



# Environment and Natural Resources Trust Fund

M.L. 2026 Approved Work Plan

## General Information

**ID Number:** 2026-318

**Staff Lead:** Michael Varien

**Date this document submitted to LCCMR:** May 26, 2026

**Project Title:** United in Responding to CWD in Minnesota

**Project Budget:** \$2,200,000

## Project Manager Information

**Name:** Tiffany Wolf

**Organization:** U of MN - College of Veterinary Medicine

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## Project Reporting

**Date Work Plan Approved by LCCMR:** June 17, 2026

**Reporting Schedule:** April 1 / October 1 of each year.

**Project Completion:** June 30, 2029

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

## Legal Information

**Legal Citation:** M.L. 2026, Chp. 104, Sec. 2, Subd. 06f

**Appropriation Language:** \$2,200,000 the second year is from the trust fund to the Board of Regents of the University of Minnesota for the College of Veterinary Medicine to: (1) study the environmental persistence and transportation of chronic wasting disease (CWD) prions and the risk factors for CWD outbreaks in deer populations; and (2) advance antemortem testing for early detection of CWD in Minnesota, support Tribal and state surveillance efforts, and provide education about the public's role in CWD management.

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



## Narrative

**Project Summary:** For our deer and the lives they sustain: integrating and deploying multidisciplinary tools against the expanding threat of chronic wasting disease to support informed and strategic responses.

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

Chronic Wasting Disease (CWD) is a fatal disorder caused by prions, whose unique durability allows them to persist in the environment for years. Where CWD has become established, deer populations have declined, land has been devalued, and hunting traditions disrupted. CWD is endemic in southeastern Minnesota and new cases continue to be detected elsewhere in the state. The threat of CWD has never been greater to the health of Minnesota's moose, elk, and deer, and the economies and lives they sustain. Previous strong bipartisan action has enabled discoveries to counter this threat to our natural resources. Thanks to pioneering investments in multidisciplinary CWD research, the Minnesota Center for Prion Research and Outreach (MNPRO) has contributed 5 patented CWD-detection technologies, 24 peer-reviewed publications, and collaborative outreach events reaching over 130,000 Minnesotans and Tribal members. In only a few years, we are making significant innovations in the areas of environmental prion detection and mitigation. MNPRO has forged an ongoing alliance with Tribal nations in Minnesota to enhance surveillance, co-develop coordinated response efforts, increase CWD knowledge, and encourage greater community participation in CWD control. The stage is set for us to advance into a new phase in the fight against CWD.

**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.**

Effective resource allocation for CWD management relies on integrating strong intelligence and advanced technologies. MNPRO aims to leverage its discoveries to enhance Minnesota's CWD surveillance, detection, and mitigation. We aim to build on previous RT-QuIC optimization efforts to study prion persistence and transport in environmental matrices like soil and dust, and integrate additional methodologies to validate prion detection. To better understand the geographic extent and ongoing transmission risk of CWD in Minnesota, we partner with natural resource managers at all levels, particularly Tribal natural resource agencies. These efforts include sustaining the CWD Tribal Surveillance Network, which plays a vital role in expanding CWD surveillance to benefit both Tribal and non-Tribal communities, as well as advancing live animal surveillance through ongoing deer research activities and spatial CWD modeling to understand how various factors contribute to or curb disease transmission. Finally, MNPRO will continue CWD outreach and education efforts, targeting new audiences with responsive educational materials to raise awareness and improve public engagement as disease dynamics continue to evolve.

**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?**

Outcomes include: continuation and creation of partnerships across Minnesota to fight CWD, ultra-sensitive environmental CWD testing and mitigation techniques, characterization of CWD outbreak risk, support of Tribal and state CWD surveillance and management activities, and expanded CWD public outreach materials for statewide distribution through electronic and in-person engagement. These outcomes will help mitigate CWD-related impacts to deer health, state economics, and associated livelihoods and cultures.

