



Environment and Natural Resources Trust Fund

2026 Request for Proposal

General Information

Proposal ID: 2026-318

Proposal Title: United in Responding to CWD in Minnesota

Project Manager Information

Name: Tiffany Wolf

Organization: U of MN - College of Veterinary Medicine

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Project Basic Information

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.

ENRTF Funds Requested: \$5,096,000

Proposed Project Completion: June 30, 2029

LCCMR Funding Category: Fish and Wildlife (D)

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.

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. MNPRO has new testing technologies and we want to deploy and investigate select tools for decentralized CWD testing. 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 and infectivity. The latter aids our assessment of the efficacy of innovations for prion remediation. 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, field validated rapid turn-around CWD diagnostics, 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.

Activities and Milestones

Activity 1: Field validation of next-generation CWD diagnostic tests

Activity Budget: \$992,713

Activity Description:

Previous ENRTF funding has expanded our CWD testing capabilities for biological and environmental detection of CWD prions. Moreover, we have developed new portable technologies (Micro-QuIC and MN-QuIC) that facilitate, for the first time, de-centralized CWD testing. The development of commercially produced prototypes enables new opportunities for validation with end-users, such as natural resource managers. We propose to partner with Tribal natural resource agencies for the deployment, use, and assessment of test performance for CWD prion detection through the Tribal hunting seasons. We will train agency staff on technology use for real-time testing of hunter-harvested samples, analyze field test results in comparison to current testing platforms (RT-QuIC, ELISA, and IHC), and assess repeatability and reproducibility of results between agencies and throughout the season using a well-characterized sample set. We will collect data on timelines to test results, hunter satisfaction, and agency staff experiences. We will do this in partnership with the natural resource agencies of Leech Lake Band of Ojibwe, Red Lake Band of Chippewa Indians, and White Earth Nation. Results from this activity will inform technology modifications, future integration into surveillance programs, and ongoing validation efforts for integration into the USDA's official CWD surveillance.

Activity Milestones:

Description	Approximate Completion Date
Train agency staff on Micro-QuIC or MN-QuIC	August 31, 2027
Test 100 samples at each location	January 31, 2028
Receive and analyze data and feedback on field experiences	May 31, 2028
Adjust testing platform and/or field processes based on previous field season feedback	August 31, 2028
Test 100 samples at each location	January 31, 2029
Receive and analyze feedback on field experiences	May 31, 2029
Compile and analyze comparative testing data sets	June 30, 2029

Activity 2: CWD prion contamination and spread

Activity Budget: \$1,544,268

Activity Description:

CWD prions are known to bind to soil and dust particles, and may also contaminate deer hunting and handling equipment and materials. 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. Finally, given increasing interests in the role of deer hunting and handling equipment as CWD fomites (inanimate objects that may become a source of CWD spread), MNPRO will leverage its technology to study prion contamination and decontamination of hunting and deer capture equipment and materials.

Activity Milestones:

Description	Approximate Completion Date
Beltrami soil sampling through year 5	November 30, 2026
Lab-based air-borne particle experiments	June 30, 2027
Field-based air-borne particle collections	October 31, 2027
Beltrami archived soil sample screening by RT-QulC	December 31, 2027
Fomite contamination experiments	December 31, 2027
Fomite remediation experiments	June 30, 2028
Confirmation soil testing by mass spectrometry/bioassay	June 30, 2029
Analysis of field samples by RT-QulC/mass spectrometry	June 30, 2029
Bioassay confirmation of fomite experiments	June 30, 2029

Activity 3: Sustaining the CWD Tribal Surveillance Network

Activity Budget: \$765,589

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 community's goals for CWD detection and control. Collectively, these efforts have expanded the geographic breadth of CWD surveillance in the state of Minnesota. Unfortunately, inconsistent Federal funding is threatening the sustainability of this program, which impacts Tribal sovereignty in the stewardship of natural resources and compromises overall surveillance for CWD in the state. Thus, funding is sought to ensure consistency in CWD surveillance that aligns with Tribal agencies' developed/developing CWD management plans and supports Tribal hunting communities that have come to rely on this service in the protection of a culturally important subsistence species.

