

ENRTF 2020 Request for Proposal (RFP) - FY2021
Final Proposals Selected to Present by Category with Summaries

For the FY 2020 and FY 2021 biennium (July 1, 2019 - June 30, 2021), approximately \$61 million is available each year for funding from the Environment and Natural Resources Trust Fund. As of April 15, 2019, the Legislative-Citizen Commission on Minnesota Resources (LCCMR) received 290 proposals requesting a total of approximately \$203 million. This RFP process is for funding beginning July 1, 2020.

LCCMR reviews and evaluates all proposals against their 10 adopted evaluation criteria. On June 5, members selected 126 proposals requesting a total of approximately \$127 million to invite in for a presentation before the LCCMR on June 17 & 24-27 in order to receive further consideration. On July 17-18, LCCMR will make final selection and funding allocation decisions. These selected projects will be presented to the 2020 Minnesota Legislature as the official LCCMR recommendations for spending from the Environment and Natural Resources Trust Fund.

Check the LCCMR schedule for the most up-to-date information and important process dates.

ENRTF ID #	Last Name	First Name	Title	Summary	Organization	\$ Requested
A. Foundational Natural Resource Data and Information (SELECTED TO PRESENT: 24 Proposals / \$18,985,833)						
001-A	Lusardi	Barbara	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 - Minnesota Geological Survey	\$ 4,121,625
002-A	Texler	Hannah	Expanding the Minnesota Ecological Monitoring Network	This project proposes to expand the Ecological Monitoring Network by adding 500 plots to inform the conservation and management of Minnesota's native forests, wetlands, and grasslands.	MN DNR	\$ 1,587,134
003-A	Grinde	Alexis	Win-Win Forestry: Maximizing Economic and Ecological Benefits	Experimental research sites will be established to study forest management strategies that maximize ecological and economic benefits between forest products, tree growth, water quality, soil health, and wildlife habitat.	U of MN - Duluth NRRI	\$ 532,733
004-A	Nieber	John	Minnesota; How much Water? How is it Changing?	Accurate water storage estimates (groundwater, soil moisture, streams, lakes, wetlands) are essential to sustainable water management. We will integrate satellite monitoring with traditional ground-based measurements to improve water storage estimates.	U of MN	\$ 529,139
005-A	Drewitz	Matt	Optimizing Land Cover Data for Water Resource Analysis	This project will employ new techniques and technologies to improve the accuracy and usability of the crop land data layer in Minnesota for water resource analysis.	MN Board of Water and Soil Resources	\$ 370,000
007-A	Putzier	Paul	County Groundwater Atlas	The groundwater atlas provides essential fundamental information for sustainable management and wise use of Minnesotas groundwater resources. Atlases are used by citizens, industry, agriculture and all levels of government.	MN DNR	\$ 2,250,000
008-A	Norris	Doug	Foundational Hydrology Data for Wetland Protection and Restoration	This project will improve wetland protection, management and restoration in Minnesota by completing a partially established long-term wetland hydrology monitoring network that will provide critical knowledge of wetland hydrology dynamics.	MN DNR	\$ 461,499
010-A	Groten	Joel	Real-Time Measurements of Nitrate Pollution in Surface Water	Rising nitrates are threatening Minnesota streams, but current methods for measuring nitrates are not robust enough. We propose a multi-agency effort to measure, understand, and communicate nitrates in real-time.	U.S. Geological Survey	\$ 631,800

