

**Environment and Natural Resources Trust Fund**

# M.L. 2025 Final Work Plan

## **General Information**

**ID Number:** 2025-180

**Staff Lead:** Becca Nash

**Date this document submitted to LCCMR:** June 6, 2025

**Project Title:** The Impacts of Climate Change on Northeastern Minnesota

**Project Budget:** $772,000

## **Project Manager Information**

**Name:** Chris Knopf

**Organization:** Friends of the Boundary Waters Wilderness

**Office Telephone:** (651) 999-9565

**Email:** chris@friends-bwca.org

**Web Address:** https://www.friends-bwca.org/

## **Project Reporting**

**Reporting Schedule:** March 1 / September 1 of each year.

**Project Completion:** June 30, 2029

**Final Report Due Date:** August 14, 2029

## **Legal Information**

**Legal Citation:** M.L. 2025, First Special Session, Chp. 1, Art. 2, Sec. 2, Subd. 03r

**Appropriation Language:** $772,000 the first year is from the trust fund to the commissioner of natural resources for an agreement with Friends of the Boundary Waters Wilderness to work with collaborators to aggregate research, data, and other information about the impacts of climate change on the habitat and wildlife of northeastern Minnesota into a publicly available, web-based database. This appropriation is available until June 30, 2029, by which time the project must be completed and final products delivered.

**Appropriation End Date:** June 30, 2029

## **Narrative**

**Project Summary:** We will aggregate research, data, and other information regarding the impacts of climate change on the habitat and wildlife of northeastern Minnesota into a publicly available, web-based database.

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

Climate change is rapidly increasing temperatures in the Quetico-Superior ecosystem of northeastern Minnesota, impacting the habitat and wildlife of the region. A range of government, tribal, academic, and private entities have conducted studies and other research relating to existing and future impacts of climate change on the region; however, this information is siloed and fragmented across multiple databases and sources. As a consequence, it is difficult to develop a comprehensive understanding of the impacts of climate change on the region’s habitat and wildlife and assess appropriate responses to these impacts.

**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.**

For nearly 50 years, Friends of the Boundary Waters Wilderness (“Friends”) has worked to protect the Quetico-Superior ecosystem in northeastern Minnesota, working with a range of public and private partners.   
  
To address the challenges identified above, Friends will:  
  
(1) Engage local, state, and federal governments; tribal governments; academic institutions; and nonprofit organizations to collect and aggregate studies, research, management plans and other data relating to the impacts of climate change on the habitat and wildlife of northeastern Minnesota and identify gaps in this data.  
  
(2) Develop a publicly available, web-based, electronic database of studies, research, management plans, and other information relating to the impacts of climate change on the habitat and wildlife of northeastern Minnesota. The website will serve dual purposes. First, it will provide a crucial resource for all stakeholders and partners engaged in research pertaining to the habitat and wildlife of northeastern Minnesota. Second, it will educate the public on the impacts of climate change on the habitat and wildlife of northeastern Minnesota through data visualization tools, including infographics, videos, and maps. The website would also enable engaged members of the public to connect with citizen-science programs run by researchers.

**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. Create a resource for stakeholders. Stakeholders will be able to easily access research from other entities, allowing for an interdisciplinary approach to understanding the impacts of climate change on the habitat and wildlife of northeastern Minnesota.  
2. Foster collaboration among professionals. Researchers and conservation professionals will be able to communicate with one another more easily, fostering collaboration on understanding the impacts of climate change in northeastern Minnesota.   
3. Educate the public. The website will present the data in engaging and understandable formats, resulting in a public that is better informed on the impacts of climate change in northeastern Minnesota.