## 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

## Activities and Milestones

### Activity 1: CWD prion contamination and spread

**Activity Budget:** \$712,885

**Activity Description:**

CWD prions are known to bind to soil and dust particles. We have developed new CWD detection protocols that facilitate environmental monitoring of CWD prions in these various matrices and will leverage these to expand our assessments of CWD prion contamination and transport. Previous soil testing of the Beltrami carcass dump site revealed prion contamination, therefore we propose ongoing testing of soil to characterize prion persistence over time. Lab-based assessments of dust particle size and associated binding capacity of CWD prions will be performed. This information will directly inform risk assessments surrounding airborne transmission of dust-borne CWD prions in both natural environments and farms. Active monitoring and assessment of CWD prion-bound dust particles will be conducted using both direct and indirect sampling via portable HEPA air filters, deployed in Beltrami and in CWD-detected and non-detected areas of the state.

**Activity Milestones:**

Description	Approximate Completion Date
Beltrami soil sampling through 2026 (6 total years of soil archived from Beltrami since 2021)	November 30, 2026
Lab-based air-borne prion experiments completed	June 30, 2027
Dust sampling at Beltrami dump site completed	October 31, 2027
2022-2026 archived Beltrami soil sample testing completed	December 31, 2027
RT-QuIC analysis of field-collected dust samples	June 30, 2028
Summary report of major findings of prion persistence in soil and dust particles	June 30, 2028

### Activity 2: Sustaining the CWD Tribal Surveillance Network

**Activity Budget:** \$507,506

**Activity Description:**

CWD surveillance efforts in Minnesota have been primarily focused on areas of high risk (e.g., near a CWD-positive farm) or in CWD management zones where CWD has already been detected. Because of the threat of CWD to food sovereignty and Tribal culture related to deer harvest, nine Tribal and two intertribal natural resource agencies have been conducting surveillance for CWD on Tribal lands since 2020. This cooperative CWD surveillance program, which includes MNPRO collaborative support, is based on shared leadership and resources to aid Tribal management agencies in achieving their management goals for. Collectively, these efforts have expanded the geographic breadth of CWD surveillance across Minnesota. Unfortunately, inconsistent Federal funding threatens the program's sustainability, which impacts Tribal sovereignty and compromises surveillance for CWD in the state. We estimate surveillance will be conducted for ~1200 deer harvested across 9 tribal agencies in Minnesota. Funding is sought to support Tribal and UMN staff time, staff travel for sampling, hunter participation incentives, supplies, shipments, lab testing fees and disposal. This will ensure that CWD surveillance aligns with Tribal agencies' developed/developing CWD management plans and supports Tribal hunting communities that rely on this service for protection of this important subsistence species.

**Activity Milestones:**

Description	Approximate Completion Date
Seasonal preparation for surveillance, including supply acquisition and dissemination, coordination with labs, and hunter communications.	August 31, 2026
Samples collected, shipped and tested for CWD ELISA/IHC testing - 2026 season	January 31, 2027

Develop seasonal surveillance report	April 30, 2027
Seasonal preparation for surveillance, including supply acquisition and dissemination, coordination with labs, and hunter communications.	August 31, 2027
Samples collected, shipped and tested for CWD ELISA/IHC testing - 2027 season	January 31, 2028
Develop seasonal surveillance report	April 30, 2028

### Activity 3: Characterizing the spread of CWD in Minnesota

**Activity Budget:** \$753,596

**Activity Description:**

CWD continues to be detected in new locations across Minnesota. Ongoing surveillance in areas of new detections has uncovered additional detections in some locations but not others. It is unclear what factors contribute to these observed patterns. Thus, MNPRO will leverage a variety of tools and data sets to examine factors that may contribute to CWD transmission and outbreak establishment. For example, MNPRO has supported ante- and postmortem CWD screening of collared wild deer in areas of the greater metro area near (within 15 mi) the most recent CWD detection in Minnesota. This is in conjunction with LCCMR-supported research of wild deer movements led by Meggan Craft’s lab in partnership with Three Rivers Park District and Shakopee Mdewakanton Sioux Community. We propose to continue to screen collared cervids of any study site across the state using a variety of biological samples by RT-QuIC. Further, with previous LCCMR funding, we created a spatial model of CWD to enhance understanding of environmental factors that contribute to transmission. We will integrate that information into new statistical and transmission models of CWD to better understand outbreak potential in different locations.

