers how human activities impact wildlife and natural systems, with a focus on modeling those questions across broad spatial scales. She is skilled at breaking down silos between scientists to better serve community members and decision-makers. She now leads biodiversity research at the University of Minnesota's Nature Capital Alliance: The Earth-Economy Modelers Research Center (NatCap TEEMs). In her current role, Dr. Miller serves as the lead ecologist in a modeling center located in the Department of Applied Economics, where she brings her basic ecology expertise to interdisciplinary projects in ecosystem services, macroeconomic modeling, and synthesis work. She is well-positioned to oversee this interdisciplinary pilot.

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

**Organization Description:**
The University of Minnesota's College of Food, Agricultural and Natural Resource Sciences (CFANS) is a leader in research and education on natural resource management, conservation, and sustainable land use. CFANS faculty and researchers work closely with state and federal agencies, nonprofits, and private landowners to develop science-based solutions to Minnesota's most pressing environmental challenges.

The University has a strong track record of successful ENRTF projects, including peatland research (2023-177), forest ecology (2023-186, 2024-045), and agricultural sustainability (2024-247). CFANS provides robust administrative support through Sponsored Projects Administration, ensuring compliance with all ENRTF requirements, including fiscal management, reporting, and acknowledgment guidelines. The University's extensive network of research stations, Extension services, and partnerships with state agencies positions it ideally to lead a project requiring close coordination with OSTL, DNR, BWSR, and conservation nonprofits.

## Budget Summary

| Category / Name | Subcategory or Type | Description | Purpose | Gen. Ineligible | % Benefits | # FTE | Classified Staff? | $ Amount |
|---|---|---|---|---|---|---|---|---|
| **Personnel** | | | | | | | | |
| Project manager | | Dr. Colleen Miller (PI): $111,548 (25% FTE over 3 years for project oversight, partner coordination, quality control, dissemination leadership) | | | 36.6% | 0.75 | | $111,548 |
| Graduate Research Assistant | | Graduate Research Assistant: $180,550 (50% FTE over 3 years for data analysis, literature review, monitoring, and publication development). | | | 24.2% | 1.5 | | $180,550 |
| | | | | | | | **Sub Total** | **$292,098** |
| **Contracts and Services** | | | | | | | | |
| TBD Conservation Finance Coordinator | Service Contract | Conservation Finance Coordinator: $275,000 (100% FTE over 3 years for day-to-day project management, site work, transaction support, stakeholder engagement, playbook drafting). | | | | 3 | | $275,000 |
| TBD Technical Services | Service Contract | Technical Services (carbon credit verification, legal services, appraisal, market transaction support): $200,000. | | | | - | | $200,000 |
| TBD Monitoring Services | Service Contract | Monitoring Services (hydrologic monitoring, vegetation surveys, greenhouse gas flux measurement): $60,000 | | | | - | | $60,000 |
| | | | | | | | **Sub Total** | **$535,000** |
| **Equipment, Tools, and Supplies** | | | | | | | | |
| | Equipment | Monitoring Equipment (water level loggers, GPS units, sampling supplies): $20,000 | Peatland quality and ecosystem services output monitoring. | | | | | $20,000 |
| | | | | | | | **Sub Total** | **$20,000** |
| **Capital Equipment** | | | | | | | | |
| | | | | | | | **Sub Total** | **-** |
| **Acquisitions and Stewardship** | | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | **Sub Total** | **-** |
| **Travel In Minnesota** | | | | | | | | |
| | Miles/ Meals/ Lodging | In-State Travel (site visits, stakeholder meetings, conferences; estimated 75 trips): $25,000. | Visit to peatland sites, trips to host stakeholder meetings, local conference presentations. | | | | | $25,000 |
| | | | | | | | **Sub Total** | **$25,000** |
| **Travel Outside Minnesota** | | | | | | | | |
| | | | | | | | **Sub Total** | **-** |
| **Printing and Publication** | | | | | | | | |
| | Publication | Publication (playbook printing, open access fees, outreach materials): $4,902 | Publication of Playbook for stakeholders, print outreach materials for broader audience, and publication of peer-reviewed work to scientific audiences. | | | | | $4,902 |
| | | | | | | | **Sub Total** | **$4,902** |
| **Other Expenses** | | | | | | | | |
| | | | | | | | **Sub Total** | **-** |
| | | | | | | | **Grand Total** | **$877,000** |

## Classified Staff or Generally Ineligible Expenses

| Category/Name | Subcategory or Type | Description | Justification Ineligible Expense or Classified Staff Request |
|---|---|---|---|

## Non ENRTF Funds

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

**Total Project Cost: $877,000**

**This amount accurately reflects total project cost?**

Yes

## Attachments

### Required Attachments

*Visual Component*

File: bf3c533f-ef1.pdf

*Alternate Text for Visual Component*

Map of peatlands in Minnesota (green color scale) overlaid with a map of School Trust Lands (blue). The borders of the white-mapped area represent counties with larger population centers noted in the text. Created by the GIS team at Pew Trust....

### Supplemental Attachments

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

| Title | File |
|---|---|
| UMN Sponsored Projects Administration Letter | 0facc5d6-56f.pdf |
| LoS TNC Letter of Support | 805bf432-c02.pdf |
| Pew Letter of Support | 9e7bc3dc-fee.pdf |
| BWSR Letter of Support | 95460c6c-bce.docx |
| OSTL Letter of Support | db462484-3a3.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?**

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:**

Melissa Sullivan, University of Minnesota Department of Applied Economics

**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