## **Project Location**

**What is the best scale for describing where your work will take place?** Region(s): NE

**What is the best scale to describe the area impacted by your work?** Region(s): NE

**When will the work impact occur?** During the Project and In the Future

## **Activities and Milestones**

### **Activity 1: Engage stakeholders, assemble data, and identify data gaps relating to the impacts of climate change on northeastern Minnesota.**

**Activity Budget:** $299,000

**Activity Description:**Initial stakeholder engagement. The Friends will reach out to stakeholders, including but not limited to state, federal, and local governments; tribal governments, 1854 Treaty Authority, and Great Lakes Fish and Wildlife Commission; academic institutions; and nonprofit organizations. From these stakeholders, we will obtain studies, research, data, management plans, and other information relating to the impacts of climate change on the habitat and wildlife of northeastern Minnesota. The Friends will hire a Wildlife Conservation Director and Wildlife Conservation Associate to implement this project. These staff members will engage stakeholders through in-person meetings, virtual meetings, and small-group discussions.  
  
Assemble data. We will collect and aggregate studies, research, management plans, and other data relating to the impact of climate change on the habitat and wildlife of northeastern Minnesota.  
  
Assess gaps in data. We will identify gaps in existing data and research relating to the impacts of climate change on the habitat and wildlife of northeastern Minnesota. We will reach out to stakeholders to discuss ways to fill in these data gaps.  
  
Continuous stakeholder engagement. We will continuously engage stakeholders through regular in-person and virtual meetings, culminating in a symposium at Minnesota North College - Vermilion Campus in Ely.

**Activity Milestones:**

|  |  |
| --- | --- |
| **Description** | **Approximate Completion Date** |
| Initial stakeholder engagement | December 31, 2025 |
| Assemble data | September 30, 2026 |
| Assess gaps in data | September 30, 2026 |
| Continuous stakeholder engagement | June 30, 2028 |
| Final data assessment and stakeholder engagement, culminating in a climate-change symposium in Ely | June 30, 2028 |

### **Activity 2: Develop a publicly available, web-based database of the impacts of climate change on the habitat and wildlife of northeastern Minnesota**

**Activity Budget:** $473,000

**Activity Description:**Develop website of publicly available data. We will contract with a website developer to establish a publicly available, web-based, electronic database of studies, research, management plans, and other information relating to the impacts of climate change on the habitat and wildlife of northeastern Minnesota. In consultation with our Communications Director, the Wildlife Conservation Director will supervise the website developer in producing the website.  
  
Integrate data visualization functionality and geospatial tools into the website. We will contract with a data visualization consultant to integrate data visualization functionality and geospatial tools into the website. In consultation with our Communications Director and website developer, the Wildlife Conservation Director will supervise the data visualization consultant. This functionality and these geospatial tools (including infographics, videos, and maps) are very effective at synthesizing and presenting complex information in a format that is understandable and engaging for both the scientific community and general public.  
  
Integrate a citizen-scientist acces into the website. Through the website, thee general public will be able to connect within existing citizen-science programs. Professional researchers will use the data collected by citizens throughout northeastern Minnesota to fortify their research.

**Activity Milestones:**

|  |  |
| --- | --- |
| **Description** | **Approximate Completion Date** |
| Develop website for the research, data, and other information regarding the impacts of climate change | December 31, 2027 |
| Integrate data visualization functionality and geospatial tools into the website | June 30, 2028 |
| Integrate a citizen-scientist portal into the website | June 30, 2028 |
| Complete website (achieving full fuctionality for data visualization, geospatial mapping, and portal access) | June 30, 2028 |

## **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.**Dissemination is an essential element of this project. Through this project, the Friends will develop a publicly available, web-based database of research, data, and other information regarding the impacts of climate change on the habitat and wildlife of northeastern Minnesota. Professional reseachers and the general public will be able to access this information via the website. Additionally, through this project, the Friends will hold a symposium of researchers and conservation professionals to discuss the database and identify gaps in the data, thereby further disseminating information pertaining to the project.  
  
The Friends will also provide updates regarding the status of the project via media advisories to newspapers and radio stations and via social media through Instagram, X, Facebook, and LinkedIn. We will acknowledge the Environment and Natural Resources Trust Fund in these communications. We will provide electronic links to new stories pertaining to our project to the LCCMR.