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014-A	Bump	Joseph	Voyageurs Wolf Project – Phase II	Wolf predation in summer is almost unknown but critical to deer, moose, wolf, and CWD management. With novel, proven methods, we'll study wolf predation in summer and promote Voyageurs' region wildlife.	U of MN	\$ 608,320
016-A	Stapleton	Seth	Expanding Restoration and Promoting Awareness of Native Mussels	The Minnesota Zoo will promote mussel conservation by rearing juvenile mussels for reintroduction, researching methods to improve growth and survival in captivity, and encouraging public action to benefit water quality.	Minnesota Zoological Society	\$ 489,270
017-A	Satyshur	Colleen	Improving Pollinator Conservation by Revealing Habitat Needs	Wild pollinators must survive outdoors during our harsh Minnesota winters. We aim to help them persist by discovering habitats they require for shelter through statewide citizen scientists and novel analyses	U of MN	\$ 615,000
018-A	Schroeder	Declan	Bee Minnesota - Protect our Native Bumblebees	By screening and neutralizing bee pathogens we wish to promote best management practices to maintain honey bee health and prevent pathogen spill-over into native bee populations.	U of MN	\$ 693,000
019-A	Joyce	Michael	Bobcat and Fisher Habitat Use and Interactions	We will describe habitat use, diet, and activity patterns of bobcats and fishers to understand why bobcats kill female fishers and identify potential solutions to reverse the fisher population decline.	U of MN	\$ 440,719
021-A	Duncan	Nancy	Complete Sonar Data Mapping on Three Minnesota Rivers	Acoustic data are compiled into an interactive web map that displays distribution and diversity of underwater habitat helping resource managers better understand underwater features critical to effective management and conservation.	National Park Service	\$ 525,945
022-A	Cuthbert	Francesca	Enhancing Bird and Insect Recovery in Oak Savannas	Our GOALS are to determine the amount, type and intensity of restoration techniques needed to support two unique, imperiled animal communities in Minnesota's oak savannas: birds and insects.	U of MN	\$ 238,000
024-A	Roy	Charlotte	Impacts of Conservation Grazing on Greater Prairie-chickens	Our study will determine whether grazing to meet conservation objectives has trade-offs for ground-nesting birds like Greater Prairie-chickens, a Species of Special Concern, that should be considered and mitigated.	MN DNR	\$ 560,044
025-A	Shaw	Ruth	Healthy Prairies III: Restoring MN prairie plant diversity	We will collect and preserve germplasm of plants throughout Minnesotas prairie region, study microbial effects on them, and discover the scale of local adaptation and the capacity for ongoing adaptation.	U of MN	\$ 1,128,000
026-A	Kiesling	Richard	Estimating Fish Production in Stressed Minnesota Lakes	Using Sentinel Lakes Program data, we will develop a bioenergetics-based method to predict how disruption of primary (algae) and secondary (e.g., zooplankton) production changes fish production in Minnesota Lakes.	U.S. Geological Survey	\$ 416,500
028-A	Mulla	David	Habitat Friendly Solar Impacts: Environmental and Economic Guidance	This project will 1) measure ecosystem and economic benefits of solar installations with pollinator habitat and 2) develop guidance to accelerate the adoption of solar installations that provide these benefits.	U of MN	\$ 751,048
031-A	Wettstein	Shannon	Morrison County Performance Drainage and Hydrology Management Phase II	This proposal, when funded, will enable Morrison SWCD to inventory an additional 4,000 culverts to complete the county wide culvert inventory started in 2016.	Morrison SWCD	\$ 213,300

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034-A	Ferrington	Leonard	Winter Dynamics of Vulnerable Trout Streams: Central Minnesota	We will intensively evaluate brook trout streams that are vulnerable to climate warming, will develop quantitative models to predict most vulnerable streams, assess winter food, movement and refugia for fish.	U of MN	\$ 767,060
037-A	Blanchette	Robert	Foundational Research on Fungi and Protecting Minnesota Trees	Collecting the medicinal fungus "Chaga" in Minnesota results in damage to trees and is being over harvested. This project develops new methods for sustainable production/harvest and characterizes its medicinal properties.	U of MN	\$ 362,196
038-A	Koch	Richard	Taxonomic Survey of Earthworm Species in Minnesota	This proposed 2-year foundational research involves a statewide field survey of earthworm taxa and their distributions throughout Minnesota. Project outcomes include taxa list and distributional maps.	Bemidji State University	\$ 233,501
040-A	Mukku	Venugopal	Freshwater Sponges and AIS: Engaging Citizen Scientists	The project will study the geographical spread, taxonomic diversity and anti-fouling potential of freshwater sponges against aquatic invasive species by involving faculty, students and citizen scientists.	U of MN	\$ 460,000
A. Foundational Natural Resource Data and Information						
H. Proposals Seeking \$200,000 or Less (SELECTED TO PRESENT: 9 Proposals / \$1,731,000)						
047-AH	Windels	Steve	Do Beavers Buffer Against Droughts and Floods?	We propose to use existing data sets to link beaver population data to water storage in beaver ponds, to determine if they buffer against droughts and floods.	Voyageurs National Park	\$ 168,400
048-AH	Quinn	Ed	Enhancing Bat Recovery by Optimizing Artificial Roost Structures	Project will identify characteristics of successful artificial bat roost structures. Data will be used to optimize bat use and reproduction in these structures to improve survival of WNS impacted bats.	MN DNR	\$ 190,271
049-AH	Petersen	Jessica	Tools for Supporting Healthy Ecosystems and Pollinators	This project will create a pollination companion guide to MNDNR's Field Guides to Native Plant Communities for conservation practitioners to better integrate plant-pollinator interactions into natural resource planning and decision-making.	MN DNR	\$ 198,397
051-AH	Sadowsky	Michael	Modern eDNA Technology for Better Game Fish Census	We will develop an inexpensive and rapid eDNA measurement tool to determine the abundance and distribution of Walleye in MN lakes, which greatly enhances current counting methods to manage Walleye.	U of MN	\$ 200,000
056-AH	Bracey	Annie	Conserving Black Terns and Forsters Terns in Minnesota	Black Tern and Forster's Tern populations have declined. Comprehensive assessment of distribution and breeding status will identify population limiting factors for best management practices and prioritizing conservation and restoration efforts.	U of MN - Duluth NRRI	\$ 198,640
058-AH	Downing	John	How to Save the Cisco-Trout Lakes	We will find the mechanism leading to rapid deoxygenation of deep, cold waters, stressing ciscoes and trout in lakes so that the problem can be fixed. The mechanism is unknown.	U of MN - Duluth - Sea Grant	\$ 185,438
062-AH	Petersen	Jessica	Engagement and Monitoring for the Insect Apocalypse	This project will document baseline insect biodiversity across Minnesota by deploying passive interception traps, and engaging with budding insect biologists to sort and identify collected material.	MN DNR	\$ 191,824
064-AH	Onello	Emily	Environmental Factors Influencing Nutritional Content of Wild Rice	This project will establish foundational natural resource data on the nutritional variability of Minnesotas wild rice (Zizania palustris) and explore the influence of growth habitat on the nutritional composition.	U of MN	\$ 198,092

