

**2019 Environment and Natural Resources Trust Fund Proposals Selected to Present**

For the FY 2020 and FY 2021 biennium (July 1, 2019 - June 30, 2021), approximately \$59 million\* is available each year for funding from the Environment and Natural Resources Trust Fund. As of April 11, 2018, the Legislative-Citizen Commission on Minnesota Resources (LCCMR) received 273 proposals requesting a total of approximately \$191 million. This RFP process is for funding beginning July 1, 2019.

LCCMR reviews and evaluates all proposals against their 10 adopted evaluation criteria. On June 5, members selected a subset of 110 high-ranking proposals to invite for presentation before the LCCMR on June 19, 20, 21, 26 and 27 in order to receive further consideration. On July 17-18, LCCMR then makes final selection and funding allocation decisions. These selected projects are presented to the 2019 Minnesota Legislature as the official LCCMR recommendations for spending from the Environment and Natural Resources Trust Fund.

\*to be revised after June 30, 2018

ENRTF ID #	Last Name	First Name	Title	Summary	Organization	\$ Requested
<b>A. Foundational Natural Resource Data and Information (SELECTED TO PRESENT: 17 Proposals / Subtotal = \$15,768,908)</b>						
001-A	Carlson	Bruce	Minnesota Biological Survey – Continuation	MBS proposes baseline biological field surveys in three northern counties; targeted field surveys of sensitive plant species, pollinators, and plant communities; digital maps; book drafts; technical guidance; and data management.	MN DNR	\$2,987,000
002-A	Lusardi	Barbara	Minnesota Geological Survey Geologic Atlases for Water Resource Management	Geologic atlases provide maps/databases essential for improved management of ground and surface water. This proposal will complete current projects and start new projects to equal about 10 complete atlases.	U of MN - MN Geological Survey	\$4,121,625
003-A	Davis	Mike	Restoring Native Mussels in Streams and Lakes	Restore native freshwater mussel assemblages in the Mississippi, Cedar, and Canon rivers to provide necessary ecosystem services, expand imperiled species populations, and inform the public on mussels and their conservation.	MN DNR	\$735,981
004-A	Texler	Hannah	Minnesotas Ecological Monitoring Network - Continuation	The project will expand upon the statewide network of permanent ecological monitoring plots developed in 2017 to track long-term status and trends in Minnesotas prairies, forests and wetlands.	MN DNR	\$696,004
005-A	Etterson	Matthew	Mercury and PFAS Risk to Minnesota Raptors	We will quantify exposure to two contaminants for 12 Minnesota raptors. Polyfluoralkyl substances (PFAS) and methylmercury (Hg) are bioaccumulative toxicants that cause reproductive failure in birds.	Hawk Ridge Bird Observatory	\$282,093
006-A	Johnson	Lucinda	Optimizing Minnesotas Forest Products and Ecosystem Services	To ensure a healthy forest industry we will provide data and tools to help identify the optimal uses of forest resources, considering both goods (bioproducts) and services (habitat, clean water).	U of MN - Duluth	\$789,649
007-A	Nordquist	Gerda	Wild Bee Surveys in Minnesotas Forest Habitats	Wild bee surveys will extend into the coniferous-deciduous forest region of Minnesota. Information will augment the state list of wild bees documented from the prairie and broadleaf forest regions.	MN DNR	\$636,044

