2017 Environment and Natural Resouces Trust Fund Proposals Received - by Funding Priority Topic Area

181 proposals requesting a total of approximately $142 million were received. This RFP process is for funding available beginning July 1, 2017. For that period, approximately $50 million from the Environment and Natural Resources Trust Fund is currently expected to be available to recommend for project funding, plus an additional $8.4 million remains available for the fiscal year beginning July 1, 2016, due to Governor vetoes in the 2016 funding bill. The LCCMR reviewed, evaluated, and ranked all proposals received. On June 7 the LCCMR selected 88 proposals requesting a total of approximately $86 million to invite in for a presentation before the Commission for further consideration.

In addition to the 88 proposals selected for further consideration thus far, seven projects that were added to the 2016 funding bill by the 2016 Legislature but vetoed by the Governor are being given the opportunity to submit a proposal and give a presentation to the LCCMR for consideration as part of the LCCMR's 2017 funding recommendations process, if these projects choose to do so. Furthermore, 10 proposals that were part of the LCCMR's 2016 recommendations but removed from the funding bill by the Legislature will be given reconsideration when the LCCMR determines its 2017 funding recommendations on July 12 and 13 if the proposer wishes for this to occur. The Legislature also extended the LCCMR's proposal deadline to June 26 for proposals requesting over $750,000, so there may be some additional proposals, yet to be determined, that will also be allowed to present to the LCCMR and be considered for a 2017 funding recommendation.

Proposal presentations are scheduled for June 21, 22, 23, 27, 28, and 29.

to Present	ENRTF ID #	First Name	Proposal Title	Summary	Organization	$ Requested
A. Foundational Natural Resource Data and Information (RECEIVED: 32 Proposals / Subtotal $24,746,469)						
X	001-A	Dale	Minnesota Geological Survey Geologic Atlases for Water Management	Continued acceleration of Part A Geologic Atlases to support water management. The atlas products describe the distribution of earth materials that define aquifers and control surface and groundwater movement.	U of MN - Minnesota Geological Survey	$3,784,700
X	002-A	Bonnie	What are the Public Benefits of Protecting Sourcewater?	Updated maps and data quantifying sourcewater risks, ecosystem service valuation of clean water, and analyses of equity and community capacity will improve decisions about the protection and management of sourcewater.	U of MN	$320,000
X	003-A	David	Minnesota Trumpeter Swan Migration Ecology and Conservation	Obtain information essential to managing Minnesota trumpeter swans, using GPS-GSM satellite transmitters to delineate migration patterns and survival, and year-round habitat use and selection.	U of MN	$462,433
X	004-A	Ruth	Healthy Prairies II: Preserving 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 rate of ongoing adaptation.	U of MN	$938,000
X	005-A	Doug	Enhancing Targeted and Measureable Watershed Restoration and Protection	Enhancing comprehensive watershed planning and implementation by creating data that accurately shows how water flows from one point on the land to another such as a lake, stream or ditch.	Board of Water and Soil Resources	$2,802,000

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X	006-A	Bruce	Minnesota Biological Survey	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	$2,955,861
X	007-A	Catherine	Continue Expansion of the Minnesota Wildflowers Online Botanical Reference	Minnesota Wildflowers Information educates both the public and professionals on Minnesota flora (native and invasive) with an innovative comprehensive image-rich online field guide. Funding accelerates the number of species profiled.	Minnesota Wildflowers Information	$270,470
	008-A	Andrew	Scientific Data Deli: Serving Data for Environmental Innovation	The Scientific Data Deli will provide faster, easier access and use of DNR's scientific datasets to support innovative research and inform better natural resource decisions.	MN DNR	$324,159
X	009-A	Chanlan	Promoting Wild Rice Restoration Success by Examining Microbes	This project will evaluate the microbial communities and nutrients associated with wild rice and competing vegetation, with the goal of promoting restoration success to increase the abundance of wild rice.	U of MN - Duluth NRRI	$334,035
X	010-A	Sarah	Contaminants in Urban Soils: Understanding the Urban Environment	Urban soil chemistry profiles of ambient concentrations of chemicals of concern will be established. These will provide valuable tools to stakeholders striving to maintain the environmental health of their communities.	U. S. Geological Survey	$1,000,000
X	011-A	Timothy	Drainage Records Modernization – Phase II, Cost-Share	2014 LCCCMR 05c project Phase 1 developed GIS database and guidance tools for public drainage records modernization. This Phase 2 project provides cost-share to drainage authorities, requiring minimum 1:1 match.	Board of Water and Soil Resources	$540,000
X	012-A	Hans	Mapping Groundwater Contamination: Accessible Data to Protect Resources	Throughout Minnesota chemical spills have created groundwater contamination. MPCA will share groundwater contamination areas in a web-based interactive map; improving data accessibility to protect our largest source of drinking water.	MPCA	$480,000
X	013-A	Karen	Landslide Hazards and Impacts on Minnesota's Natural Environment	We will create landslide susceptibility maps using a landslide inventory and quantitative analysis of LiDAR to provide tools and data for land managers to make sound mitigation and restoration decisions.	U of MN	$672,408