## **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?**We will financially support this project through continued fundraising efforts via grants, individual donations, corporate sponsorships, and event revenue. We have over 5,000 due-paying members and a database of over 100,000 other supporters of our organization. We will also seek funding from foundations, including the McKnight Foundation, Carolyn Foundation, and Margaret A. Cargill Philanthropies.

## **Other ENRTF Appropriations Awarded in the Last Six Years**

|  |  |  |
| --- | --- | --- |
| **Name** | **Appropriation** | **Amount Awarded** |
| Connecting Students to the Boundary Waters | M.L. 2019, First Special Session, Chp. 4, Art. 2, Sec. 2, Subd. 05b | $450,000 |
| Fostering Conservation by Connecting Students to the BWCA | M.L. 2023, , Chp. 60, Art. 2, Sec. 2, Subd. 05a | $1,080,000 |

## **Budget Summary**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Category / Name** | **Subcategory or Type** | **Description** | **Purpose** | **Gen. Ineli gible** | **% Bene fits** | **# FTE** | **Class ified Staff?** | **$ Amount** |
| **Personnel** |  |  |  |  |  |  |  |  |
| Wildlife Conservation Director |  | Oversee project implementation. This is a new position established to implement this project. LCCMR funds will not supplant existing funds. |  |  | 25% | 3 |  | $357,000 |
| Wildlife Conservation Associate |  | Assist in project implementation. This is a new position established to implement this project. LCCMR funds will not supplant existing funds. |  |  | 25% | 3 |  | $207,000 |
| Wildlife Conservation Fellow |  | Graduate student to provide support to Wildlife Conservation Director and Wildlife Conservation Associate. This is a new position established to implement this project. LCCMR funds will not supplant existing funds. |  |  | 0% | 0.75 |  | $22,000 |
|  |  |  |  |  |  |  | **Sub Total** | **$586,000** |
| **Contracts and Services** |  |  |  |  |  |  |  |  |
| TBD | Service Contract | Website development and maintenance. |  |  |  | 0.75 |  | $55,000 |
| TBD | Service Contract | Integrate data visualization functionality (e.g., infographics, videos, maps) into the website. |  |  |  | 0.75 |  | $55,000 |
| TBD | Service Contract | Software for data visualization functionality will present the data and other research information in a compelling and understandable format. It is estimated that the annual subscription of the software is $4,500. Total Cost: $4,500 x 3 years = $13,500. Round to $14,000. |  |  |  | 0 |  | $14,000 |
| TBD | Service Contract | Data storage to implement the project. |  |  |  | 0 |  | $24,000 |
|  |  |  |  |  |  |  | **Sub Total** | **$148,000** |
| **Equipment, Tools, and Supplies** |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | **Sub Total** | **-** |
| **Capital Expenditures** |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | **Sub Total** | **-** |
| **Acquisitions and Stewardship** |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | **Sub Total** | **-** |
| **Travel In Minnesota** |  |  |  |  |  |  |  |  |
|  | Miles/ Meals/ Lodging | Miles: 2,000 miles/year x 3 years x $0.67/miles = $4,020. Lodging (Hotels): 8 hotels/year x 3 years x $150/room = $3,600.Meals (Per Diem): 16/year x 3 years x $80 = $3,840. Total = $11,460. Round to $12,000. | This is travel for our Wilderness Conservation Director and Wilderness Conservation Associate to meet with stakeholders. |  |  |  |  | $12,000 |
|  |  |  |  |  |  |  | **Sub Total** | **$12,000** |
| **Travel Outside Minnesota** |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | **Sub Total** | **-** |
| **Printing and Publication** |  |  |  |  |  |  |  |  |
|  | Printing | Symposium Packet: 50 packets x $40 = $2,000 | Prepare printed materials for two-day symposium in Year 3 of the project. |  |  |  |  | $2,000 |
|  |  |  |  |  |  |  | **Sub Total** | **$2,000** |
| **Other Expenses** |  |  |  |  |  |  |  |  |
|  |  | Venue | Symposium in Ely for the researchers and other conservation professionals who are stakeholders in assessing the impact of climate change on the habitat and wildlife in northeastern Minnesota. |  |  |  |  | $3,000 |
|  |  | AV Equipment | Symposium in Ely for the researchers and other conservation professionals who are stakeholders in assessing the impact of climate change on the habitat and wildlife in northeastern Minnesota. |  |  |  |  | $2,000 |
|  |  | Stipends for 50 participants | Attendance at the two-day symposium in Ely for researchers and other conservation professionals who are stakeholders in assessing the impact of climate change on the habitat and wildlife in northeastern Minnesota. | X |  |  |  | $15,000 |
|  |  | Meals (2 breakfasts, 2 lunches, 1 dinner, snakes and refreshments): 50 attendees x $80 = $4,000. | For attendees at a two-day symposium in Ely for researchers and conservation professionals who are stakeholders in assessming the impact of climate change on the habitat and wildlife in northeastern Minnesota. | X |  |  |  | $4,000 |
|  |  |  |  |  |  |  | **Sub Total** | **$24,000** |
|  |  |  |  |  |  |  | **Grand Total** | **$772,000** |