Activity Milestones:

Description	Approximate Completion Date
Provide resources to cooperating Tribes	August 31, 2026
Samples collected and tested for CWD ELISA/IHC testing - 2026 season	January 31, 2027
Develop seasonal surveillance report	April 30, 2027
Provide resources to cooperating Tribes	August 31, 2027
Samples collected and tested for CWD ELISA/IHC testing - 2027 season	January 31, 2028
Develop seasonal surveillance report	April 30, 2028
Provide resources to cooperating Tribes	August 31, 2028
Samples collected and tested for CWD ELISA/IHC testing - 2028 season	January 31, 2029
Develop seasonal and overall project surveillance report	June 30, 2029

Activity 4: Characterizing the spread of CWD in Minnesota

Activity Budget: \$1,187,712

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 animals using a variety of biological samples by RT-QuIC, as well as leverage their movement data to model how CWD might spread through the metro area. 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
Assemble data for CWD outbreak modeling across different MN landscapes	December 31, 2026
Recruit grad student researcher to the project	January 31, 2027
Pilot a spatially-explicit statistical model CWD outbreak emergence	August 31, 2027
Adapt a spatially-explicit agent-based model of CWD transmission to MN	December 31, 2027
Screen antemortem/postmortem samples collected from deer collaring studies	May 31, 2028
Scenario modeling to assess factors contributing to MN outbreaks	June 30, 2028
Analyze antemortem test data to estimate test performance and population prevalence	May 31, 2029

Activity 5: CWD Outreach and Education Activities

Activity Budget: \$435,418

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. Annual events (e.g., Minnesota State Fair, Governor's Deer Hunting Opener, Minnesota Deer and Turkey Classic, Shakopee Mdewakanton Sioux Community Earth Day and other Tribal community events), where we have consistently had quality engagements by connecting MNPRO scientists with our Minnesota communities, will continue to play a key role in connection. Roughly a third of respondents to our post-engagement survey at these events indicated they first learned about prion basics, testing information, identifying the disease, and persistence in the environment for the first time at our exhibits. To expand our efforts, we will look beyond self-initiated engagements from groups with which we have already enjoyed great success - public schools, Hmong communities, and conservation citizens/organizations. We will update MNPRO's existing print and digital educational materials, and create new materials to engage expanded audiences including a CWD role-playing game that is in early development. To evaluate outreach effectiveness, we will employ several key metrics, namely our post-engagement survey and digital engagement metrics.

Activity Milestones:

Description	Approximate Completion Date
Plan and hold at least 3 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
Develop, test, and distribute CWD role-playing game	April 30, 2027
Plan and hold a mini-symposium highlighting MNPRO discoveries to stakeholders	May 31, 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
Plan and hold at least 3 CWD outreach events throughout Minnesota in 2028	December 31, 2028
Synthesize outreach impact data, report overall impact of outreach activities, publish findings.	May 31, 2029
Maintain, curate, update educational materials in light of annual state-wide CWD developments.	June 30, 2029

Activity 6: CWD Prion Mitigation

Activity Budget: \$70,000

Activity Description:

Prions are uniquely resistant to conventional decontamination methods. The lack of practical methods for decontamination poses a critical challenge for biosecurity and controlling CWD's spread among the cervid population and potentially to other species. The overall objective of this activity is to advance environmentally safe and effective, field-deployable solutions for CWD biodecontamination. For this activity, we propose two study objectives that build on recent MNPRO-supported discoveries in prion remediation. First, through recent ENRTF-funded research, MNPRO collaborators in the Salomon (UMN) and Bartz (Creighton University) labs have identified promising anti-prion fungal compounds that can reduce prion levels by 80%. Second, MNPRO collaborators in the Elias Lab (UMN) have engineered highly stable variants of subtilisin protease, an enzyme that can degrade prion-like protein structures. Our teams will advance these efforts by 1) further characterizing natural anti-prion small molecule products for synthesis while simultaneously 2) engineering enhanced proteases with improved stability and anti-prion activity. Further investment in these early yet promising lines of research is critical to the development of effective methods for environmental prion remediation.

Activity Milestones:

Description	Approximate Completion Date
Identification / characterization of identified and novel natural compounds from Minnesota	June 30, 2027
Protease engineering and characterization	July 31, 2027
Screening of natural compounds library for anti-prion activity	July 31, 2027
Protease evaluation for anti-prion activity	June 30, 2028
Screening of newly identified natural compounds for anti-prion activity	June 30, 2028

Activity 7: Establishment of Bioassay for Prion Infectivity Assessments

Activity Budget: \$100,300

Activity Description:

Prion diseases such as CWD are challenging to detect and characterize, complicating an already complex disease system. The most definitive and complete method for detection and proof of infectivity is the animal bioassay, where susceptible animals are challenged with a sample suspected to bear prion infectivity. Ultimately, all prion detection and remediation technologies need to be subject to validation using animal bioassay studies. To bring the technologies developed by MNPRO into full maturity, we will construct and maintain a colony of laboratory mice which are susceptible to CWD. Next, we will assess infectivity from dust-, soil- and fomite-bound prions, as described in Activity 2. Specifically, we will assess relevant environmental samples collected during prior studies in Minnesota, specifically from the Beltrami dump site. Other studies showed that soil-bound prions were more infectious than free, but this has not been assessed with other dust-bound prions. Finally, the colony will be used to assess the efficacy of fomite decontamination (Activity 2), and possibly other prion mitigation technologies developed previously by our group. This includes chemical, fire and controlled burn, and conventional incineration methods.