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	014-A	Scott	Quantifying Color and Fluorescence in Minnesota Waters	Color and fluorescence of natural waters provide highly specific tools for the analysis of lake and river waters. New analytical tools and correlated satellite data can assess Minnesota water quality.	U of MN	$370,000
X	015-A	Mark	Non-Invasive Moose Calf Surveys and Ecosystem Monitoring	Unmanned aerial vehicles will assist natural resource managers in providing better monitoring of ecosystems and non-invasively monitoring our moose population while reducing costs and safety risks relative to manned flights.	U of MN	$348,151
X	016-A	Forest	Cascading Effects of Wolf Recolonization	Investigating costs and benefits of a new wolf pack recolonizing Cedar Creeks well-studied ecosystems near the Metro by tracking wolves and testing their impacts on wildlife, biodiversity, and ecosystem functioning.	U of MN	$398,000
X	017-A	Steve	Effects of Wolves on Beavers, Moose, and Deer	Project will assess wolf hunting behavior on beavers, moose, and deer in the Border Lakes region to understand how availability of beavers can influence wolf predation on moose and deer.	Voyageurs National Park	$293,000
	018-A	Richard	NE Minnesota Environmental Atlas: Turning Data into Information	NRRI will develop an on-line environmental atlas and database for NE Minnesota with data summary, visualization, and analysis tools tailored to the needs of decision makers and natural resource managers.	U of MN - Duluth NRRI	$617,632
	019-A	Joshua	Mapping Heavy Metal Contamination Using Geophysics and Chemistry	This pilot project uses field-based geophysics and chemistry to create high-resolution maps of heavy metal abundances in urban soils. Analysis of microbial communities will determine remediation potential for contaminated sites.	U of MN	$91,945
X	020-A	Marcella	Lowland Conifer Ecosystems: Holistic Assessment for Adaptive Management	Lowland conifer forests are predicted to be especially vulnerable to future threats. This project would provide foundational knowledge on forest productivity, hydrology, and wildlife use, informing and improving sustainable management.	U of MN	$763,702
	021-A	Howard	Including Wildlife Benefits in Forest Planning Models	A collaborative team of experts will identify, test and demonstrate ways of integrating important wildlife habitat considerations into forest planning models used to better understand multi-resource trade-offs and opportunities.	U of MN	$397,750

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	022-A	Eric	Advancing the Forest Bio-Economy in Minnesota	Proposed work provides information and decision making tools to attract advanced wood products and bio-economy industry to Minnesota; fostering economic growth, ensuring forest harvest, sustaining industry and environmental needs.	U of MN - Duluth NRRI	$834,015
	023-A	Daniel	Tracking Minnesota Plant Life below Winter Snow	This project will combine automated measurements of conditions below snow and plant photosynthesis to develop a model of Minnesota plant activity during the winter.	U of MN	$380,000
	024-A	Les	Development of Comprehensive Wetland Restoration Planning Framework	Development of a statewide framework for prioritizing wetland restoration resulting in a prioritization tool based on natural resource data at a watershed scale.	Board of Water and Soil Resources	$600,000
	025-A	Matthew	Healthy Forests and Healthy Deer Populations in Minnesota	We seek to determine the economic and ecological impacts of white-tailed deer populations on the health and productivity of Minnesota's forests.	U of MN	$195,800
	026-A	Laura	Assessing Risks to Public Benefits from Minnesota Forests	Assess and communicate risks to public benefits from forests (e.g., from land-use change, fires), by economically valuing timber, carbon storage, clean water, and recreation. Inform forward-looking management to mitigate risks.	U of MN	$338,000
	027-A	John	Decision Support Tool for Prioritizing Shallow Lake Management	To confront deteriorating water quality, we will develop a decision-support tool to prioritize shallow lakes for management: lakes to protect, actively manage, and lakes where restoration will be costly.	U of MN	$110,347
	028-A	Stephen	Airborne Particulate Characterization Survey: Future Mining's Historic Reference	Collect and characterize ambient air samples where near-term non-ferrous mineral resource development potential is greatest, and create a foundational airborne mineral particulate dataset and archive of samples for future reference.	U of MN - Duluth NRRI	$398,967
	029-A	Rex	Geospatial Airborne Sensor Survey to Manage Water Resources	The Project will capture real time geospatial sensor data; actively manage specific watershed projects; optimize water quality; and minimize pollution attributable to ditch construction using unmanned/manned Lidar equipped aircraft.	Northland Aerospace Foundation	$3,126,779