### **Classified Staff or Generally Ineligible Expenses**

|  |  |  |  |
| --- | --- | --- | --- |
| **Category/Name** | **Subcategory or Type** | **Description** | **Justification Ineligible Expense or Classified Staff Request** |
| **Other Expenses** |  | Stipends for 50 participants | The stipend is provided to remove financial barriers for researchers and other conservation professionals to attend the climate-change symposium. |
| **Other Expenses** |  | Meals (2 breakfasts, 2 lunches, 1 dinner, snakes and refreshments): 50 attendees x $80 = $4,000. | This is to ensure that there are not financial barriers for researchers and conservation professionals to attend the climate-change symposium. |

### **Non ENRTF Funds**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Category** | **Specific Source** | **Use** | **Status** | **$ Amount** |
| **State** |  |  |  |  |
|  |  |  | **State Sub Total** | **-** |
| **Non-State** |  |  |  |  |
| In-Kind | Contributions from individual donors support the salary of our Communications Director | Communications Director's time directed to the project. It is estimated that 15% of the Communications Director's time will be directed to this project over a three-year period. Computation: Salary + Benefits = $125,000. $125,000/year x 3 years x 0.15 = $56,250. Round to $57,000. | Secured | $57,000 |
| In-Kind | Contributions from individual donors support the salary of our Legal Director | Legal Director's time directed to the project. It is estimated that 10% of the Legal Director's time will be directed to this project over a three-year period. Computation: Salary + Benefits = $187,000. $187,500/year x 3 years x 0.10 = $56,250. Round to $57,000. | Secured | $57,000 |
| In-Kind | Contributions from individual donors support the Executive Director's salary | Executive Director's time directed to the project. It is estimated that 10% of the Executive Director's time will be directed to this project over a three-year period. Computation: Salary + Benefits = $218,750. $218,750/year x 3 years x 0.10 = $65,625. Round to $66,000. | Secured | $66,000 |
| In-Kind | General operating funds | Friends staff will travel to Canada annually to meet with Canadian researchers and conservation professionals focusing on the Quetico-Superior ecosystem to discuss data and research that is relevant to understanding the impact of climate change on northeastern Minnesota. The Friends will use general operating funds for this travel that come from non-ENRTF sources (i.e., individual donors). Mileage: 450 miles (round trip)/year x 3 years x 0.67 = $904.50. Toll: $18/round trip x 3 trips = $54. Lodging: $150 night x 2 nights x 3 years = $900. Food (Per Diem): $80/day x 2 days/year x 3 years = $480. Total = $2,356.50. Round to $2,500 | Secured | $2,500 |
|  |  |  | **Non State Sub Total** | **$182,500** |
|  |  |  | **Funds Total** | **$182,500** |

**Total Project Cost: $954,500**

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

## **Attachments**

### **Required Attachments**

#### ***Visual Component***

File: [757c1c7e-4e5.pdf](https://lccmrprojectmgmt.leg.mn/media/map/757c1c7e-4e5.pdf)

#### ***Alternate Text for Visual Component***

Friends Project Summary: Understanding the Impacts of Climate Change on Northeastern Minnesota. There are three components to the visual summary: (1) The Challenge, (2) Our Solution, and (3) Outcomes....