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008-A	Sindt	Tony	Phase-II: Enhancing Understanding of the Minnesota River Ecosystem	Phase-II will build upon and expand efforts of phase-I to enhance understanding of plankton, Paddlefish, spawning success, backwater habitats, and more in the Minnesota River.	MN DNR	\$598,241
010-A	Kloiber	Steve	A Better System for Wetland Inventory Data Stewardship	The state spent \$7 million to update the wetland inventory for Minnesota. We propose to develop a cost-effective system to streamline ongoing data maintenance and avoid another expensive future overhaul.	MN DNR	\$291,000
012-A	Reavie	Euan	Conserving Lake Trout in Minnesota	Determine long-term causes of fish loss and develop management recommendations for rehabilitation of coldwater fisheries in hundreds of lakes. A collaboration with the MNDNR to enhance the sentinel lakes program.	U of MN - Duluth	\$782,549
014-A	Andersen	David	Minnesota Trumpeter Swan Migration Ecology and Conservation	We propose to radio-mark and monitor movements of Minnesota trumpeter swans to provide foundational information necessary for management and conservation.	U of MN	\$414,372
015-A	Nordquist	Gerda	Minnesotas Imperiled Bats - Protecting the Survivors	Winter and summer roost sites, supporting bat species that have been impacted by White-nose Syndrome, will be inventoried and evaluated for their importance to bats surviving WNS.	MN DNR	\$208,331
016-A	Ponder	Julia	Spruce Grouse: Sentinels for Boreal Forest Connectivity	Our primary objective is to understand how to harvest timber in the boreal forest in a way that enables species with limited movements to thrive in a changing landscape.	U of MN	\$361,630
018-A	Wolf	Tiffany	Next Step in Helping Minnesota's Moose: Understand Brainworm Transmission to Find Solutions	A 2017 workshop determined we don't know enough about brainworm transmission to moose and what mitigation strategies are optimal. We've assembled a multidisciplinary team to tackle the highest research priorities.	U of MN	\$434,186
021-A	Roy	Charlotte	Grasslands, Grazing, and Greater Prairie-chickens: Testing Trade-offs	Our study will determine whether grazing to meet conservation objectives has trade-offs for ground-nesting birds, like Greater Prairie-chickens, that should be considered in planning and implementation.	MN DNR	\$392,065
025-A	McCann	Nicholas	Mapping Habitat Use and Disease of Urban Carnivores	We will map habitat and diseases of urban foxes and coyotes to understand what they need to live and risks posed to people and pets, thereby demystifying them for residents.	U of MN	\$657,159
027-A	Arends	Heather	Accelerated Aggregate Resource Mapping	To map the aggregate resource potential of 6 counties. Each county has passed a county board resolution requesting this work to be completed.	MN DNR	\$1,380,979
<b>A. Foundational Natural Resource Data and Information</b>						
<b>H. Proposals seeking \$200,000 or less in funding (SELECTED TO PRESENT: 8 Proposals / Subtotal = \$1,380,754)</b>						

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ENRTF ID #	Last Name	First Name	Title	Summary	Organization	\$ Requested
028-AH	Shaw	Dan	Minnesota Restoration Mapping and Pollinator Protection	Statewide mapping using GIS layers, updated ranges of at-risk species, and action plans will provide local conservation planners with a foundation of information for targeted pollinator protection and restoration investments.	Minnesota Board of Water and Soil Resources	\$199,898
029-AH	Smith	Erik	Protecting Minnesota's Cold-Water Fish into the Future	Cold-water fish are threatened by low oxygen and warming waters across Minnesota lakes. Warming cannot be stopped, but nutrient runoff that contributes to oxygen depletion can be improved.	USGS	\$168,760
030-AH	Moen	Ron	City Bats and Country Bats - Whats the difference?	Urban and suburban bat populations may be larger than generally thought. We will use acoustic detectors and telemetry to improve knowledge about bat populations and benefits to human society.	U of MN - Duluth	\$200,000
031-AH	Hansen	Gretchen	Walleye Habitat Status to Guide and Prioritize Management	To guide walleye management, we will quantify walleye habitat, evaluate walleye population status relative to habitat potential, and assess sensitivity to changing water clarity and temperature in 1,400 walleye lakes.	MN DNR	\$198,784
032-AH	Moen	Ron	Artificial Den Boxes for Fishers	DNR data show that fisher in Minnesota have declined 50% since 2000. Den sites may be limiting reproduction. We will test if den boxes can help the fisher population increase.	U of MN - Duluth	\$190,000
034-AH	Andersen	David	Red-headed Woodpeckers: Indicators of Oak Savanna Health	Red-headed woodpeckers are a flagship species of threatened oak savannas in Minnesota. We aim to better understand red-headed woodpecker population ecology and develop a unified management plan for restoration.	U of MN	\$171,000
035-AH	Hall	Kristin	Implementing Conservation Plans for Avian Species of Concern	Establishing monitoring sites to implement Conservation Plans for selected focal species using information from the statewide marshbird survey and the Breeding Bird Atlas focused within existing Important Bird Areas.	Audubon Minnesota	\$124,500
038-AH	Bump	Joseph	Aquatic Habitats for Moose and Enhanced Lake Foodwebs	Data is needed about which aquatic habitats moose prefer and how moose can potentially enhance nearshore lake foodwebs. This project will map critical aquatic habitats and measure lake foodweb effects.	U of MN	\$199,600
039-AH	Kipfmuller	Kurt	Foundational Ecological Information for Tribal Fire Management	The collection and development of tree-ring records for traditional Ojibwe lands to inform long-term adaptive management of 7.5 million acres of fire-dependent forests in Minnesota.	U of MN	\$182,860
046-AH	Veraguth	Patrick	Improving Statewide GIS Data by Restoring the PLS	Restoring the Public Land Survey (PLS) will improve foundational GIS data that resource managers and citizens utilize on ENRTF projects and conservation easements.	Minnesota Association of County Surveyors	\$135,250
<b>B. Water Resources (SELECTED TO PRESENT: 22 Proposals / Subtotal = \$8,280,509)</b>						