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to Present	ENRTF ID #	First Name	Proposal Title	Summary	Organization	$ Requested
	030-A	Joshua	Waterfowl Vital Rates in Transition Habitats of Minnesota	This project will evaluate vital rates of waterfowl in a unique breeding region of Minnesota. Unlike other prairie habitats, almost no information exists to manage this savanna-like system.	U.S. Geological Survey - South Dakota Coop Unit and SDSU	$141,120
X	031-A	Venugopal	Minnesota's Freshwater Sponges: Mapping Taxonomy and Environmental Toxicology	Data on sponges in Minnesota are scarce despite their vital role in aquatic ecosystems. This project will determine sponge distribution, identify and quantify accumulated pollutants, strengthen undergraduate research and education.	U of MN	$258,000
	032-A	Wayne	Beetle Status in Old-Growth and Early Successional Habitats	We will assess the status of beetles relevant to conservation of biodiversity, forest health, and pollination, and develop conservation and monitoring recommendations.	Lake Superior Research Institute	$199,195
B. Water Resources (RECEIVED: 46 Proposals / Subtotal $35,369,884)						
X	033-B	William	Household Chemicals as Water Pollutants and Toxic Precursors	Environmental levels of household chemical and herbicide ingredients will be quantified in Minnesota rivers and lakes and their potential to form toxic byproducts will be assessed.	U of MN	$236,000
X	034-B	Paige	Innovative Nitrogen Removal Technology to Protect Water Quality	Ammonia and nitrate in wastewater cause fish toxicity and harmful algal blooms, but removal is expensive and energy intensive. We will develop a technology for inexpensive, low-energy wastewater nitrogen removal.	U of MN	$476,100
X	035-B	Allan	Rearing Native Mussels and Building Water Quality Awareness	The Minnesota Zoo will accelerate the reintroduction of native mussels into Minnesota rivers and streams through expanded mussel rearing, research, and state-wide educational activities promoting mussel conservation and water quality.	Minnesota Zoo	$591,925
X	036-B	Kate	Rural Industrial Water Efficiency Impact on Drinking Water	We will assess regions in greater Minnesota where groundwater pumping likely affects water quality and work with industrial groundwater users to reduce their water footprint, thereby improving local groundwater resources.	U of MN	$282,000
	037-B	Chanlan	Antibiotic Resistance Assessment in St. Louis River Watershed	This project will determine the fate of antibiotic resistance from sources through sewer systems, wastewater treatment, and finally into environment for prioritization of their source control in St. Louis Watershed.	U of MN - Duluth NRRI	$254,576

