



Environment and Natural Resources Trust Fund

2025 Request for Proposal

General Information

Proposal ID: 2025-188

Proposal Title: Health and Disease Monitoring in Minnesota Wildlife

Project Manager Information

Name: Arno Wuenschmann

Organization: U of MN - Minnesota Veterinary Diagnostic Laboratory

Office Telephone: (612) 624-3249

Email: wunsc001@umn.edu

Project Basic Information

Project Summary: The project will enhance a. knowledge of wildlife health and disease and b. diagnostic capacity by significantly increasing the number of postmortem examinations of free-ranging animals and training wildlife pathologists.

ENRTF Funds Requested: \$842,000

Proposed Project Completion: June 30, 2028

LCCMR Funding Category: Foundational Natural Resource Data and Information (A)

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.

Wildlife holds cultural, historical, and ecological significance, enriching the lives of Minnesotans through recreational activities, sustenance hunting, and every day enjoyment. The state's wildlife faces persistent threats from endemic and emerging diseases, such as white nose syndrome, which can lead to significant mortality events. Protecting wildlife health is vital for species conservation but also for safeguarding human and livestock health. Diseases like rabies and tularemia as well as certain parasites pose risks to both wildlife and humans. Emergence of new pathogens, such as SARS-COV2, requires vigilance to determine whether cross-over to new host populations is occurring. Timely and thorough examination of deceased wildlife by trained pathologists is essential for disease monitoring and mitigation efforts. Nevertheless, funding for wildlife health monitoring remains limited. This project aims to address this challenge by leveraging various sources, including carcasses brought to the Minnesota Veterinary Diagnostic Laboratory including animals from the Wildlife Rehabilitation Center and other wildlife rehabilitators across the state, and those collected through the Bell Museum's carcass collection grant (LCCMR grant 2023-146). By maximizing access to suitable wildlife specimens, we enhance disease surveillance and improve our understanding of disease dynamics across Minnesota, while protecting human, animal, and ecosystem health.

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.

We are seeking funding to enhance wildlife health and disease monitoring of free-ranging animals at the Minnesota Veterinary Diagnostic Laboratory over a three-year period. Specifically, our project aims to cover the fees for complete postmortem examinations of sick or dead wildlife reported by the public for determination of the cause(s) of their illness or death. Additionally, we propose to expand the scope of postmortem examinations to include animals that perish under the care of licensed wildlife rehabilitators and veterinarians at wildlife rehabilitation organizations throughout the state of Minnesota, such as the Wildlife Rehabilitation Center (WRC). Currently, limited funding impedes postmortem examination of wildlife mortality cases at these facilities because all resources are focused on live animals resulting in loss of valuable information.

Furthermore, our funding request includes support for veterinary pathology residents for three years. This investment will enable three pathology residents to specialize in the diseases affecting wildlife, bolstering expertise in this critical but underserved field. By subsidizing postmortem examinations and investing in specialized training, our project aims to improve wildlife disease surveillance, enhance understanding of wildlife health dynamics, and contribute to the overall well-being of Minnesota's ecosystems and communities.

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?

The outcomes of this project directly advance the protection, conservation, and enhancement of Minnesota's natural resources via the following outcomes:

1. Early detection of emerging infectious and possibly zoonotic diseases.
2. Informed wildlife management decisions based on comprehensive disease surveillance data.
3. Enhanced care for wildlife in rehabilitation centers, ultimately leading toward better release rates.
4. Establishment of a robust disease surveillance system aligned with the One Health model, enhancing statewide preparedness and response efforts.
5. Provision of specialized training in wildlife pathology.

These outcomes represent a critical step towards safeguarding Minnesota's wildlife populations and ecosystems for future generations.

Activities and Milestones

Activity 1: Performing postmortem examination of free-ranging animals that are found dead or that died while under care by wildlife rehabilitators

Activity Budget: \$842,000

Activity Description:

The funding enables postmortem examinations of vertebrate wildlife species, including amphibians, reptiles, birds, and mammals, submitted to the Minnesota Veterinary Diagnostic Laboratory throughout the study period. These examinations will entail a gross inspection of the carcasses and the microscopic examination of a wide variety of organs. Specialized investigative methods, such as microbiology, toxicology, electron microscopy and molecular diagnostics will be employed at the discretion of the submitting clinicians and pathologists. This holistic approach ensures that potential diseases or health issues affecting a wide range of wildlife species are identified and characterized accurately. Results will be communicated in real time to the submitters and the data will be analyzed as a whole.

The submitted animals enable the training of residents in wildlife pathology but also veterinary students and veterinary clinicians working with wildlife. By examining a diverse array of species, we can gain valuable insights into disease dynamics, health trends, and potential threats to wildlife, livestock and human health. This activity will not only enhance our understanding of wildlife health but also contribute to the development of effective management strategies and interventions to protect Minnesota's precious natural resources for the benefit of hunters, non-consumptive resource users, and future.

Activity Milestones:

Description	Approximate Completion Date
Postmortem examination of wildlife (July 2025 to June 2028)	June 30, 2028
Summarize, analyze and report data quarterly	June 30, 2028

Project Partners and Collaborators

Name	Organization	Role	Receiving Funds
Renee Schott	Wildlife Rehabilitation Center of Minnesota	Triage cases for submission to Diagnostic Laboratory, analyze data, report results to public	Yes
Dr. Michelle Carstensen	Minnesota Department of Natural Resources	Triaging cases, submitting cases; analyzing data, public relations	No

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 identify existing and novel disease threats to Minnesota wildlife and by extension, livestock and Minnesotans. Disease surveillance ideally is a long-term effort in order to map spatial and temporal trends. In this sense, the project will provide baseline data that data of future projects can be compared to. Specific findings of the proposed project period will lead to scientific discoveries that in turn will generate spin off projects. Furthermore, the findings have the potential to improve patient care and hereby treatment outcomes for wildlife at WRC and other rehabilitation organizations in the state.