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048-B	Arnold	William	Neonicotinoid Insecticides: Occurrence And Influence on Algal Blooms	The potential of neonicotinoid insecticides to initiate algal blooms will be tested by measuring the occurrence of neonicotinoids and their breakdown products in Minnesota's surface and ground waters.	U of MN	\$356,000
049-B	Arnold	William	Benign Design: Environmental Studies Leading to Sustainable Pharmaceuticals	We will identify wastewater treatment and natural processes that prevent the formation of highly toxic byproducts from fluoro-pharmaceuticals. This will lead to improved treatment and rules for better pharmaceutical design.	U of MN	\$415,300
050-B	Babcock	Laura	Wastewater Nutrient Reduction through Industrial Source Reduction Assistance	Provide industrial, source reduction technical assistance to reduce nutrient discharge to wastewater treatment facilities through industrial process optimization. Document impact of nutrient reduction on wastewater operations and discharge quality.	U of MN	\$278,000
051-B	Schreiner	Kathryn	Quantifying Microplastics in Minnesotas Inland Aquatic Ecosystems	We propose to quantify the amount, type, and source of microplastics in the water, sediment, and fishes of a range of Minnesota lakes in collaboration with MN DNR.	U of MN - Duluth	\$277,419
052-B	Novak	Paige	Outstate Wastewater: Improving Nitrogen Removal in Treatment Ponds	This research will help the State of Minnesota understand how to improve the nitrogen removal of wastewater treatment ponds when needed, protecting outstate surface water quality and groundwater safety.	U of MN	\$402,033
053-B	Novak	Paige	Stimulating Bacteria to Degrade Chlorinated Industrial Contaminants	Sites contaminated with chlorinated industrial pollutants are a significant problem in Minnesota. We will determine the best way to stimulate bacteria for faster and more complete pollutant dechlorination.	U of MN	\$252,884
054-B	Hozalski	Raymond	Improving Drinking Water for Minnesotans through Pollution Prevention	This research will reduce exposure of Minnesotans to toxic, cancer-causing chemicals by identifying and curbing key pollutant sources in the Upper Mississippi River watershed and improving drinking water treatment.	U of MN	\$345,778
055-B	Simcik	Matt	Protecting Minnesota Waters by Removing Contaminants from Wastewater	Wastewater contains many environmental contaminants including pharmaceuticals, personal-care products, PFAS and micro-plastics. They are not removed by treatment plants. We propose to remove them using commercially available drinking water coagulants.	U of MN	\$345,877
057-B	Elias	Mikael	Harnessing Minnesota's Biological Resources for Cleaner Waters	We propose to harness the potential of newly discovered proteins from Minnesota ecosystems that turns environmental, toxic pollutants into harmless compounds to protect our state waters quality.	U of MN	\$388,000
058-B	Kyser	Scott	Reducing Municipal Wastewater Mercury Pollution to Lake Superior	This technology transfer project helps the municipal wastewater plants in the Lake Superior basin reduce mercury pollution and save money.	Minnesota Pollution Control Agency	\$297,000