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066-AH	Berman	Jesse	Understanding Environmental Factors that Impact Minnesota Tick Populations	Ticks and tick-borne disease are a major problem in Minnesota. Improved understanding of the environment and tick relationship can reduce risk of disease and inform pest control strategies.	U of MN	\$ 199,938
B. Water Resources (SELECTED TO PRESENT: 19 Proposals / \$11,081,192)						
069-B	Mayer	Terin	Assessing the Value of Green Infrastructure within Minnesota's Water Infrastructure Funding Shortfall	Report on financing water infrastructure through green and grey solutions. Data on where and how natural resource management can address critical infrastructure funding shortfalls while improving habitat and ecosystem services.	U of MN	\$ 384,923
070-B	Edlund	Mark	Unprecedented Change Threatens Minnesotas Pristine Lakes	Why are Minnesota's nicest lakes turning green? We determine what's causing this change and which lakes are most at risk.	Science Museum of Minnesota	\$ 849,392
071-B	Ebtehaj	Ardeshir	Microplastics: Occurrence, Toxins, and Detection with Drones	A baseline survey of microplastic occurrence and toxicity in Minnesota waters will be conducted to establish relationships with watershed attributes and develop cost effective remote sensing tools.	U of MN	\$ 450,000
073-B	Gulliver	John	Preventing Harmful Algal Blooms through Improved Stormwater Detention	Our project will identify assessment strategies for use in developing tools for pond management to limit nutrient release to be adopted by cities, counties, state agencies and watershed management organizations.	U of MN	\$ 619,031
074-B	Elliott	Sarah	Trace Organic Contaminants in Groundwater from Stormwater Infiltration	Organic contaminants may be transported to groundwater from stormwater infiltration. Contaminants may be carried downstream to drinking water sources or receiving streams with unknown consequences for human and ecological health.	U.S. Geological Survey	\$ 910,000
075-B	Finlay	Jacques	Understanding and Managing Persistent Chloride Pollution in Freshwaters	Stormwater systems can retain road salt, releasing it during summer and maximizing chloride impacts on freshwaters. We will collaboratively collect information needed to design stormwater ponds/wetland systems to minimize impacts.	U of MN	\$ 299,000
076-B	Heger	Sara	Reducing Chloride in Minnesota's Water from Water Softening	This project will promote salt reduction through testing non-salt water softening alternatives; developing a residential web-based water softener tool; and working with two communities to implement softener salt reduction strategies.	U of MN	\$ 362,699
078-B	Novak	Paige	Bacterial Starvation for Improved Toxic Contaminant Treatment	We will understand how starvation changes bacterial function, resulting in their more extensive biodegradation of a greater number of contaminants of emerging concern, leading to development of simple treatment systems.	U of MN	\$ 235,854
080-B	Wright	Natasha	Managing Highly Saline Waste from Municipal Water Treatment	We will develop a cost- and energy-efficient method of managing the concentrated saline waste from a municipal desalination plant, increasing the economic feasibility of centralized water softening and sulfate removal.	U of MN	\$ 255,000
082-B	Cotner	James	Is Glyphosate causing harmful Algal Blooms?	This project will determine if the widely used herbicide, glyphosate, is encouraging harmful algal blooms and degrading water quality in our lakes and streams by providing phosphorus to cyanobacteria.	U of MN	\$ 427,000
083-B	Novak	Paige	Technology for Energy-Generating Onsite Industrial Wastewater Treatment	We will develop "off the shelf" technology to treat industrial wastewater onsite, turning pollutants into hydrogen and methane for energy. This will lead to water quality benefits and cost savings.	U of MN	\$ 474,939