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X	038-B	Filippo	Removing Plastic Particle Pollution from Minnesota Water Bodies	We tackle the problem of plastic particles polluting water bodies in Minnesota. Our goals are to monitor the particle motion, forecast their pathway, and remove them effectively and inexpensively.	U of MN	$359,540
	039-B	Michele	Developing Sensors for River-Flow Turbidity and Sediment-Transport	The development of a low-cost automated sensor measuring bedload and suspended sediment load in Minnesota rivers is proposed, aiming to extend monitoring and reduce turbidity in the river network.	U of MN - St. Anthony Falls Laboratory	$311,367
	040-B	John	Preventing Phosphorus Pollution from Stormwater Ponds	Stormwater ponds can lose their benefits over time and lead to unintended pollution of downstream environments by phosphorus. This project will develop tools to predict phosphorus release from stormwater ponds.	U of MN	$497,460
	041-B	Peter	Green Technology for Harmful Algal Bloom Remediation	We propose to develop a novel green technology based on electrical discharge plasma in water to simultaneously inactivate harmful blue-green algal blooms and their toxins without non-target effects.	U of MN	$549,967
X	042-B	Przemyslaw	Restoring Agricultural Lakes and Watersheds by Managing Carp	Whole-lake experiments, surveys, and modeling to show when and where carp management is the most effective and economical approach for improving water quality in lakes and streams across south-central Minnesota.	U of MN	$967,100
	043-B	Elizabeth	Sediment and Storm-Water Effects on Lake Superior	UMD scientists will quantify effects of storm inflows on Lake Superior's water quality and ecology (plankton and fish productivity), sharing these results with resource managers to refine stormwater mitigation strategies.	U of MN - Large Lakes Observatory	$428,859
X	044-B	Neal	Responsive Water Quality Monitoring: Southeastern Minnesota Trout Streams	Automated stream samplers, citizen scientists, and biological monitoring will be used to develop an improved, more responsive system to protect valuable at-risk trout streams in southeastern Minnesota from polluted run-off.	Winona State University	$583,980
X	045-B	Eric	Buffer Gap Analysis	We will determine the water-quality effects of Minnesota's 50-foot buffer initiative including gaps in continuity, such as tile drains, alternate practices, and width differences.	Board of Water and Soil Resources	$1,390,656

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X	046-B	John	How Rapidly can Groundwater Quality be Improved?	Aquifers in southeastern Minnesota have continually received excessive doses of anthropomorphic chemicals such as nitrates since WWII. We will estimate how long it will take to make them clean again.	U of MN	$672,000
	047-B	Bojan	Quantifying Depth-Dependent Permeability of Fractured Rock	Fracture permeability will be measured and related to depth below the surface, and this information is essential to protect groundwater from landfills, septic tanks, and other pollution sources.	U of MN	$296,739
X	048-B	Dalma	Reassessing Toxicity of Petroleum Spills with New Technologies	Reassess the toxicology of groundwater and associated surface water impacted by petroleum spills using new technologies. Past toxicity assessments are based on incomplete chemical knowledge and inadequate biological effects data.	University of St. Thomas	$423,189
	049-B	Carl	Agricultural Water Remediation Using Novel Woodchip Bioreactor Technology	We will evaluate the effectiveness of nutrient reduction strategies from drainage water using microbiologically-optimized woodchip bioreactors, which will alleviate the adverse effects associated with eutrophication, hypoxia and harmful algal blooms.	U of MN	$567,000
	050-B	Brett	Phosphorus/Nitrate Recapture through Biofilms for Agricultural Application	We propose to build, operate and demonstrate the effectiveness of modular algal biofilm reactor systems for on-site treatment of impaired waters, removing phosphorus and nitrates to restore these waters.	U of MN	$773,000
X	051-B	Sebastian	New Self-Sustaining Nitrate and Pesticides Removal Biotechnology	In this project we will develop, demonstrate, and apply an efficient, cost-effective, and self-sustaining biofilter technology to remove nitrate and pesticides from contaminated groundwater in Minnesota.	U of MN	$318,162
X	052-B	Raymond	The Minnesota Center for Water Treatment Technology Innovation	Due to aging / inadequate drinking water, wastewater, and stormwater infrastructure, Minnesota's citizens and water resources are at risk. The center will address these problems through research and technology development.	U of MN	$10,306,899
	053-B	Bo	Enhancing Septic Tank Performance by Temperature Control	This project will study the temperature control methods and their effects on the septic tank performance in microbial degradation of organic solids and utilization of carbon, nitrogen and phosphorus.	U of MN	$397,000