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061-B	Hillmyer	Marc	Membranes for Removing Toxic Metals from Mining Wastewater	We will develop, test, and implement new highly-selective membranes for the removal of toxic metals in mining wastewater treatment facilities to help ensure long-term safety of Minnesota mining operations.	U of MN	\$449,203
062-B	Hu	Bo	Phytoremediation for Extracting Deicing Salt from Roadside Soils	We propose to study native plants that can adsorb salts to be planted on the roadside to address the environmental concerns over deicing road salts.	U of MN	\$360,231
063-B	Valentas	Kenneth	Removing Phosphorous from Draintile Water Discharge- Phase II	In our previous LCCMR project, a metal modified char effectively removed phosphorous from water at laboratory scale. Phase II scale-up, in collaboration with NRRI, will culminate with a field trial.	U of MN	\$398,000
064-B	Barney	Brett	Transformation of Plastic Waste into a Valued Resource	We will develop technologies that utilize indigenous microbes to convert waste plastics into useful chemical compounds and fuels, lowering the likelihood that these materials end up in our environment.	U of MN	\$308,000
066-B	Norris	Doug	Improving Wetland and Groundwater Management Through Hydrologic Monitoring	This project will acquire and install the equipment needed for a long-term wetland hydrology monitoring network to improve understanding of wetland hydrology and groundwater interaction, leading to improved management.	MN DNR	\$573,661
067-B	Gulliver	John	Eliminating Nitrate in Drain Tile Runoff	To develop a technology to convert nitrate from drain tile discharge to nitrogen gas, thus providing low-cost treatment and helping the farm community protect water resources.	U of MN	\$398,623
072-B	Fuchs	Dennis	Accelerating Perennial Crop Production to Prevent Nitrate Leaching	Reducing nitrate leaching on sandy soils of central Minnesota by developing water-efficient production methods, supply chains, and end-use markets for three profitable perennial crops: Kernza, prairie, and alfalfa.	Stearns County Soil and Water Conservation District	\$448,905
076-B	Olander	Keith	Farm-Ready Cover Crops for Protecting Water Quality	We will implement an economically-viable, farm-based strategy to protect water quality across more than 100,000 acres of vulnerable wellhead protection regions using cover crops in corn-soybean rotation.	Central Lakes College - Ag and Energy Center	\$741,184
077-B	Nieber	John	Setting Realistic Nitrate BMP Goals in Southeast Minnesota	Advanced tools are needed which provide critical timelag and feedback information for making environmental policy decisions, as Minnesota prepares to launch the Groundwater Protection Rule and nutrient reduction strategies.	U of MN	\$444,000
082-B	Smith	Tim	Evaluating Long-Term Success of Wetland Hydrology Restoration	An evaluation of the long-term sustainability of twenty wetlands restored through RIM and wetland banking in Southern Minnesota by assessing the current hydrologic condition against a planned and reference condition.	Board of Water and Soil Resources	\$294,662

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085-B	Almendinger	James	The Future of Groundwater Supply	Future groundwater supply -- crucial for sustaining Minnesota's lakes, streams, and drinking water -- will be forecast for a region of east-central Minnesota sensitive to groundwater inputs.	Science Museum of Minnesota	\$280,000
097-B	Goehring	Julie	Reducing Nitrate Harm in the Red River Basin	RRB subsurface drainage has increased along with toxic surface water nitrate concentrations. BMPs using 2-stage ditches, cattail harvest applied back to fields will reduce water quality impacts, improve soil health.	Red River Basin Commission	\$225,749
<b>B. Water Resources</b>						
<b>H. Proposals seeking \$200,000 or less in funding (SELECTED TO PRESENT: 6 Proposals / Subtotal = \$909,430)</b>						
100-BH	Ulrich	Jason	Repurposing Unprofitable Cropland: Water and Wildlife's Silver Bullet?	We propose conducting the first statewide analysis mapping the extent of Minnesota's unprofitable cropland and estimating both the water-quality and habitat benefits of converting these lands to perennial crops/vegetation.	Science Museum of Minnesota, St. Croix Watershed Research Station	\$199,618
101-BH	Chun	Chanlan	Evaluating Locally-Sourced Sanding Materials for Road Salt Reduction	The project will evaluate the effectiveness and benefits/impacts of locally sourced woodchip, corncob, and iron-bearing minerals as alternative effective abrasive materials to lower salt use for protecting Minnesota's water resources.	U of MN - Duluth	\$162,445
102-BH	Putzier	Paul	Minnesota Spring Inventory Final Phase	The project will complete the Minnesota Spring Inventory, identifying, cataloging and assisting in the protection of important water springs threatened by overuse of groundwater, development, land-use changes, and changing climate.	MN DNR	\$71,000
103-BH	Cai	Meijun	Using Local Iron Byproducts to Remove Surface-water Phosphorus	We will use local iron byproducts to remove phosphorus from agricultural drainage, lakes, and streams exhibiting eutrophication. Project results will identify cost-effective materials for water treatment applications.	U of MN - Duluth	\$195,216
106-BH	Dickhart	Andrew	Citizen-Aided Carp Management: Overcoming Roadblocks to Lake Restoration	Citizens will be enlisted to field-test a new method of managing carp to restore an impaired lake. Water quality & cost-effectiveness will be quantified to inform statewide implementation.	Carver County Water Management Organization (CCWMO)	\$106,151
116-BH	Nemmers	Troy	Spring Biological Nitrate Removal to Protect Drinking Water	Fairmont's drinking water safety is threatened by high springtime nitrate levels. Fairmont intends to build an experimental passive biological treatment system to reduce nitrates that enter its source water supply.	City of Fairmont	\$175,000
<b>C. Environmental Education (SELECTED TO PRESENT: 6 Proposals / Subtotal = \$3,486,094)</b>						
119-C	Hamilton	Patrick	Water Lab: Engaging Minnesotans in Water Quality Challenges	Water Lab would enable the Science Museum's 600,000 annual Minnesota visitors to conduct hands-on water analyses, learn about citizen water monitoring opportunities, and access near real-time statewide water quality information.	Science Museum of Minnesota	\$830,000