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085-B	Almendinger	James	Our Future Drinking Water: Nitrate, Tile, and Climate	We will evaluate how to reduce nitrate in rural drinking water and how tile drainage and climate change impact replenishment of drinking water, i.e., groundwater recharge.	Science Museum of Minnesota	\$ 330,000
086-B	Hozalski	Raymond	Groundwater Microbiology Phase 2: Private Wells	The proposed study will generate critically important knowledge on the microbiological quality of private wells throughout Minnesota, identify risk factors, and provide sound guidance for protecting public health.	U of MN	\$ 499,196
087-B	Penn	Lee	Microplastics: Transporters of Contaminants in Minnesota Waters	Microplastics are ubiquitous environmental contaminants, can transport contaminants of concern (COCs), and pose a major environmental threat. We will determine how microplastics affect contaminant fate and transport in Minnesota waters.	U of MN	\$ 448,630
098-B	Streets	Summer	Developing Strategies to Manage PFAS in Land-Applied Biosolids	This projects helps municipal wastewater plants, landfills, and compost facilities protect human health and the environment by developing strategies to manage per- and polyfluoroalkyl substances (PFAS) in land-applied biosolids.	Minnesota Pollution Control Agency	\$ 1,403,556
104-B	Magner	Joe	Quantifying A New Urban Precipitation/Water Reality	Better understanding of groundwater and surface water interactions will be used to improve future infrastructure planning, reducing damage to home basements and underground infrastructure resulting from recent high water tables.	U of MN	\$ 1,377,893
108-B	Grover	Valerie	Vermillion River Surface Water and Groundwater Nitrate Impacts	Identify ways to improve surface water and groundwater quality along the Vermillion River by developing better understanding of surface water-groundwater interaction; and identifying significant sources contributing nitrate to the subwatershed	Dakota County	\$ 268,000
110-B	Johnson	Heather	Increased Sample Capacity for Analysis of Pesticides	Updating the MDA Laboratory pesticide analytical equipment with the latest technology will increase the capacity for analyzing pesticide water samples and increase the number of pesticides measured per water samples.	Minnesota Department of Agriculture	\$ 736,079
114-B	Keegan	Bill	Innovative Solution for Protecting Minnesota from PFAS contamination	Demonstration of an innovative technology to protect the States drinking water and natural resources by eliminating Perfluoroalkyl and Polyfluoroalkyl substances (PFAS) from point source discharges.	Dem-Con	\$ 750,000
B. Water Resources						
H. Proposals Seeking \$200,000 or Less (SELECTED TO PRESENT: 2 Proposals / \$360,697)						
116-BH	Babcock	Laura	Expanding Protection of Minnesota Water through Industrial Conservation	Decrease water demand in communities at risk for inadequate ground water supply or quality by providing technical assistance to identify cost-effective ways to reduce industrial/commercial water use.	U of MN	\$ 178,430
117-BH	Barry	John	Minnesota Sentinel Springs, Understanding Groundwater Recharge and Chemistry	The sentinel springs project builds foundational data necessary to increase understanding of groundwater and surface water interaction, aquifer recharge, and how changes in agricultural land management can protect water quality.	MN DNR	\$ 182,267
C. Environmental Education (SELECTED TO PRESENT: 8 Proposals / \$4,659,057)						
122-C	Dorn	Cindy	Statewide Environmental Education via Public Television Outdoor Series	Pioneer Public TV will produce 26 new episodes of a statewide outdoor public television series designed to inspire Minnesotans to connect with the outdoors and restore and protect the environment.	Pioneer Public Television	\$ 300,000

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123-C	Edmiston	Julie	Minnesota Freshwater Quest: Environmental Education on State Waterways	30,000 underserved Minnesota youth (6-12 grade) explore and improve their local waterways through the "MN Freshwater Quest"—using freshwater species as the hook for place-based, hands-on environmental education.	Wilderness Inquiry	\$ 1,432,110
124-C	Poppleton	Kristen	TeachScience: Schools as STEM living laboratories	TeachScience will connect new science standards, renewable energy, and STEM opportunities through teacher training and support across the state to prepare students for the challenges and careers of the future.	Climate Generation: A Will Steger Legacy	\$ 368,505
125-C	Loon	Deborah	Mentoring the Next Generation of Conservation Professionals	57 diverse young people will work with and learn from USFWS professionals in paid internships and apprenticeships on the Minnesota Valley National Wildlife Refuge and Wetland Management District.	Minnesota Valley National Wildlife Refuge Trust, Inc.	\$ 755,544
127-C	Reese	Luke	Jay C. Hormel Nature Center Supplemental Teaching Staff	The Jay C. Hormel Nature Center would like to offer its environmental education curriculum to more southeast Minnesota students by hiring an additional naturalist and interns for three years.	City of Austin	\$ 252,898
128-C	Halvorson	Joel	UMD Boreal Observatory at Chik-Wauk on the Gunflint	The University of Minnesota Duluth Boreal Observatory is where the public learns first hand about Minnesota's boreal forest, and future scientists and educators hone their skills.	U of MN - Duluth	\$ 514,865
129-C	Becker	Beth	450 Underserved, Diverse Youth Gain Environmental Education	Increase opportunity for 450 underserved, diverse teens, from urban and first-ring suburbs, to experience and connect to environmental sciences in the natural world through YMCA canoeing/learning expeditions with experienced counselors.	YMCA of the Greater Twin Cities	\$ 428,250
134-C	Bloome	Katie	Restoring Land, Reviving Heritage: Conservation Through Indigenous Culture	By linking natural resource management, cultural heritage, and environmental education, we aim to restore an ecologically significant area of land while fostering multi-generational environmental stewardship and restoration of Indigenous culture.	Belwin Conservancy	\$ 606,885
C. Environmental Education						
H. Proposals Seeking \$200,000 or Less (SELECTED TO PRESENT: 4 Proposals / \$689,758)						
137-CH	Foster	Shelli-Kae	YES! Students Take on Water Quality Challenge Phase-II	YES! teams statewide will mobilize local watershed stewardship efforts in 20 communities through student-driven action projects, filling the urgent need for citizen participation to protect and clean-up Minnesota waters.	Prairie Woods Environmental Learning Center	\$ 199,700
138-CH	Montgomery	Maggie	Engaging Minnesotans with Phenology: Radio, Podcasts, Citizen Science	This project builds next generation conservationists using phenology, radio broadcasts, podcasts, and an online, interactive map interface to inspire teachers, students and the public to get outside and experience nature.	Northern Community Radio, Inc.	\$ 198,478
139-CH	Kalnicky	Emily	Driving Conservation Behavior for Mussels and Water Quality	The Minnesota Zoo will develop research-supported strategies to engage the public in specific conservation behaviors they can take in order to improve water quality and mussel health across the state.	Minnesota Zoological Society	\$ 191,580
145-CH	Suss	Ted	River Watch on the Minnesota River	This project continues and expands the high school team-based water quality monitoring project in the Minnesota River basin through which data is collected by students and submitted to MPCA.	Friends of the Minnesota Valley	\$ 100,000
D. Aquatic and Terrestrial Invasive Species (SELECTED TO PRESENT: 9 Proposals / \$17,531,896)						