**Activity Milestones:**

Description	Approximate Completion Date
Input data assembled for CWD outbreak modeling across different MN landscapes	December 31, 2026
Preliminary results of a spatially-explicit statistical model CWD outbreak emergence	December 31, 2027
RT-QuIC test results of antemortem/postmortem samples collected from deer collaring studies	May 31, 2028
Estimates of sensitivity and specificity of antemortem testing for CWD	June 30, 2028
Report to MNBAH and MNDNR antemortem CWD test performance and outbreak emergence model.	June 30, 2028

### Activity 4: CWD Outreach and Education Activities

**Activity Budget:** \$226,013

**Activity Description:**

Thanks to previous ENTRF funding, we developed CWD outreach materials for multiple communities, advanced MNPRO’s website, distributed stakeholder newsletters, and connected with 130,000+ people. Yet, CWD remains a relatively new disease for Minnesotans with its spread to new areas of Minnesota each year. In recognizing that many stakeholders can play a role in its control, even before it is detected in a new area, it is important to arm Minnesotans with the most current CWD information. Thus, we aim to continue to promote awareness of CWD across the state, to provide Minnesotans with actionable information they can use when making decisions about where to hunt and how to do so responsibly, how interactions with deer (including feeding and baiting for various purposes) can influence spread, and support for making decisions related to venison processing and consumption. We will update MNPRO’s print and digital educational materials, and create new materials to engage expanded audiences, and continue to evaluate outreach effectiveness. An important outcome is that we demonstrate how everyone can play a part in the control of this disease in our deer. Research demonstrates that stakeholder knowledge leads to better support of and trust in management agencies.

**Activity Milestones:**

Description	Approximate Completion Date
Plan and hold at least 2 CWD outreach events throughout Minnesota in 2026	December 31, 2026
Develop analysis tools to collect data on outreach impact. Secure IRB approval prior to distribution.	February 28, 2027
Plan and hold at least 3 CWD outreach events throughout Minnesota in 2027	December 31, 2027
Plan and hold a mini-symposium highlighting MNPRO discoveries to stakeholders	May 31, 2028
Synthesize outreach impact data, report overall impact of outreach activities.	May 31, 2028
Maintain, curate, update educational materials in light of annual state-wide CWD developments.	June 30, 2028

## Project Partners and Collaborators

Name	Organization	Role	Receiving Funds
Peter Larsen	University of Minnesota	Co-Primary Investigator. Larsen will assist with the development, oversight, and execution of all center-related research and outreach activities.	Yes
Marc Schwabenlander	University of Minnesota	Co-Primary Investigator. Schwabenlander will coordinate center-level research and outreach projects, facilitate stakeholder connections, and connect MNPRO research activities to the public.	Yes
Stuart Lichtenberg	University of Minnesota	Co-Investigator. Lichtenberg will assist with the development, oversight, and execution of all center-related research and outreach activities.	Yes
Tanya Roerick	Leech Lake Band of Ojibwe	Roerick is a long-term collaborator with MNPRO. She will lead all activities taking place on the Leech Lake Reservation, particularly related to surveillance for CWD detection.	Yes
Sarah Ruffing	Red Lake Band of Chippewa Indians	Ruffing is a long-term collaborator with MNPRO. She will lead all activities taking place on the Red Lake Reservation, particularly related to surveillance for CWD detection.	Yes
Doug McArthur	White Earth Nation	McArthur is a long-term collaborator with MNPRO. He will lead all activities taking place on the White Earth Reservation, particularly related to surveillance for CWD detection.	Yes
Mike Schrage	Fond du Lac Band of Lake Superior Chippewa	Schrage is a long-term collaborator with MNPRO. He will lead all activities taking place on the Fond du Lac Reservation, particularly related to surveillance for CWD detection.	Yes
Meggan Craft	University of Minnesota	Collaborator. PI of ongoing deer movement and disease study in the Twin Cities metro area.	No
James Forester	University of Minnesota	Collaborator. Co-PI of ongoing deer movement and disease study in the Twin Cities metro area.	No
Steven Hogg	Three Rivers Park District	Collaborator. Management partner for ongoing deer movement and disease study in Carver Lake and Elm Creek parks.	No
Colin Yoder	University of Minnesota	Co-Investigator. Dr. Yoder has been managing the coordination and support of the Tribal CWD Surveillance Network over the past 3 years. He will lead Activity 2.	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.**