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120-C	Mercer-Taylor	Beth	GreenStep Schools: Statewide Program, 20 School District Pilot	Minnesota GreenStep Schools Program gets students, school staff and communities learning about the environment as they explore their school's built and natural infrastructure while saving energy, water, waste, and habitat.	U of MN	\$992,959
121-C	Grilley	Dorian	Environmental Learning by Bicycle for Ages 8-80	Environmental Learning by Bicycle will teach 5,000 children and adults to safely bicycle in their communities while exploring local trails, learning about natural resources, and appreciating nearby parks.	Bicycle Alliance of Minnesota	\$393,000
122-C	Jones	Isiah	Camp Sunrise: Respect Self, Others and the Environment	Camp Sunrise is an integrated environmental education program for economically disadvantaged youth. This innovative camp experience allows children a hands-on program to understand their impact on the environment and nature.	YouthCARE MN	\$237,000
123-C	Legato	Denise	Increasing Diversity in Environmental Careers: Fellowships, Internships, Mentorships	This project provides a college to workforce pathway for under-represented students to successfully complete STEM based education and obtain environmental employment by reducing and eliminating barriers.	MN DNR	\$250,000
124-C	Knopf	Chris	Connecting Over 11,000 Students to the Boundary Waters	This project will connect over 11,000 students to the Boundary Waters through classroom education and wilderness canoe experiences, targeting diverse and underserved populations across Minnesota.	Friends of the Boundary Waters Wilderness	\$783,135
<b>C. Environmental Education</b>						
<b>H. Proposals seeking \$200,000 or less in funding (SELECTED TO PRESENT: 1 Proposal / Subtotal = \$199,500)</b>						
143-CH	Hammes	Mary	Mississippi National River & Recreation Area Forest Restoration	This is a forest restoration project within the Mississippi National River and Recreation Area to address the loss of ash trees to EAB and plant 15,000 native trees and plants.	Mississippi Park Connection	\$199,500
<b>D. Aquatic and Terrestrial Invasive Species (SELECTED TO PRESENT: 3 Proposals / Subtotal = \$6,072,871)</b>						
160-D	Phelps	Nicholas	Building Knowledge and Capacity to Solve AIS Problems	MAISRC will launch 12-16 new or continuation projects aimed at solving Minnesota's AIS problems using a competitive RFP process, informed by an annual research needs assessment and stakeholder consultation.	U of MN	\$5,000,000
161-D	Chandler	Monika	Elimination of Target Invasive Plant Species Transition Phase	To prevent environmental and economic damage, we will: 1) Train people to find target invasives; 2) Engage communities and 3) Survey for and control these species before they spread.	Minnesota Department of Agriculture	\$772,871
162-D	Frohnauer	Nick	Invasive Carp Acoustic Deterrence Field Trial at Lock19	This project will support the installation, monitoring, and evaluation of an acoustic deterrence system at Lock and Dam 19 on the Mississippi River to prevent upstream movement of invasive carp.	MN DNR	\$300,000
<b>D. Aquatic and Terrestrial Invasive Species</b>						
<b>H. Proposals seeking \$200,000 or less in funding (SELECTED TO PRESENT: 3 Proposals / Subtotal = \$479,707)</b>						