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155-D	Venette	Robert	Minnesota Invasive Terrestrial Plants and Pests Center (MITPPC) Phase 5	The Minnesota Invasive Terrestrial Plants and Pests Center (MITPPC) requests \$7 million to accelerate up to 15 new, high-priority research projects that will lead to better management of invasive species on the land.	U of MN - MITPPC	\$ 7,000,000
156-D	McClannahan	Valerie	Protect Community Forests by Managing Ash for EAB	Project will reduce EAB through community developed management (inventory, canopy assessment, management plan, removal, non-neonicotinoid treatment) and improve their community forest by involving citizens and planting a diversity of trees.	MN DNR	\$ 5,929,174
157-D	Salomon	Christine	White Nose Bat Syndrome Biological Control: Phase 3	Testing of best biocontrol microbes for controlling white nose syndrome (WNS) in bats: Mapping of fungal pathogen, field testing, and assessment of a WNS-free cave with healthy bats	U of MN	\$ 444,636
158-D	Nerbonne	Brian	Applying New Tools and Techniques against Invasive Carp	Invasive carp pose a major threat to Minnesota's rivers and lakes. The Minnesota DNR will apply cutting edge techniques to keep these aquatic pests at bay.	MN DNR	\$ 578,000
159-D	Slesak	Robert	EAB and Black Ash: Maintaining Forests and Benefits	Utilize ongoing experiments to determine longterm EAB impacts on water, vegetation, and wildlife; optimal replacement species and practices for forest diversification; develop indicators and criteria for prioritization of mitigation activities.	U of MN	\$ 774,000
160-D	Chandler	Monika	Tactical Invasive Plant Management Plan Development and Implementation	We will systematically identify, prioritize, coordinate control and eliminate high priority invasive plant infestations.	Minnesota Department of Agriculture	\$ 658,137
161-D	Schrank	Amy	Enhancing Habitat and Diversity in Cattail-Dominated Shorelines	Determine if hybrid cattail removal at the landowner scale benefits nearshore ecological function by experimentally removing cattails from sites in 36 lakes and measuring environmental, vegetation, and fish responses.	U of MN	\$ 582,994
162-D	Oliver	Jonathan	Ticks! A Rising Threat in Minnesota	The Asian longhorned tick will bring disease and economic costs impacting wildlife, livestock, pets, and people. We will build a collaborative surveillance network to detect and limit its spread.	U of MN	\$ 300,000
164-D	Forester	Jeff	Stop Starry Invasion - Community Invasive Species Containment	The destructive invasive algae starry stonewort, discovered in 2015, has now spread to 14 lakes. We hope to contain it in those lakes with boat cleaning stations at all accesses.	Minnesota Lakes and Rivers Advocates	\$ 1,264,955
D. Aquatic and Terrestrial Invasive Species						
H. Proposals Seeking \$200,000 or Less (SELECTED TO PRESENT: 3 Proposals / \$508,095)						
167-DH	Brady	Valerie	How Effective and Protective are AIS Removal Methods?	The best way to prevent AIS spread in Minnesota is to stop the transfer of water and living material between lakes. We will test how well boat cleaning methods work	U of MN - Duluth NRRI	\$ 110,699
168-DH	Edlund	Mark	Invasive Rock Snot Threatens North Shore Streams	We examine the recent spread, origin, cause, and economic and ecological threat of nuisance rock snot formation in North Shore streams and Lake Superior to inform management and outreach.	Science Museum of Minnesota	\$ 197,896
169-DH	Olson	Eric	Rainy Lake Non-native Hybridized Cattail Removal	Eliminate non-native hybridized floating cattail mats, focusing on a 19-acre bog located in Jackfish Bay, that have displaced native vegetation outside of the Voyageurs National Park area on Rainy Lake.	Koochiching SWCD	\$ 199,500
E. Air Quality, Climate Change, and Renewable Energy (SELECTED TO PRESENT: 4 Proposals / \$6,891,749)						