The methods and approach taken will be of broad interest to those tasked with characterizing and managing the potential risks associated with CWD, and the findings critical to the work of our own state and tribal agencies in protecting our wild deer herds and the surrounding ecosystem. Findings will be shared directly with state and tribal agencies through project reports. We will also use the following opportunities to share methods and findings more broadly:

1. dissemination via the MNPRO website: <https://mnpro.umn.edu/>
2. presentation at local, regional, and national scientific, management, and public/stakeholder meetings
3. publication of findings in peer-reviewed scientific and / or professional journals
4. dissemination to the media via press releases and UMN Research Briefs
5. testimonials to LCCMR and other policy platforms
6. geospatial layers and reproducible analytical code and models will be made publicly available; and
7. discussion of findings and opportunities to leverage research products with state agency staff through regular meetings.

The Minnesota Environment and Natural Resources Trust Fund (ENRTF) will be acknowledged through use of the trust fund logo or attribution language on project print and electronic media, publications, signage, and other communications per the ENRTF Acknowledgement Guidelines.

## 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?**

Results stemming from MNPRO’s research activities will be shared with local, regional, and national partners and will be published in peer-reviewed journals, as well as shared with the public through our outreach activities. We also work to secure external funding for MNPRO functions. In particular, we are pursuing federal funds from the National Institutes of Health, National Science Foundation, Department of Defense, and the United States Department of Agriculture (USDA). We anticipate our latest research will help to secure significant external funds which will drive MNPRO’s activities for the greater good of Minnesota’s natural resources.

## Other ENRTF Appropriations Awarded in the Last Six Years

Name	Appropriation	Amount Awarded
CWD Prion Research in Soils	M.L. 2021, First Special Session, Chp. 6, Art. 5, Sec. 2, Subd. 20a5	\$336,000
Establishing a Center for Prion Research and Outreach	M.L. 2022, , Chp. 94, Art. , Sec. 2, Subd. 03k	\$3,877,000
Chronic Wasting Disease Prion Soil Research	M.L. 2022, , Chp. 94, Art. , Sec. 2, Subd. 03n	\$732,000
Emerging Issue: CWD Prions in Minnesota Waters	M.L. 2022, , Chp. 64, Art. , Sec. 2, Subd. 20b-1	\$164,000
White-Tailed Deer Movement and Disease in Suburban Areas	M.L. 2024, , Chp. 83, Art. , Sec. 2, Subd. 03u	\$699,000

## Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	\$ Amount
<b>Personnel</b>								
Principal investigators		Project manager and co-leads			36.6%	2.8		\$423,907
Co-investigators		Scientific leads for specific activities			36.6%	0.56		\$73,168
Research scientists		Scientists leading MNPRO wetlab and epidemiology projects and other laboratory staff			32.3%	7.3		\$726,810
Project management/administration/communication		Manage and maintain the operations of project activities; develop and maintain platforms for internal and external MNPRO communications			32.3%	2.24		\$227,675
Graduate students/residents		The graduate student will contribute to all activities of the project, being primarily responsible for the collection of qualitative data, laboratory data, and analysis of each. Percent benefits include a fringe rate of 23.2% and tuition remission (\$18,002).			23.2%	4.2		\$237,082
Undergraduate students		Undergraduate students to perform research within the main MNPRO laboratory and to assist with field-work.			0%	0.5		\$10,000
Research scientist		Biorepository and database manager			36.6%	0.4		\$39,013
							<b>Sub Total</b>	<b>\$1,737,655</b>
<b>Contracts and Services</b>								
Equipment repair	Service Contract	Consultant Services - Equipment repair to support laboratory experiments and analysis				0		\$26,100