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168-DH	Ambourn	Angie	Brown Marmorated Stink Bug Phase2: Monitoring & Biocontrol	Brown marmorated stink bug is increasing in Minnesota. This project will expand monitoring to identify areas of spread and establishment, gather data on native parasitoids and begin biocontrol implementation.	Minnesota Department of Agriculture	\$188,707
169-DH	Montgomery	Rebecca	Suppressing Reed Canary Grass with Native Plants	Build on current ENRTF project by testing whether cover crops of native plants suppress recolonizing reed canary grass and foster floodplain forest tree regeneration while creating pollinator habitat	U of MN	\$191,000
173-DH	McLennan	Helen	Oak Wilt Suppression at Northern Edge	Eradicate identified oak wilt at these northern most locations on nine private properties by mechanical means to stop the invasiveness before it spreads to healthy state forests affecting habitat.	Morrison Soil & Water Conservation District	\$100,000
<b>E. Air Quality, Climate Change, and Renewable Energy (SELECTED TO PRESENT: 4 Proposals / Subtotal = \$3,140,299)</b>						
174-E	Edlund	Mark	When the Dust Settles: Pristine Lakes are Changing	Minnesota's most protected lakes are changing without an obvious source of pollution. We need to know if windblown dust is carrying the nutrients that turn these once pristine lakes green.	Science Museum of Minnesota	\$696,667
176-E	Reese	Michael	Development of Clean Energy Storage Systems for Farms	Energy storage systems for farms will be developed using wind-generated ammonia. Novel ammonia fuel systems will be tested in a farm grain dryer and engine generator displacing fossil fuels.	U of MN - WROC	\$994,224
182-E	Heins	Bradley	Optimization of a Net-Zero Dairy System	This project will develop and optimize energy efficient lighting and thermal energy storage systems at the WCROC in Morris, MN.	U of MN - WROC	\$876,706
186-E	ODay	Vicki	White Earth Nation Community Solar for Community Action	Project goals include installation of a 200-kW White Earth community-owned solar garden reducing GHG emissions, increasing economic development through environmental education and solar workforce training, and improving energy resilience.	Rural Renewable Energy Alliance	\$572,702
<b>E. Air Quality, Climate Change, and Renewable Energy</b>						
<b>H. Proposals seeking \$200,000 or less in funding (SELECTED TO PRESENT: 2 Proposals / Subtotal = \$385,013)</b>						
190-EH	Pappenfus	Ted	Sustainable Solar Energy from Agricultural Plant Byproducts	Producing new materials from regional plant byproducts for renewable solar energy. This project engages many students in environmental research; this homegrown technology will ultimately provide affordable energy to Minnesota families.	U of MN - Morris	\$185,018
196-EH	Hill	Blaine	Modeling Energy and Environmental Roadmaps for Minnesota Communities	The City of Morris and several partners will develop a model community for energy and environmental stewardship which will serve as a roadmap for other small communities across the state.	City of Morris	\$199,995
<b>F. Methods to Protect, Restore, and Enhance Land, Water, and Habitat (SELECTED TO PRESENT: 11 Proposals / Subtotal = \$10,251,858)</b>						



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199-F	Aukema	Brian	Eastern Larch Beetle is Decimating Minnesotas Tamarack Forests	Eastern larch beetle is decimating Minnesota's tamarack forests. This proposal focuses on devising insect management techniques and determining how bad this problem may remain in the future.	U of MN	\$382,000
200-F	Reinikainen	Mike	Evaluating Forestry Tools for Conserving Minnesota's Tamarack Forest	Over 440,000 of Minnesota's 1.1 million acres of tamarack forests have been damaged by eastern larch beetle. We will implement and evaluate forestry tools to restore and conserve tamarack forests.	MN DNR	\$864,436
202-F	Runquist	Erik	Saving Endangered Pollinators through Data-Driven Prairie Restoration	Minnesota Zoo, Parks, and TNC will use prairie restorations and Endangered Dakota skipper reintroductions to study factors supporting butterflies and develop foundational habitat management recommendations for Minnesotas imperiled prairie butterflies.	Minnesota Zoo	\$977,813
204-F	Galatowitsch	Susan	Ensuring High-Quality Restoration Outcomes in Minnesota	This project seeks to improve Minnesota restoration quality by 1) designing certification standards for project/organizational excellence, 2) developing guidance for volunteer involvement, and 3) address training gaps in project planning/management.	U of MN	\$529,102
205-F	Main	Rylee	Restoring the Upper Mississippi River at Lake Pepin	Leveraging \$15 million federal dollars to implement a program to improve Lake Pepins gamefish and waterfowl production by restoring 100 acres of terrestrial habitat and 1,000 acres of aquatic habitat.	Lake Pepin Legacy Alliance	\$525,000
207-F	Hernandez	Daniel	Comparison of Burning and Haying for Prairie Restoration	This project will test how the frequency and timing of haying, used alone or combined with prescribed burning, can promote biodiversity and pollinator habitat in prairie.	Carleton College	\$338,111
210-F	Etterson	Julie	Forest Regeneration: Right Seed in the Right Place?	Minnesota forest ecosystems are maintained by continual reforestation efforts. This project will help the DNR determine the best sources of seeds to plant in the diverse habitats of our state.	U of MN - Duluth	\$476,336
212-F	Feeken	Neal	Conserving Minnesota's Best Prairie Habitats and Rarest Species	The project will accelerate management on 30,000 acres of "Biologically Significant" prairie, conduct monitoring of rare prairie species, and develop a comprehensive database of management practices and their impacts.	The Nature Conservancy	\$1,261,500
213-F	Zamora	Diomy	Promoting and Restoring Oak Savanna Using Silvopasture	Oak savanna is imperiled and threatened ecosystem with only 0.2% remaining of historically 5.5 million acres in Minnesota. This project will demonstrate the use of silvopasture to restore this ecosystem.	U of MN	\$1,270,910
221-F	Tuominen	Todd	Elm Creek Stream Restoration Phase IV Final	The final phase of Elm Creek Stream Restoration, includes 1.4 miles of habitat & stream restoration which, flows through the Elm Creek Preservation Area upgradient of the Mill Ponds.	City of Champlin	\$858,650