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173-E	Herrmann	Bryan	Storing Renewable Energy in Flow-Battery for Grid Use	The University of Minnesota Morris, Otter Tail Power Company, business and project partners will install a large flow-battery for storing renewable energy and grid optimization, and research the battery's performance.	U of MN - Morris	\$ 3,271,229
176-E	Chen	Paul	Produce Marketable Liquid Fuels from Plastic Wastes	Evaluate and develop conversion technology for production of high quality and marketable liquid fuels from plastic wastes and hence reduce solid pollutants and protect the environment.	U of MN	\$ 383,000
192-E	McCormick	Alon	Phase 2: Integrated Small-Scale Ammonia Synthesis	Make ammonia sustainably for the farm, using renewable energy and with no greenhouse gas emission; phase 2 focuses on a new efficient integrated module made possible with previous advances.	U of MN	\$ 2,108,520
194-E	Gardner	Robert	Minnesota Shrimp Production Using Clean Energy	We propose to develop a modularized shrimp production system that can utilize solar thermal, solar PV, and energy storage to power the energy-intensive process; providing fresh seafood to Minnesota.	U of MN	\$ 1,129,000
E. Air Quality, Climate Change, and Renewable Energy						
H. Proposals Seeking \$200,000 or Less (SELECTED TO PRESENT: 5 Proposals / \$849,258)						
196-EH	Anastasio	Joel	The Beltrami County Climate Vulnerability Assessment	HRDCs project is centered around completing a Climate Vulnerability Assessment for Beltrami County, which encompasses the Red Lake Tribal region, and looks to foster environmental stewardship in our community.	Headwaters Regional Development Commission	\$ 180,000
198-EH	Sarkanen	Simo	Eco-Friendly Plastics from Cloquet Pulp-Mill Lignin	We will reduce environmental pollution from plastics by creating eco-friendly replacements using lignin from the pulp mill in Cloquet. The lignin plastics will be similar in strength to polystyrene.	U of MN	\$ 193,967
199-EH	Rog	April	Diverting Unsold Food from Landfills, Reducing Greenhouse Gases	This project will help us expand a Prepared Foods Donation Program, which will source food donations from restaurants and prevent food from going to landfills; thereby reducing greenhouse gas emission.	Second Harvest Heartland	\$ 130,000
201-EH	Tallaksen	Joel	Identifying Agricultural Energy Consumption and Impacts in Minnesota	This project uses data from multiple sources to analyze current and future agricultural energy use at the county and enterprise levels, filling a key knowledge gap for making system-wide improvements.	U of MN	\$ 146,791
205-EH	Thibert	Jill	Rural Distributed Renewable Energy and Back-Up Power	This project will deploy ten Minnesota designed and manufactured SolarBank (solar/storage) systems, to provide rural energy consumers carbon free energy savings and back-up power during grid outages.	Northwest Renewable Energy LLC	\$ 198,500
F. Methods to Protect, Restore, and Enhance Land, Water, and Habitat (SELECTED TO PRESENT: 9 Proposals / \$4,500,140)						
207-F	Buck	Wiley	Pollinator Central: Habitat improvement with citizen monitoring	Restore / enhance 500 acres of pollinator habitat on 20 traditional and nontraditional sites, from Hastings to St. Cloud, to benefit pollinators and build knowledge of impact through citizen monitoring.	Great River Greening	\$ 981,000
208-F	Huinker	Dane	Prairie to the People: Habitat Restoration and Education	Prairie to the People is a community-based restoration initiative that will permanently restore 60 acres of public green spaces into native prairie and pollinator habitat within Fergus Falls, Minnesota.	Wildlife Forever	\$ 441,128
209-F	Shaw	Dan	Pollinator & Beneficial Insect Strategic Habitat Program	This project address dramatic declines of beneficial insects by building a new BWSR initiative to strategically restore and enhance approximately 1000 acres of diverse native habitat over 100 projects.	MN Board of Water and Soil Resources	\$ 780,500
214-F	Miller	Nathaniel	Marsh Bird Conservation Planning in St. Louis River Estuary	Audubon and partners will develop a landscape scale conservation action plan for the most critical marshes of the St. Louis River Estuary in Northeast Minnesota.	National Audubon Society	\$ 284,068

