Environment and Natural Resources Trust Fund (ENRTF)
RFP 2024 Proposals Undergoing Peer Review

Proposal ID #	Project Title	Organization	Project Manager	Amount Requested	30 Word Summary	Peer Review Status
2024-036	Reconstructing Historical Wild Rice to Understand Its Future	Science Museum of Minnesota, St. Croix Watershed Research Station	Lienne Sethna	$200,000	We will characterize environmental drivers contributing to the decline of wild rice using lake sediment cores to reconstruct historical wild rice abundance in relation to lake and watershed stressors.	Completed
2024-037	Hyperspectral Characterization of Toxic Harmful Algal Blooms	U of MN, St. Anthony Falls Laboratory	Ardeshir Ebtehaj	$399,000	The project will investigate why, when, and where different species of harmful algal blooms release toxins into the water using hyperspectral microscopic imaging towards developing early warning remote sensing tools.	Completed
2024-044	Characterizing Tree Cavities and Use by Minnesota's Wildlife	U of MN, Duluth - NRRI	Alexis Grinde	$349,000	Pileated Woodpeckers are keystone habitat modifiers that support an array of game, non-game, and conservation concern species. Additional information is needed to understand cavity dynamics for these species.	In Progress
2024-045	Can Increased Tree Diversity Increase Community Diversity?	U of MN, College of Food, Agricultural and Natural Resource Sciences	Marcella Windmuller-Campione	$415,000	While aspen is one of the most dominant forest types, predicted future conditions will negatively impact aspen growth. Increasing tree diversity can provide increase ecological and economic resilience.	Completed
2024-046	Fate of Minnesota's Lakes in the Next Century	U of MN, College of Science and Engineering	Ardeshir Ebtehaj	$499,000	This proposal aims to answer this question: How would the water quality of Minnesota's lakes change in the next century under future scenarios of urbanization, agricultural growth, and climate change?	Completed
2024-048	Turtle Island Skywatchers – Minnesota Research and Data Visualization	Native Skywatchers Inc,	Annette S. Lee	$200,000	Turtle Island Skywatchers - Innovative Research and Data Visualization project works to protect Minnesota water, wildlife, and natural resources while empowering Indigenous youth as leaders and all citizens as researchers.	In Progress
2024-057	Characterization of Chemicals in Structural Fire Wastewater	U of MN, College of Food, Agricultural and Natural Resource Sciences	Grace Wilson	$369,000	The wastewater from extinguishing structural fires will be analyzed to identify and characterize chemicals present and better understand potential toxicity to humans and water systems.	Completed
2024-061	Climate Change and Management Effects on Lake Methane	U of MN, College of Biological Sciences	James Cotner	$599,000	Rising temperatures and increased precipitation contribute to decreased oxygen and increased methane in Minnesota lakes and wetlands. We will identify impacts on water quality and methane emissions, providing management guidance.	Completed
2024-063	Monitoring Minnesota's Insects: Connecting Habitat to Insect Prey	U of MN, College of Food, Agricultural and Natural Resource Sciences	Matthew Petersen	$199,000	The protection of insect-feeding animals is reliant on sustained insect abundance. We will investigate the ecological roles and energy transfer by Minnesota insects and train future insect researchers.	Completed
2024-068	Determining Ambient Background PFAS Concentrations in Minnesota Soils	Minnesota Pollution Control Agency,	Sona Psarska	$655,000	This project determines ambient background per- and polyfluoroalkyl substance (PFAS) levels in urban and non-urban soils. This information will help Minnesota develop management strategies for PFAS contaminated soils.	Completed

Agenda Item 05b

Environment and Natural Resources Trust Fund (ENRTF)
RFP 2024 Proposals Undergoing Peer Review

Proposal ID #	Project Title	Organization	Project Manager	Amount Requested	30 Word Summary	Peer Review Status
2024-071	Investigating Life History Characteristics of Minnesota Elk	MN DNR, Fish and Wildlife Division	Eric Michel	$933,000	We will assess movements, survival, and causes of mortality of Minnesota elk while developing a non-invasive, safer method to estimate population size. This information is important for long-term management efforts.	Completed
2024-073	Enhancing Wastewater Treatment while Bioprospecting for Novel Pharmaceuticals	U of MN, College of Science and Engineering	Timothy LaPara	$690,000	We will generate genome sequences of bacteria growing in wastewater treatment bioreactors, allowing us to improve phosphorus and nitrogen removal from wastewater in Minnesota and to discover novel pharmaceutical compounds.	Completed
2024-083	Voyageurs Wolf Project - Phase III	U of MN, College of Food, Agricultural and Natural Resource Sciences	Joseph Bump	$996,000	Wolf survival and predation in summer are almost unknown but critical to deer, moose, and wolf, management. We'll study wolf predator-prey ecology, share charismatic natural history, and promote Voyageurs' region.	Completed
2024-086	Fluorine Beyond PFAS: Pesticide and Pharmaceutical Degradation	U of MN, College of Science and Engineering	William Arnold	$560,000	The project will assess the fluorinated breakdown products produced from pesticides and pharmaceuticals to identify potentially persistent or toxic byproducts and allow development of sustainable chemistries.	Completed
2024-097	Mitigating the Spread of Invasive Jumping Worms	U of MN, College of Food, Agricultural and Natural Resource Sciences	Vera Krischik	$516,000	Jumping worms are an invasive, exotic that poses a threat to forests by removing soil organic matter and seedlings. It is necessary to develop IPM tactics for mitigating jumping worms.	Completed
2024-108	Minnesota Microbes for Enhanced Biodegradation of Microplastics	U of MN, College of Food, Agricultural and Natural Resource Sciences	Brett Barney	$524,000	We will investigate the potential of natural microbes indigenous to Minnesota to biodegrade conventional plastics in the environment as a means for cleaning contaminated soils and waters across the state.	Completed
2024-158	New Small Mammal Monitoring Methods for Minnesota	U of MN, Duluth - NRRI	Ron Moen	$199,000	We will develop camera trapping methods for small mammals, a new tool in the toolbox to to fill key knowledge gaps in status of Minnesota mammal species.	Completed
2024-164	Visitor Perceptions of Lake Water Quality	U of MN, Humphrey School of Public Affairs	Bonnie Keeler	$411,000	Use mobile AI-assisted technologies to survey lake visitors. Assess perceptions of water quality and perceived threats. Combine survey data with water quality trend monitoring to inform lake management.	Completed
2024-172	Sublethal Effects of Pesticides on Invertebrate Community	U of MN, College of Biological Sciences	Mingzi Xu	$398,000	This project seeks to provide data on pesticide contamination in soil, water and the insect community across the state and the effect of exposure to insecticide exposure on insect reproduction.	Completed
2024-173	Wildfire Impacts on Mercury Cycling in Wilderness Lakes	U of MN, Duluth - NRRI	Christopher Filstrup	$297,000	Increasing wildfires in Minnesota are mobilizing mercury and degrading water in wilderness lakes, potentially causing increased mercury concentrations in fish. We will develop approaches to protect our lakes and fish.	Completed