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225-F	Brethorst	Michael	Sauk River Dam Removal and Rock Rapids Replacement	This project consists of habitat restoration, water quality and fish passage improvements through the removal of the existing fixed elevation dam, construction of rock arch rapids and in-stream habitat restoration.	City of Melrose	\$2,768,000
<b>F. Methods to Protect, Restore, and Enhance Land, Water, and Habitat</b>						
<b>H. Proposals seeking \$200,000 or less in funding (SELECTED TO PRESENT: 3 Proposals / Subtotal = \$522,607)</b>						
231-FH	Jordan	Nicholas	Supporting Pollinators and Prairie Restorations with Beneficial Fungi	We will help managers improve habitat quality of reconstructed prairies for imperiled Monarch butterflies and other declining pollinators by increasing plant access to soil resources via beneficial fungi.	U of MN	\$187,362
232-FH	Zlonis	Katharine	Conservation and Monitoring of Minnesota's Rare Arctic Plants	The North Shore houses completely unique plant communities that are in danger of decline. This project will provide critical monitoring and invasive removal to conserve these rare and endangered plants.	U of MN - Duluth	\$135,541
237-FH	Merkord	Christopher	Combating Woody Encroachment with Grazing after Mechanical Clearing	We will evaluate the potential for cattle grazing to reduce woody vegetation regrowth following mechanical clearing and to enhance biodiversity of grassland species in the Agassiz Beach Ridge core area.	Minnesota State University - Moorhead	\$199,704
<b>G. Land Acquisition for Habitat and Recreation (SELECTED TO PRESENT: 18 Proposals / Subtotal = \$49,816,230)</b>						
247-G	Schulte	Judy	DNR Scientific and Natural Areas	Scientific and Natural Area (SNA) habitat restoration and improvements (1100+ acres), increased public involvement and strategic acquisition (500+ acres) will conserve Minnesota's most unique and rare resources for everyone's benefit.	MN DNR	\$5,758,000
248-G	Mularie	Audrey	Grants for Local Parks, Trails and Natural Areas	Provide approximately 25 matching grants for local parks, acquisition of locally significant natural areas and trails to connect people safely to desirable community locations and regional or state facilities.	MN DNR	\$3,000,000
249-G	Christie	Jennifer	Minnesota State Parks and State Trails In-Holdings	Acquire high priority State Park, Recreation Area and Trail in-holding parcels from willing sellers to protect Minnesota's natural and cultural heritage, enhance outdoor recreation and promote tourism.	MN DNR	\$5,000,000
250-G	Schulte	Judy	Native Prairie Bank Conservation Easements and Landowner Assistance	Native Prairie Bank will provide prairie technical assistance, restore and enhance 1,170 acres, and acquire 300 acres through permanent conservation easements and 300 acres through 15-year agreements from willing sellers.	MN DNR	\$3,828,000
251-G	Skaar	Kent	Minnesota State Trails Development	This project fulfills legislative direction to expand recreational opportunities on Minnesota State Trails through the development of new trail segments; and the rehabilitation and enhancement of existing State Trails.	MN DNR	\$8,750,000