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215-F	Singsaas	Eric	Lignin-coated Fertilizers for Phosphate Control	This project will test a new natural slow-release fertilizer coating made from processed wood, which will decrease phosphorus runoff from farmland while also storing carbon in soils.	U of MN - Duluth NRRI	\$ 279,382
216-F	Olander	Keith	Implementing Hemp Crop Rotation to Improve Water Quality	We will evaluate how hemp crops may reduce nitrogen contamination of surface and groundwater in conventional crop rotations while demonstrating the environmental and economic benefits of hemp grain production.	Central Lakes College	\$ 740,000
218-F	Cates	Anna	Developing Cover Crop Systems for Sugarbeet Production	Cover crops in sugarbeet production can reduce erosion and nutrient loss from agroecosystems in West-Central and Northwest Minnesota. Developing agronomic guidelines will support growers adopting sustainable practices.	U of MN	\$ 300,546
219-F	Aukema	Brian	Native Eastern Larch Beetle is Decimating Minnesotas Tamarack Forests	Eastern larch beetle, native to Minnesota, is suddenly decimating Minnesota's tamarack forests. This proposal develops insect management techniques and determines how bad this problem may remain in the future.	U of MN	\$ 398,180
224-F	Ramirez	Luis	Habitat Associations of Mississippi Bottomland Forest Marsh Birds	This project will determine habitat associations of breeding bottomland forest birds in response to restoration actions along the Mississippi River at the Reno Bottoms outside Reno, MN.	National Audubon Society	\$ 295,336
F. Methods to Protect, Restore, and Enhance Land, Water, and Habitat						
H. Proposals Seeking \$200,000 or Less (SELECTED TO PRESENT: 5 Proposals / \$797,532)						
244-FH	McCormack	Torin	Peatland Restoration in the Lost River State Forest	The project will collect physical attributes from the drained peatlands, incorporate the data into a decision matrix, and generate a report detailing restoration potential throughout the Lost River State Forest.	Roseau River Watershed District	\$ 135,646
245-FH	Montgomery	Rebecca	Prescribed Burning for Brushland-Dependent Species-Phase II	Brushlands provide critical habitat for >250 wildlife species. We compare effects of spring, summer and fall burns on birds and vegetation, providing much needed management guidelines for this key habitat.	U of MN	\$ 147,428
247-FH	Daub	Betsy	Pollinator Habitat Creation Along the Urban Mississippi River	To improve habitat for pollinators and other wildlife, we will remove invasive plants and replace them with high-value native species at three urban sites along the Mississippi River.	Friends of the Mississippi River	\$ 129,297
255-FH	Downing	John	Increase Golden Shiner Production to Protect Aquatic Communities	We propose four strategies to increase Golden Shiner (bait) production in-state because angler demand exceeds production. Suggested importation from out-state creates high risk of introducing aquatic invasive species and disease.	U of MN - Duluth - Sea Grant	\$ 188,161
259-FH	Jenkins	Holly	Restoring Turf to Native Pollinator Gardens Across Metro	Turf to Pollinator Gardens will transition ecologically-degrading turf to native gardens throughout the Regional Park System to provide critical pollinator habitat, long-term stewardship, and help connect diverse populations with nature.	Wilderness in the City	\$ 197,000
G. Land Acquisition for Habitat and Recreation (SELECTED TO PRESENT: 21 Proposals / \$58,494,950)						
261-G	Schulte	Judy	DNR Scientific and Natural Areas	Scientific and Natural Area (SNA) habitat restoration and improvements (1000+ acres), increased public involvement and strategic acquisition (500+ acres) will conserve Minnesota's most unique and rare resources for everyone's benefit.	MN DNR	\$ 5,875,000

ENRTF 2020 Request for Proposal (RFP) - FY2021
Final Proposals Selected to Present by Category with Summaries

ENRTF ID #	Last Name	First Name	Title	Summary	Organization	\$ Requested
262-G	Schulte	Judy	Private Native Prairie Conservation through Native Prairie Bank	Native Prairie Bank will help landowners conserve native prairie through multiple outreach methods, restoration and enhancement of 770 acres, and protection of 150 acres through conservation easements.	MN DNR	\$ 2,280,000
263-G	Christie	Jennifer	Minnesota State Parks and State Trails In-Holdings	Acquire high priority State Park, State Recreation Area and State 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
264-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
265-G	Arvidson	Adam	Mississippi River Aquatic Habitat Restoration and Mussel Reintroduction	MPRB and its scientific partners will undertake a large-scale project to restore lost habitat in the Mississippi River and reintroduce mussels above St. Anthony Falls.	Minneapolis Park and Recreation Board	\$ 2,538,000
266-G	Drotts	Gary	Minnesota Hunter Walking Trails, Public Land Recreational Access	Within Minnesota's ~1,000 hunter walking trail system; restore/upgrade ~200 trailheads and ~80 miles of trail; develop ~20 miles of new trail; and compile enhanced maps for management and public users.	Ruffed Grouse Society	\$ 545,000
267-G	Forbes	DJ	Turning Back to Rivers: Environmental and Recreational Protection	This project will help communities acquire priority land along the Mississippi, St. Croix, and Minnesota Rivers, and their tributaries, protecting the environment and water quality while creating much-needed recreational opportunities.	The Trust for Public Land	\$ 3,803,600
268-G	Mullin	Emmett	Metropolitan Regional Parks System Land Acquisition Phase 6	This project will acquire approximately five properties with high-quality natural resources or strong natural resource restoration potential for the metropolitan Regional Parks System.	Metropolitan Council	\$ 2,500,000
269-G	Skaar	Kent	Minnesota State Trails Development	This project proposes 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	\$ 10,000,000
270-G	Tuominen	Todd	Elm Creek Restoration Phase IV	Elm Creek Habitat Restoration Improvements includes 0.7 miles of habitat and stream restoration up-gradient of the Mill Pond Lakes and flows through the Elm Creek Protection Areas.	City of Champlin	\$ 650,200
271-G	Caneff	Denny	Superior Hiking Trail As Environmental Showcase	Renew the Superior Hiking Trail (SHT) to minimize environmental damage, make it safer for users, and make it more resistant to increased traffic and climate change.	Superior Hiking Trail Association	\$ 450,000
273-G	Rosenthal	Ron	Red Wing Riverfront Trail Connection Project	Red Wing's project is the construction of a pedestrian-bicycle bridge and local recreational trail connector over railroad tracks providing a needed accessible route to a recreational and natural area.	City of Red Wing	\$ 682,000
274-G	Monson	Kjersti	Acquire Riverfront Land at Upper St. Anthony Falls	The City of Minneapolis and Friends of the Lock & Dam seek fee title acquisition of land abutting the Upper Lock for recreational and educational purposes.	Friends of the Lock & Dam	\$ 3,000,000
275-G	Terrill	Tim	Whiskey Creek & Mississippi River Water Quality/Habitat/Recreation Project	Project will purchase 13.8 acres and construct water quality, habitat, and recreational improvements to protect the Mississippi River from contaminants in the 400-acre, highly impervious watershed in Baxter Minnesota.	Mississippi Headwaters Board	\$ 1,470,500