Environment and Natural Resources Trust Fund (ENRTF)
RFP 2024 Proposals Undergoing Peer Review

Proposal ID #	Project Title	Organization	Project Manager	Amount Requested	30 Word Summary	Peer Review Status
2024-175	Enabling Nature to Destroy Environmental PFAS Contaminants	U of MN, College of Biological Sciences	Romas Kazlauskas	$378,000	Low-levels of perfluoroalkyl substances (PFAS) contaminate water and soil in Minnesota. We propose to identify enzymes and microbes that break down PFAS, making them non-toxic.	Completed
2024-189	Preventing PFAS and Microplastics Contaminants across Minnesota	U of MN, College of Food, Agricultural and Natural Resource Sciences	Roger Ruan	$722,000	This project helps Minnesota entities that directly or indirectly cause PFAS and microplastics contamination stop the flow of the contaminants by developing strategies to manage solid waste streams.	Completed
2024-193	Understanding Native Fishes in the Bowfishing Era	U of MN, Duluth	Alec Lackmann	$588,000	Minnesotans increasingly value native fishes. For example, >95% of bowfished species in MN are native, yet all are poorly understood. Foundational natural resource data is absolutely necessary for all stakeholders.	Completed
2024-198	Early Detection of Invasive Viruses in Native Pollinators	U of MN, College of Veterinary Medicine	Declan Schroeder	$200,000	Forewarned is Forearmed: Our goal is to protect the newly described MN DNR native bees from invasive virus-derived diseases and population declines.	Completed
2024-215	White-Tailed Deer Movement and Disease in Suburban Areas	U of MN, College of Biological Sciences	Meggan Craft	$699,000	Our project aims to better understand white-tailed deer movement, habitat use, and disease dynamics at the suburban/agricultural interface to inform more efficient deer	Completed
2024-247	Harnessing Cover Crops and Roots for Sustainable Cropping	U of MN, College of Food, Agricultural and Natural Resource Sciences	Axel Garcia y Garcia	$375,000	This project proposes to increase the adoption of cover cropping in southern Minnesota to address issues of loss of diversity and environmental degradation. By generating important information on cover crops,	Completed
2024-251	Effects of Conservation Grazing on Solar Pollinator Habitat	Minnesota Native Landscapes,	Daniel Tix	$88,000	This research will analyze the effects of sheep grazing and mowing on the vegetation of solar sites that have been managed for pollinator habitat	Completed
2024-255	Road Salt Pollution of Surface Waters from Groundwater	U of MN, College of Science and Engineering	John Gulliver	$689,000	We propose identifying hot spots of groundwater chloride pollution of surface waters due to excessive road salt use, which is a long term source increasing chloride impairment of surface waters.	Completed
2024-269	Are Stream Restoration Efforts Effective? An Evidence-Based Assessment.	Saint Mary's University,	Andrew Robertson	$200,000	Assessing stream habitat improvement projects to improve trout populations and stream health in the Driftless Area.	Completed
2024-278	Genetic Detection of Endangered Mussels in the Mississippi	US Geological Survey, Ohio Water Microbiology Lab	Lauren Lynch	$241,000	This project will create and optimize eDNA assays to detect the presence of 8 endangered or threatened mussel species around Buffalo Slough near Prairie Island Indian Community.	Withdrawn
2024-279	Uncovering the Past to Protect Minnesota's Walleye Fisheries	Science Museum of Minnesota, St. Croix Watershed Research Station	Adam Heathcote	$1,121,000	We will reconstruct historical lake conditions to identify factors linked to successful walleye fisheries and guide effective management in the face of warming temperatures, invasive species, and nutrient loading.	Completed
2024-296	Integrated Population Modeling for Trumpeter Swans	U of MN, College of Food, Agricultural and Natural Resource Sciences	Todd Arnold	$180,000	We will compile all available data for Minnesota Trumpeter Swans and use these sources to model historical population abundance and predict future population dynamics.	Completed