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to Present	ENRTF ID #	First Name	Proposal Title	Summary	Organization	$ Requested
X	054-B	Heidi	Preventing Fish Kills by Increasing Understanding	We will 1)map the risk of fish kills in Minnesota lakes and streams and 2)increase knowledge of water quality in southeastern Minnesota through real-time, background and storm event monitoring.	MN DNR	$699,905
X	055-B	Satoshi	Maximizing the Benefits of Water Reuse	The goal of this project is to provide pathogen data needed to maximize the benefits to groundwater resources and surface water quality by eliminating barriers to water reuse.	U of MN	$148,000
	056-B	Amy	Continuous Data to Guide Nitrate Reduction Strategy	Inform Minnesota's strategy to reduce nitrate with analysis of continuously captured data in the Minnesota River Basin so that the strategy can utilize most cost-effective management options.	U of MN - St. Anthony Falls Laboratory	$385,241
	057-B	Gene-Hua Crystal	Predicting Hidden Groundwater Connections Between Land and Lakes	Assess baseline groundwater influence on four representative lakes; Develop groundwater models that predict land-use impacts on lake levels and contamination; Assess scenarios of crop-conversions, irrigation, and fertilization.	U of MN	$408,455
X	058-B	Cari	Sulfate and Metal Removal from Northeast MinnesotaWaters	A sustainable, cost-efficient, and commercially competitive water treatment technology will be developed to remove sulfate and heavy metals from mining-impacted waters in Northeast Minnesota, using real-time sensing and on-site treatment.	U of MN	$298,325
X	059-B	Seth	Chemicals of Emerging Concern in Minnesota Fish	Identification of chemicals of emerging concern (CECs) and metals from fish, water, and sediments from 30 waterbodies in NE MN that are most used for subsistence harvest and MN recreation.	Grand Portage Band of Lake Superior Chippewa	$436,922
	060-B	Kevin	Monitoring Minnesota's Water with Continuous GPS Stations	Using a network of existing GPS stations, Minnesotas total water storage will be estimated, monitored, and predicted to quantify how and where it is changing.	St. Cloud State University	$437,316
	061-B	Andrew	Snowpack-Driven Groundwater Recharge across Minnesota	Snowmelt provides up to 80% of Minnesotas groundwater recharge. We will measure this statewide, build spring recharge forecasts, and find solutions where climate and land-use change impact snowmelt water resources.	U of MN	$453,386

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	062-B	Rusen	Environment-Friendly Nanosensors to Detect Nutrients in Water	Excessive nutrients in water can trigger harmful algal blooms and cause serious environmental problems. We propose to develop environment-friendly nanosensor arrays for simultaneous detection of multiple nutrients in lakes/rivers.	U of MN	$455,026
	063-B	Bo	Development of a Household Decentralized Wastewater Treatment System	This project will study the application of high-rate activated sludge (HRAS) technology to treat the decentralized household wastewater in order to provide better treatment and energy recovery.	U of MN	$322,000
	064-B	Jeff	Assessing Legacy Waters with Advanced Sensors	Installing advanced water quality sensors on Minnesotas main rivers and tributaries, along with an associated econometric analysis on agricultural BMP adoption, will inform Minnesota decision-makers if conservation expenditures are effective.	U of MN - Water Resources Center	$1,568,000
	065-B	Megan	Enhancing DNRs Mineland Water Quality Impact Research, Hibbing	The proposed research will guide mine regulatory decisions to protect state waters by providing valuable information on leachate from regional mine waste materials and improved local climate information.	MN DNR	$442,346
X	066-B	Andrew	Continuous Nitrate Pollution Monitoring at the Kitchen Sink	Provide citizens with an inexpensive, automated, in-home method to instantly test their water for dangerous nitrate levels, and help them to provide these data to state agencies and decision-makers.	U of MN	$276,590
	067-B	Timothy	How Will Changes in Evaporation Impact Our Lakes?	Lake levels in many Northeastern Twin Cities Metropolitan Area Lakes have been at historic low levels. This project examines how evaporation (present/future) impacts lake levels and water resources.	U of MN	$1,197,450
	068-B	Jiarong	Underwater Robots for Hazard Monitoring in Minnesota Lakes	Based on existing underwater robotic technology, the project aims at developing an autonomous system specialized in monitoring Minnesota lake waters for early identification of potential chemical and biological hazards.	U of MN	$442,877
	069-B	John	Shrinking Lake Superior: Water Levels and Community Resilience	Lake Superiors water level is critical to Minnesotas economy. We will provide science to make level predictions, determine critical knowledge gaps, and prepare communities and industries for water level change.	U of MN - Duluth - Sea Grant Program	$324,425