Activity Milestones:

Description	Approximate Completion Date
Develop and submit IACUC protocol for mouse colony and bioassay experiments	July 31, 2026
Acquire tg1536+mice from Telling Group at Colorado State University	September 30, 2026
Inoculate Round 1 of experimental animals (Beltrami Soils and Mock Injected Controls)	December 31, 2026
Inoculate Round 2 of experimental animals (Fire, Incineration, or Chemical Decon)	January 31, 2027

Inoculate Round 3 of experimental animals (Field and lab dust/fomite samples [Act. 2])	July 31, 2027
Analyze Round 1 results (survival, pathology, and RT-QulC)	July 31, 2028
Analyze Round 2 results (survival, pathology, and RT-QulC)	August 31, 2028
Analyze Round 3 results (survival, pathology, and RT-QulC)	February 28, 2029

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. Specifically, Lichtenberg will spearhead bioassay efforts.	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 and test validation 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 and test validation 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 and test validation for CWD detection.	Yes
Mike Shrage	Fond du Lac Band of Lake Superior Chippewa	Shrage 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
Mikael Elias	University of Minnesota	Collaborator. Dr. Elias is leading a team studying the synthesis and use enzymes for prion remediation	Yes
Christine Salomon	University of Minnesota	Collaborator. Dr. Salomon is co- leading efforts in the discovery and assessment of efficacy of natural products in their effects on prion degradation.	Yes
Jason Bartz	Creighton University	Collaborator. Dr. Bartz is co- leading efforts in the discovery and assessment of efficacy of natural products in their effects on prion degradation.	Yes
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 3.	Yes

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

Project Manager and Organization Qualifications

Project Manager Name: Tiffany Wolf

Job Title: Associate Professor

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

Dr. Wolf is the Co-director of the Minnesota Center for Prion Research and Outreach. She is a veterinarian and wildlife epidemiologist who has been working with collaborators, particularly Tribal partners, for over a decade on issues affecting wildlife health. She has served as the Co-Director of MNPRO since 2020, leading efforts related to diagnostic test validation, the study of environmental prion contamination and the epidemiological factors that contribute to ongoing transmission in deer. Dr. Wolf engages directly with community members in the dissemination of the science behind CWD.

Organization: U of MN - College of Veterinary Medicine

Organization Description:

The University of Minnesota College of Veterinary Medicine affects the lives of animals and people every day through educational, research, service, and outreach programs. We are dedicated to the education of future and current veterinarians and biomedical scientists and the discovery of new knowledge and skills.

Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	\$ Amount
Personnel								
Principal investigators		Project manager and co-leads			36.6%	4.86		\$921,079
Co-investigators		Scientific leads for specific activities			36.6%	1.98		\$258,961
Research scientists		Scientists leading MNPRO wetlab and epidemiology projects and other laboratory staff			32.3%	13.74		\$1,372,178
Project management/administration/communication		Manage and maintain the operations of project activities; develop and maintain platforms for internal and external MNPRO communications			32.3%	6		\$606,616
Graduate students/residents		Graduate students and residents to perform research on CWD spread, persistence, diagnostic performance, and supporting surveillance			82%	6		\$721,135
Undergraduate students		Undergraduate students to perform research within the main MNPRO laboratory and to assist with field-work.			0%	0.96		\$30,000
Research scientist		Biorepository and database manager			36.6%	0.75		\$74,622
							Sub Total	\$3,984,591
Contracts and Services								
Multiple	Service Contract	Consultant Services - Equipment repair, communication services and fees (Activities 1-5)				0		\$75,000
Waste disposal company (TBD)	Service Contract	CWD Dumpster rental for 3 Tribal Nations use (Activity 3)				-		\$6,000
NAHLN laboratory (Colorado State University or alternate)	Service Contract	CWD ELISA/IHC testing service for Tribal surveillance (Activity 3)				0		\$45,000