Project Manager and Organization Qualifications

Project Manager Name: Arno Wuenschmann

Job Title: Professor of Veterinary Pathology, Veterinary Diagnostic Laboratory/Department of Population Medicine, College of Veterinary Medicine, University of Minnesota

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

Dr. Arno Wuenschmann has a DVM degree and doctoral thesis from the College of Veterinary Medicine at the Justus Liebig University in Giessen, Germany. He became board certified in Veterinary Pathology by the American College of Veterinary Pathologists in 1999. He has worked as a diagnostic pathologist at the Veterinary Diagnostic Laboratory/Department of Population Medicine, College of Veterinary Medicine, University of Minnesota since the year 2000 specializing in wildlife (and exotic animal) pathology. He oversees the veterinary anatomical pathology residency program at the College of Veterinary Medicine. Although he is a diagnostic pathologist with experience in a broad range of domestic species and their diseases, his primary focus is on infectious diseases and intoxications of wildlife as evidenced by his numerous publications on the topic of wildlife diseases. He has good working relationships with wildlife associations throughout the state including the Minnesota Department of Natural Resources, wildlife rehabilitators, and wildlife biologists embedded in the conservation programs at tribal nations.

Organization: U of MN - Minnesota Veterinary Diagnostic Laboratory

Organization Description:

The diagnostic laboratory of the state of Minnesota and the Board of Animal Health is dedicated to the “protection and promotion of animal and human health through the early detection and monitoring of animal diseases” (mission statement). It is a fully accredited veterinary diagnostic laboratory specializing in the diagnosis of animal diseases based on postmortem examinations with ability for additional microbiological testing. The lab is part of a nationwide network of laboratories (National Animal Health Laboratory Network) so that even more specialized testing (such as toxicology, electron microscopy and molecular diagnostics) can be performed when deemed necessary. It works closely with the

Minnesota Department of Health on diseases that affect both, animals and humans. The laboratory routinely and in real time summarizes findings, analyzes data and reports to its clientele and stakeholders.

The lab has a long standing and successful history of training veterinary pathology residents. The project will build wildlife pathology capacity by providing training and learning opportunities for veterinary pathology residents (and veterinary students).

Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	\$ Amount
Personnel								
PI, pathologist		Conduct postmortem examinations, report, summarize and analyze data, project oversight			37.1%	0.6		\$164,062
Pathology Resident		Conduct postmortem examinations Summarize, analyze and report data quarterly			7.7%	2.4		\$132,111
Laboratory technician		Assist with postmortem examinations, organize data and images			33.5%	1.5		\$123,661
							Sub Total	\$419,834
Contracts and Services								
Wildlife Rehabilitation Center of Minnesota	Sub award	Triages cases; submitting cases for postmortem examinations with relevant information (including date, location, signalment, clinical history), assist in analyzing data				0.03		\$46,509
							Sub Total	\$46,509
Equipment, Tools, and Supplies								
	Tools and Supplies	Postmortem examinations of 1500 free-ranging animals	Gross inspection, microscopic and microbiologic examination					\$272,617
	Tools and Supplies	Additional specialized testing including toxicology, molecular diagnostics	Some cases will require more in depth testing (such as toxicology, molecular diagnostics and electron microscopy) as determined by clinicians and pathologists					\$103,040
							Sub Total	\$375,657
Capital Expenditures								
							Sub Total	-
Acquisitions and Stewardship								

							Sub Total	-
Travel In Minnesota								
							Sub Total	-
Travel Outside Minnesota								
							Sub Total	-
Printing and Publication								
							Sub Total	-
Other Expenses								
							Sub Total	-
							Grand Total	\$842,000

Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request
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Non ENRTF Funds

Category	Specific Source	Use	Status	Amount
State				
In-Kind	Minnesota Veterinary Diagnostic Laboratory	0.3 FTE of PI	Secured	\$246,093
In-Kind	Department of Natural Resources	100 hours of Dr. Michelle Carstensen	Secured	\$16,200
			State Sub Total	\$262,293
Non-State				
			Non State Sub Total	-
			Funds Total	\$262,293

Total Project Cost: \$1,104,293

This amount accurately reflects total project cost?

Yes

Attachments

Required Attachments

Visual Component

File: [96835663-d53.pdf](#)

Alternate Text for Visual Component

Citizens collaborate with MN DNR and wildlife rehabilitators to help diseased animals and investigate mortality events. The investigation of the animals by pathologists is a highly efficient method of surveilling wildlife populations. The grant aims at providing funding to increase postmortem examinations of wildlife and training of wildlife pathologists....

Supplemental Attachments

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

Title	File
DNR support letter	0058fa44-d42.pdf
VDL Support letter	04eb577a-a7e.pdf
Bell Museum Support Letter	1a29fb88-517.pdf
Dr. Wolf Support Letter	e29921a4-a3e.pdf
Secretary of State Good Standing	5f5132c7-095.pdf
Tax exemption letter	60deb1d8-080.pdf
UMN 2023 Audit	8b9c9d2a-268.pdf
Board Reviewed Financial Statement	dbd16f4c-84f.pdf
U of MN approval letter	2a37d648-92a.pdf

Administrative Use

Does your project include restoration or acquisition of land rights?

No

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:

University of Minnesota - Brett Carlson