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	070-B	Satoshi	Impact of Migratory Birds on Minnesota Water Quality	We will clarify the impact of waterfowls on biological water quality, and construct a model to predict concentrations of pathogens based on the geese counts and other environmental parameters.	U of MN	$272,000
	071-B	Keith	Alum's Critical Role in Controlling Algae and Phosphorus	Algal bloom reduction requires control of phosphorus accumulated in lakes. Alum is critical to phosphorus control. We will deliver cost benefit, guidance, and outreach on controlling phosphorus through alum treatment.	Barr Engineering Co.	$264,400
	072-B	Carl	Phosphorus Behavior in Northern Minnesota Watersheds	Phosphorus loads to and cycling in Northern Minnesota watersheds is poorly understood. Differences in phosphorus cycling and loading will be determined in lakes where the phosphorus behavior significantly differs.	Bemidji State University	$274,059
	073-B	Ramnath	Smart Water Resource System for Sauk River Watershed	Common, integrated, system for Sauk River Watershed, to gather real-time meteorological and hydrological data, predict water quantity and quality, and provide up-to-date information and decision support for water resource management.	St. Cloud State University	$214,260
X	074-B	Gaston	Measuring Reductions in Nitrate Pollution from Precision Agriculture	Our project will quantify nitrate losses for corn production in drain-tiled fields, comparing next-generation precision agriculture to conventional management methods.	University of St. Thomas	$159,833
	075-B	Craig	Crystal Lake Watershed Nutrient Removal Practices	This water quality project includes a nutrient removal wetland, woodchip bioreactor, and an iron-sand filter to remove sediment, nitrogen, and phosphorus from an impaired public water and lake.	Blue Earth County Drainage Authority	$996,500
	076-B	Jessica	Impacts of Water Quality on Yearling Walleye Survival	Minnesota's walleye fishery is dependent on the survival of juvenile fish. Our study determines the impacts of contaminants on juvenile walleyes, and establishes landscape-based tools for predicting population vulnerability.	St. Cloud State University	$178,000
	077-B	Paula	Addressing Emerging Threats to Coldwater Fish Production	The goal of this project is to protect hatchery fish raised for stocking in Minnesota's waters, by increasing biosecurity at Crystal Springs State Fish Hatchery.	MN DNR	$1,243,059

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	078-B	Tim	Little Sioux Flood Mitigation - Wetlands and Channel Storage	Construct wetland storage basins with low-flow rate control structures, and in-channel storage to provide water treatment and storage for improved water quality and reduced flooding to protect communities downstream.	Jackson County Public Works	$2,787,990
C. Environmental Education (RECEIVED: 27 Proposals / Subtotal $9,684,681)						
X	079-C	Greg	Floating Classroom: Connecting 20,000 Youth to Minnesota Waterways	Floating Classroom reaches 20,000 diverse students statewide on 30+ waterways, engaging them in environmental science education, campsite restoration, data collection and dissemination to earn a resume-building outdoor science certificate.	Wilderness Inquiry	$1,240,730
	080-C	Gina	Diversifying Involvement in the Natural Resources Community II	540 diverse high school-aged youth and families throughout the state participate in outdoor recreation and natural resource experiences and youth are provided with intensive college and career guidance.	MN DNR	$791,825
X	081-C	Kristen	Youth Convening Minnesota	Climate Generations Youth Convening Minnesota (YCM) will partner with 10 communities with youth clubs to engage 5,000 youth with the recognition that their voices are powerful motivators in community conservation.	Climate Generation: A Will Steger Legacy	$310,008
X	082-C	Vikki	Increasing Diversity in Environmental Careers: Fellowships, Internships, Mentorships	Provides comprehensive, continued support to ensure successful pursuit of STEM educations and careers by underrepresented students who will diversify Minnesotas workforce and benefit our natural environemnt for generations to come.	MN DNR	$1,487,519
X	083-C	George	Minnesota Water Stories Told in Digital Planetariums	The Bell Museum will create an interactive planetarium program on water reaching over 400,000 citizens in Duluth, Marshall, Mankato, Minneapolis, Moorhead, Rochester, St. Paul and statewide though portable systems.	U of MN - Bell Museum of Natural History	$622,000
X	084-C	Julia	Bridging Classroom and Outdoor Learning by Studying Birds	We integrate two established educational tools, Raptor Lab and Driven to Discover/Birds, blending classroom learning with outdoor science, to empower teachers to create outdoor learning environments that foster exploration.	U of MN	$270,740