Waste disposal company (TBD)	Service Contract	CWD Dumpster rental for 3 Tribal Nations use (Activity 2)				0		\$4,000
NAHLN laboratory (Colorado State University or alternate)	Service Contract	CWD ELISA/IHC testing service for Tribal surveillance (Activity 2)		X		0		\$30,000
University of MN Veterinary Diagnostic Lab	Internal services or fees (uncommon)	Tissue extraction and Tribal deer head disposal (Activity 2)				0		\$18,666
University of MN Biotechnology Resource Center and Center for Metabolomics and Proteomics	Internal services or fees (uncommon)	Services to provide protein production (RT-QuIC assay), and mass spectrometry for prion detection (Activities 1,3)				0		\$13,000
Fond du Lac Natural Resource Management Division	Subaward	Enacting and managing the CWD surveillance program associated with their Tribe (Activity 2). Items include personnel (\$8,468), supplies (\$804), travel in MN to transport deer heads (\$2,791), hunter participation payments (\$10,050). Mike Shrage will manage the project and oversee all aspects of the surveillance program.				0.12		\$22,112
White Earth Natural Resources Department	Subaward	Enacting and managing the CWD surveillance program, and field validation of CWD diagnostic test associated with their Tribe (Activities 2). Funds will cover personnel ( \$8,362), supplies (\$2,001), travel in MN to transport deer heads (\$3,162), hunter participation payments (\$13, 078). Dustin Roy will manage the project.				0.1		\$26,603
Leech Lake Department of Natural Resources	Subaward	Enacting and managing the CWD surveillance program, and field validation of CWD diagnostic test associated with their Tribe (Activities 2). Funds will cover personnel (\$77,726),				2		\$83,892

		supplies (\$2,010), shipping (\$302), hunter participation payments (\$1,150) and outreach materials (\$2,345). Tonya Roerick will oversee surveillance and manage the project.						
Red Lake Department of Natural Resources	Subaward	Enacting and managing the CWD surveillance program, and field validation of CWD diagnostic test associated with their Tribe (Activities 2). Funds will cover personnel (\$27,000), supplies (\$800), travel in MN to collect samples (\$4,323), and hunter participation payments (\$7,500). Sarah Ruffing will manage the project.				0.4		\$39,623
Software licensing fees	Service Contract	Software licenses are needed to support analysis and visualization of generated data.				-		\$8,900
							<b>Sub Total</b>	<b>\$272,896</b>
<b>Equipment, Tools, and Supplies</b>								
	Tools and Supplies	PPE including gloves, eyewear, disposable gowns, protein and DNA extraction kits, reagents, chemicals, antibodies for prion detection and visualization, RT-QuIC supplies including 96-well plates, 384-well plates, thioflavin-T, etc.; sample collection/storage. Each RT-QuIC plate, which holds 10-20 samples, depending on the sample type (environmental vs tissue) costs \$400 in materials and reagents. Thus, \$60,000 allows us to test ~150 plates (or ~700 environmental	Lab supplies for day to day operation of MNPRO lab and field work					\$139,449

		samples in Activity 1 and ~280 tissue samples in Activity 2). We anticipate approximately \$40,000 for additional laboratory supplies for experimentation, sampling and sample archival, as well as approximately \$40,000 in field supplies (including disposable environmental samplers and PPE for field crews).						
	Equipment	Small molecular lab operation equipment consisting of pipettes, vortex machines, mini-centrifuges, micro-scales, etc.	Small equipment to perform the molecular research					\$16,000
							<b>Sub Total</b>	<b>\$155,449</b>
<b>Capital Equipment</b>								
							<b>Sub Total</b>	-
<b>Acquisitions and Stewardship</b>								
							<b>Sub Total</b>	-
<b>Travel In Minnesota</b>								
	Miles/ Meals/ Lodging	Travel for MNPRO staff and researchers; ~4-5 trips (overnight stays throughout the state) with 2-6 people per year	Conduct research, meet with stakeholders/partners, public outreach events, present at local conferences/meetings, etc. Activities 1-4.					\$12,500
							<b>Sub Total</b>	<b>\$12,500</b>
<b>Travel Outside Minnesota</b>								
	Conference Registration Miles/ Meals/ Lodging	Funds for 1 MNPRO scientist to present research at a scientific conference	To present research findings to the scientific community at a professional conference. Activity 1,3,4.	X				\$2,500
							<b>Sub Total</b>	<b>\$2,500</b>
<b>Printing and Publication</b>								