University of MN Veterinary Diagnostic Lab	Internal services or fees (uncommon)	Tissue extraction and Tribal deer head disposal (Activity 3)				0		\$27,999
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 1,2,4)				0		\$56,500
University of MN Research Animal Resources	Internal services or fees (uncommon)	Rodent colony rearing and care (Activity 7)				0		\$75,300
Fond du Lac Natural Resource Management Division	Subaward	Enacting and managing the CWD surveillance program associated with their Tribe (Activity 3)				0.18		\$33,004
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 1,3)				0.15		\$38,720
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 1,3)				3		\$125,209
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 1,3)				0.6		\$59,010
Bartz Lab (Creighton University)	Service Contract	Characterizing natural anti-prion small molecule products for synthesis (Activity 6)				0		\$10,000
							Sub Total	\$551,742
Equipment, Tools, and Supplies								
	Tools and Supplies	Lab supplies for day to day operation of MNPRO lab and field work	PPE including gloves, eyewear, disposable gowns, protein and DNA extraction kits, reagents, chemicals,					\$304,616

			antibodies for prion detection and visualization, RT-QuIC supplies including 96-well plates, 384-well plates, thioflavin-T, etc.; sample collection/storage					
	Equipment	Small molecular lab operation equipment consisting of pipettes, vortex machines, mini-centrifuges, micro-scales, rodent surgery/necropsy, etc.	Small equipment to perform the molecular research					\$38,000
	Tools and Supplies	Micro-QuIC/MN-QuIC materials and supplies for Activity 1	Tools and supplies needed for field-based CWD tests for 3 locations/partners					\$21,500
							Sub Total	\$364,116
Capital Expenditures								
		Stoelting Stereotaxic Instrument 51730D	Used to perform neurosurgery on mice (rodent colony bioassay, Act 7). Essential for delivering the same dose of inoculum to the same location in each of our subject animals.	X				\$6,800
		Anesthesia System 53930	Complete anesthesia system to ensure that subject animals (rodent colony bioassay, Activity 7) are properly sedated prior to and during surgery.	X				\$8,200
							Sub Total	\$15,000
Acquisitions and Stewardship								
							Sub Total	-
Travel In Minnesota								
	Miles/ Meals/ Lodging	Travel for MNPRO staff and researchers; ~10 trips (overnight stays throughout the state) with 2-6 people per year	Conduct research, meet with stakeholders/partners, public outreach events, etc. Activities 1-5.					\$30,000

							Sub Total	\$30,000
Travel Outside Minnesota								
	Conference Registration Miles/ Meals/ Lodging	Funds for 1 or 2 MNPRO scientists to present research at a scientific conference, once per year	To present research findings to the scientific community at a professional conference. Activity 1,2,4.	X				\$15,000
							Sub Total	\$15,000
Printing and Publication								
	Publication	Fees for 3-5 open-access peer-reviewed publication of research results	Funds for MNPRO scientists to publish research findings in open-access peer-reviewed journals					\$15,551
	Printing	Outreach materials, surveys, reports, booklets, posters, models	Educating Minnesota's public and disseminating research results throughout the state					\$45,000
							Sub Total	\$60,551
Other Expenses								
		Outreach event fees	Costs associated with participating in outreach events (booth fees, entrance, etc.)					\$15,000
		Elias Lab	Engineering enhanced proteases with improved stability and anti-prion activity (Activity 6)					\$60,000
							Sub Total	\$75,000
							Grand Total	\$5,096,000

Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request
Capital Expenditures		Stoelting Stereotaxic Instrument 51730D	This instrument is necessary for rodent colony bioassay work. Additional Explanation : Specialized equipment that will be used for all future CWD bioassay rodent colony work.
Capital Expenditures		Anesthesia System 53930	This equipment is necessary for rodent colony bioassay work. Additional Explanation : Specialized equipment that will be used for all future CWD bioassay rodent colony work.
Travel Outside Minnesota	Conference Registration Miles/Meals/Lodging	Funds for 1 or 2 MNPRO scientists to present research at a scientific conference, once per year	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: \$5,096,000

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

Title	File
University Endorsement	1f12a01f-5f8.pdf
Support Letter - White Earth Nation	8d25c3e0-1e5.pdf
Evidence of Good Standing with the Secretary of State	64f41d8e-0b5.pdf
Audit Report	8294ce52-2bc.pdf
Demonstration of 990 Exemption Requirements	f65094ad-d2c.pdf
Support Letter - Red lake Band of Chippewa	7c0f27cf-40a.pdf
Support Letter - Fond du Lac Band of Lake Superior Ojibwe	59bca180-bee.pdf
Support Letter - Leech Lake Band of Ojibwe	69b0433f-36e.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?

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 proposal:

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