ENRTF 2020 Request for Proposal (RFP) - FY2021
Final Proposals Selected to Present by Category with Summaries

ENRTF ID #	Last Name	First Name	Title	Summary	Organization	\$ Requested
276-G	Grotte	Charles	Perham to Pelican Rapids Regional Trail (West Segment)	Requesting funding for the West Segment (6.83 miles) of the 32-mile Perham to Pelican Rapids Regional Trail that will connect the city of Pelican Rapids to Maplewood State Park.	Otter Tail County	\$ 2,836,000
277-G	Simonson	Ryan	Crow Wing County Community Natural Area Acquisition	Crow Wing County acquisition of three private parcels adjacent to the historic fire tower property will allow for diverse recreational opportunities while protecting wildlife habitat and preventing forest fragmentation.	Crow Wing County	\$ 405,000
278-G	Stenson	Amber	Purchasing 316 acres for Conservation and Agriculture Education	The Food Group seeks to purchase 316 acres of farmland in Washington County to preserve it from development and sustain and expand our organic farmer education program.	The Food Group	\$ 1,500,000
279-G	Weber	Pete	Rocori Trail Phase 3	This project consists of the design and construction of Phase 3 of the Rocori Trail along the old BNSF rail corridor and will connect Cold Spring, Richmond and Rockville.	ROCORI Trail Construction Board	\$ 1,260,000
281-G	Manzoline	Robert	Mesabi Trail; New Trail and Additional Funding	Constructing two new Mesabi Trail segments and one new trail head; and additional funding for trail segments currently in development.	St. Louis and Lake Counties Regional Railroad Authority	\$ 6,337,000
283-G	Gautreaux	Sherril	Ranier Safe Harbor/Transient Dock on Rainy Lake	To construct a dock in Ranier which would accommodate boats 26 feet or longer with the goal of increasing public access for boat recreation on Rainy Lake.	City of Ranier	\$ 762,650
284-G	Janssen	Jim	Crane Lake Voyageurs National Park Campground & Visitors Center	This project consists of the design and construction of a new campground and site preparation/permitting/engineering/design for a new Visitors Center in Crane Lake; the gateway to the Voyageurs National Park.	Town of Crane Lake	\$ 3,600,000
G. Land Acquisition for Habitat and Recreation						
H. Proposals Seeking \$200,000 or Less (SELECTED TO PRESENT: 5 Proposals / \$378,000)						
285-GH	Williams	Scott	Chippewa Acquisition, Recreation and Education	Chippewa County will acquire 51 acres of riverine wetland/floodplain forest complex, floodplain and abandoned gravel pits along the MN River to provide water filtration, education and recreational opportunities.	Chippewa County	\$ 160,000
286-GH	Hasbargen	Bruce	Construction of Pedestrian/Bicycle Bridge on LSSB/GRR	Construction of pedestrian/bicycle bridge over the Mississippi River on Lady Slipper Scenic Byway (LSSB)/Great River Road (Beltrami County HWY39) in Chippewa National Forest, to increase safety and enhance recreation.	Lady Slipper Scenic Byway, Inc.	\$ 133,000
289-GH	Sogard	Ray	Sportsmens Training and Developmental Learning Center	The Minnesota Forest Zone Trappers Association is requesting LCCMR funds to complete a site evaluation and for the development of a master plan for their outdoor educational learning center.	Minnesota Forest Zone Trappers Association	\$ 85,000
I. Other (SELECTED TO PRESENT: 1 Proposal / \$135,000)						
290-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