**2019 Environment and Natural Resources Trust Fund Proposals Selected to Present**

<b>ENRTF ID #</b>	<b>Last Name</b>	<b>First Name</b>	<b>Title</b>	<b>Summary</b>	<b>Organization</b>	<b>\$ Requested</b>
252-G	Heggerston	Leah	National Loon Center: State Bird Survival and Protection	National Loon Center dedicated to survival of loon, habitat protection, recreation, and environmental research establishing Minnesota as the premiere destination to experience the freshwater ecosystem we share with native wildlife.	National Loon Center Foundation	\$4,000,000
253-G	Stewart	Nancy	Accessible Fishing Piers	Provide 7-8 accessible fishing piers in locations that have a high potential to serve new angling communities, undeserved populations and anglers with physical disabilities.	MN DNR	\$320,000
254-G	Manzoline	Robert	Mesabi Trail Extensions	Complete the Mesabi Trail by constructing the four remaining trail segments where further described within the Main Proposal.	St. Louis and Lake Counties Regional Railroad Authority	\$5,150,000
256-G	Kennedy	Tim	Britton Peak to Lutsen Mountains Mountain Bike Trail	Sustainably built singletrack mountain bike trail connecting trail clusters that draws new visitors and becomes part of the NE Minnesota efforts to become a national destination for mountain biking.	Superior Cycling Association	\$350,000
257-G	Geissler	John	Preserving the Avon Hills with Reverse-Bidding Easements	Utilize proven cost-saving MMAPLE reverse-bid conservation easement ranking system to permanently protect 650 acres and restore/enhance 400 acres of priority private lands already protected in the Avon Hills.	Saint Johns University	\$2,410,500
258-G	Forbes	DJ	Turning Back to Rivers: Creating Recreation Opportunities	This project will protect land through fee title acquisition along Minnesota's Big Rivers (the Mississippi, St. Croix, and Minnesota) increasing public opportunity for outdoor recreation.	The Trust for Public Land	\$4,792,500
259-G	Greedy	Ross	Restoration of Winona's Prairie Island	The City of Winona aims to improve ecosystem health and provide quality recreation at Prairie Island Park through prairie restoration, tree planting, storm water management, and redesigned access.	City of Winona	\$352,201
264-G	Bissonette	Cathy	Birch Lake Recreation Area Campground	This project consists of expanding the existing Birch Lake Recreation Area to add a new 22 acre campground that will include 49 campsites for recreational vehicles and tent campers.	City of Babbitt	\$700,000
265-G	See-Benes	Britt	Bailey Lake Trail and Fishing Pier	This project consists of the reconstruction of the existing Bailey Lake Trail and construction of a new fishing pier on Bailey Lake.	City of Virginia	\$681,000
266-G	Lammers	Julie	Vergas Long Lake Trail	Long Lake is a community asset for Vergas, enjoyed by residents and visitors alike. This project will construct a trail bordering Long Lake, maintaining public access and restoring the shoreline.	City of Vergas	\$291,111
269-G	Miller	Ryan	Glacial Edge Trail and Downtown Pedestrian Bridge	The project proposes a .48 mile trail along the Otter Tail River in downtown Fergus Falls as well as a 125 ft. long bicycle and pedestrian bridge crossing the river.	City of Fergus Falls	\$602,918

**2019 Environment and Natural Resources Trust Fund Proposals Selected to Present**

<b>ENRTF ID #</b>	<b>Last Name</b>	<b>First Name</b>	<b>Title</b>	<b>Summary</b>	<b>Organization</b>	<b>\$ Requested</b>
270-G	DeFrang	Brian	Winona's 1st Recreation Bridge over Highway 61	Winona's 1st Recreation Bridge over Highway 61 offers safe passage and connects the Mississippi River Trail and downtown bike trails to Bluffside Park and Richard J. Dorer Memorial Hardwood Forest.	City of Winona	\$3,375,000
271-G	Beste	Bruce	Crane Lake to Vermilion Falls Trail	This project consists of designating and improving a 5.6 mile wooded trail from Crane Lake to the Vermilion Falls to accommodate ATV and Snowmobile users.	Voyageur Country ATV	\$455,000
<b>G. Land Acquisition for Habitat and Recreation</b>						
<b>H. Proposals seeking \$200,000 or less in funding (SELECTED TO PRESENT: 1 Proposal / Subtotal = \$191,000)</b>						
272-GH	Caneff	Denny	Making the SHTs Big Bad Five Beautiful Again	To renew the most damaged parts of five sections of the Superior Hiking Trail, and to return the Trail to an abandoned route.	Superior Hiking Trail Association	\$191,000
<b>I. Other (SELECTED TO PRESENT: 1 Proposal / Subtotal = \$135,000)</b>						
273-I	Sherman-Hoehn	Katherine	Contract Agreement Reimbursement	Provide continued contract management and customer service to ENRTF pass-through appropriation recipients. Ensure funds are expended in compliance with appropriation law, state statute, grants policies, and approved work plans.	MN DNR	\$135,000
<b>J. Other (SELECTED TO PRESENT: 2 Proposals / Subtotal = \$1,699,000)</b>						
274-J	Mattson	Nicole	Unlocking the Science of Minnesota's Moose Decline	The Minnesota Zoo will develop educational displays and engaging, hands-on interactives to summarize scientific findings about moose decline in Minnesota. Information will be integrated online to increase accessibility for all.	Minnesota Zoo	\$199,000
275-J	Putzier	Paul	County Geologic Atlases - Part B		MN DNR	\$1,500,000