	Publication	Fees for 2-3 open-access peer-reviewed publication of research results	Funds for MNPRO scientists to publish research findings in open-access peer-reviewed journals					\$8,000
	Printing	Outreach materials, surveys, reports, booklets, posters, models	Educating Minnesota's public and disseminating research results throughout the state					\$6,000
							<b>Sub Total</b>	<b>\$14,000</b>
<b>Other Expenses</b>								
		Outreach event fees for approximately 5 major outreach events (e.g., state fair, MN Deer and Turkey show)	Costs associated with participating in outreach events (booth fees, entrance, etc.)					\$5,000
							<b>Sub Total</b>	<b>\$5,000</b>
							<b>Grand Total</b>	<b>\$2,200,000</b>

## Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request
<b>Contracts and Services</b> - NAHLN laboratory (Colorado State University or alternate)	Service Contract	CWD ELISA/IHC testing service for Tribal surveillance (Activity 2)	NAHLN Laboratories are those that are USDA accredited for regulatory testing. University of MN Veterinary Diagnostic Laboratory is the only NAHLN laboratory within MN, but it does not offer CWD testing and instead outsources CWD testing to Colorado State University's NAHLN laboratory. Thus, we will work directly with CSU to conduct the necessary testing.
<b>Travel Outside Minnesota</b>	Conference Registration Miles/Meals/Lodging	Funds for 1 MNPRO scientist to present research at a scientific conference	Conferences in the associated fields of research are held throughout the U.S. This will allow colleagues in these fields to learn how MNPRO is leading the way in CWD research, while also allowing MNPRO scientists to connect and collaborate with these scientists.

Non ENRTF Funds

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

**Total Project Cost: \$2,200,000**

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

Yes

## Attachments

### Required Attachments

#### *Visual Component*

File: [b0414518-eac.pdf](#)

#### *Alternate Text for Visual Component*

Visual Component noting previous LCCMR-supported MNPRO discoveries and proposed work....

### Supplemental Attachments

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

<b>Title</b>	<b>File</b>
Support Letter - Leech Lake Band of Ojibwe	<a href="#">69b0433f-36e.pdf</a>
Support Letter - Fond du Lac Band of Lake Superior Ojibwe	<a href="#">59bca180-bee.pdf</a>
Support Letter - Red lake Band of Chippewa	<a href="#">7c0f27cf-40a.pdf</a>
Demonstration of 990 Exemption Requirements	<a href="#">f65094ad-d2c.pdf</a>
Audit Report	<a href="#">8294ce52-2bc.pdf</a>
Evidence of Good Standing with the Secretary of State	<a href="#">64f41d8e-0b5.pdf</a>
Support Letter - White Earth Nation	<a href="#">8d25c3e0-1e5.pdf</a>
University Endorsement	<a href="#">1f12a01f-5f8.pdf</a>
Revised Research Addendum 2026-318_Final	<a href="#">e1d48e5c-b67.docx</a>

## Difference between Proposal and Work Plan

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

We reduced the project timeline from 3 years to 2 years, eliminated 3 activities (previous Activities 1, 6 and 7), as well as the scope of current Activities 1, 3, and 4 to accommodate the reduced budget.

## 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 UMN Policy on travel applies.

**Does your project have potential for royalties, copyrights, patents, sale of products and assets, or revenue generation?**

Yes

**Do you understand and acknowledge IP and revenue-return and sharing requirements in 116P.10?**

Yes

**Do you wish to request reinvestment of any revenues into your project instead of returning revenue to the ENRTF?**

No

**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 project:**

Peter Larsen, University of Minnesota

Marc Schwabenlander, University of Minnesota

Stuart Lichtenberg, University of Minnesota

Tonya Sieler, University of Minnesota

Thomas Seiler, University of Minnesota

Mikael Elias, 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