#### ***Financial Capacity***

|  |  |
| --- | --- |
| **Title** | **File** |
| Friends of the Boundary Waters Wilderness Form 990 | [cfaef97f-56a.pdf](https://lccmrprojectmgmt.leg.mn/media/attachments/cfaef97f-56a.pdf) |

#### ***Board Resolution or Letter***

|  |  |
| --- | --- |
| **Title** | **File** |
| Friends Board of Directors Resolution | [937d94ee-7f6.pdf](https://lccmrprojectmgmt.leg.mn/media/attachments/937d94ee-7f6.pdf) |
| Cover Letter from Board Chair Lee Vue 3-25-24 | [deeef4ee-019.pdf](https://lccmrprojectmgmt.leg.mn/media/attachments/deeef4ee-019.pdf) |

### **Supplemental Attachments**

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

|  |  |
| --- | --- |
| **Title** | **File** |
| Prof. Jeff La Frenierre-Gustavus letter of support | [609c4c58-3f0.pdf](https://lccmrprojectmgmt.leg.mn/media/attachments/609c4c58-3f0.pdf) |
| Prof. Doug Thompson-U of MN American Indian Studies letter of support | [799cd086-a2d.pdf](https://lccmrprojectmgmt.leg.mn/media/attachments/799cd086-a2d.pdf) |
| Prof. Lee Frelich-U of MN Forest Ecology Center letter of support | [37fa2023-9c5.pdf](https://lccmrprojectmgmt.leg.mn/media/attachments/37fa2023-9c5.pdf) |
| Ryan Miller-MN North College letter of support | [b66fb10f-5e6.pdf](https://lccmrprojectmgmt.leg.mn/media/attachments/b66fb10f-5e6.pdf) |
| The Nature Conservancy Letter of Support for Friends LCCMR Proposal | [e4120be0-219.pdf](https://lccmrprojectmgmt.leg.mn/media/attachments/e4120be0-219.pdf) |
| Audubon Letter of Support for Friends LCCMR Proposal | [f37e6207-493.pdf](https://lccmrprojectmgmt.leg.mn/media/attachments/f37e6207-493.pdf) |
| Kelly Applegate-Mille Lacs Band Letter of Support | [202745d8-5f1.pdf](https://lccmrprojectmgmt.leg.mn/media/attachments/202745d8-5f1.pdf) |
| Jessica Hellmann-U of MN Institute on the Environment Letter of Support | [23884b2d-8bc.pdf](https://lccmrprojectmgmt.leg.mn/media/attachments/23884b2d-8bc.pdf) |
| Prof. Samantha Jones-Bemidji State Letter of Support | [de8e9fb0-1c1.pdf](https://lccmrprojectmgmt.leg.mn/media/attachments/de8e9fb0-1c1.pdf) |
| Prof. Paul Kivi-Bemidji State Letter of Support | [c3095679-53f.pdf](https://lccmrprojectmgmt.leg.mn/media/attachments/c3095679-53f.pdf) |

## **Difference between Proposal and Work Plan**

#### ***Describe changes from Proposal to Work Plan Stage***

The workplan makes minor adjustments to the budget to match the recommended amount of $772,000. The contracts for website development and maintenance and data visualization were each reduced from $65,000 to $55,000, thereby resulting in a reduction of $20,000 from the budget. Additionally, the budget for data storage was reduced from $62,000 to $24,000, resulting in an additional reduction of $38,000.

## **Additional Acknowledgements and Conditions:**

The following are acknowledgements and conditions beyond those already included in the above workplan:

**Do you understand and acknowledge the ENRTF repayment requirements if the use of capital equipment changes?**   
 N/A

**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 Commissioner's Plan 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 project:**

Mike Linnemann, Development Director; Pete Marshall, Communications Director; Tom Donaho, Board Member.

**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