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X	085-C	Stephan	Students Use Local Phenology to Understand Climate Varability	We will partner with nature centers to engage 50 teachers, 1000 youth and 10 communities in recording phenology, e.g. budburst, to understand species vulnerability and devise local climate adaptation strategies.	U of MN	$240,000
	086-C	Mary	Sustainability Immersion Institute for Diverse Pre-University Students	This intensive sustainability summer program engages culturally diverse high school and community college students, teachers, and undergraduate mentors to develop youth-relevant communication of sustainability issues and inspire future career choices.	U of MN	$323,000
X	087-C	Peter	Market Science: Connecting Minnesotans to Environmental Research	This project will support University of Minnesota researchers to bring interactive science activities to farmers markets and classrooms to promote excitement and knowledge of current environmental research.	U of MN	$132,000
	088-C	Sehoya	Educational Game about Water Quality in Minnesota Lakes	University of Minnesota faculty and Andamio Games will collaborate to create “Lake Doc,” a collaborative and educational game for high-school students and museum-going members of the general public.	U of MN	$313,000
	089-C	Ted	Establish a Minnesota River Basin-Wide RiverWatch Program	Create a River Watch program on the Minnesota River through which high school based teams will conduct Water Quality monitoring (and other environmental learning) in accordance with MN-PCA protocols.	Friends of the Minnesota Valley	$285,500
	090-C	John	Pollinator and Clean Water Stewardship through Community Engagement	This project will promote native plantings, increase the capacity of businesses to supply relevant material and expertise, and create a map of pollinator-friendly stormwater best management practices to support research.	Metro Blooms	$252,864
	091-C	Christina	Connecting Minnesota’s Youth to Voyageurs National Park	This project addresses the lack of access to and awareness of Minnesotas Voyageurs National Park through an integrated suite of distance learning, classroom and park-based environmental education programs.	Voyageurs National Park Association	$90,600
X	092-C	Joanna	Bird City - Education for Lasting Conservation	Through Bird City Minnesota, Audubon Minnesota will engage up to 60 communities, at least 400 staff and elected officials and 400,000 citizens to improve habitat and protect birds by 2020.	Audubon Minnesota	$280,000

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	093-C	Ryan	Where are the "Jumping Worms"?	Assessing invasive earthworm distribution across the state through environmental education and public participation in authentic data collection to inform state invasive species policy. Current knowledge on distribution is limited.	U of MN - Duluth NRRI	$92,559
	094-C	James	Developing Scientific and Intellectual Infrastructure for Clean Waters	We will develop tools for answering questions that will help use better manage wetlands and lakes in Minnesota. We will also build a water quality database for students and scientists.	U of MN	$476,000
	095-C	Carol	Preparing Wildlife Champions Program Model for Statewide Expansion	The Zoo will continue its work with high schools to analyze and improve student-led prairie conservation projects for greatest conservation impact and refine the student engagement model for statewide expansion.	Minnesota Zoo	$150,325
	096-C	Lisa	Engaging Communities with K-12 Smart Energy Solutions	Innovative renewable energy charging stations, energy audits, educator trainings and hands-on activities in 12 communities across the state will reduce consumption and accelerate connections addressing air quality and climate impacts.	Windustry	$543,700
	097-C	Nicolas	Soil Kitchen-Minnesota	Soil Kitchen-Minnesota builds a mobile framework for on-site screening of soil lead and soil quality. Experts and citizens create datasets and implement improved recommendations for food production and public health.	U of MN	$218,814
	098-C	Anna	Implementing Identified Climate Adaptation Priorities in Rural Minnesota	We will implement previously-identified climate adaptation projects in Morris, Grand Rapids and Winona, and create tools for more rural communities in Minnesota to develop and implement community-driven climate adaptation plans.	Institute for Agriculture and Trade Policy	$319,735
	099-C	Abby	Race 2 Reduce-Water Conservation for Youth	Race 2 Reduce will reduce personal water use for youth by 20% over a 3 year period. Students will become educated citizens and stewards of water resources.	H2O for Life	$262,920
X	100-C	Susan	Developing Watershed Stewardship in Northwest Minnesota Youth	Headwaters Science Center will implement an inquiry-based multi-year environmental science club for 20 middle school students focused on water quality, watershed evaluation, and aquatic invasive species in Northwestern Minnesota.	Headwaters Science Center	$71,861

2017 Environment and Natural Resouces Trust Fund Proposals Received - by Funding Priority Topic Area

to Present	ENRTF ID #	First Name	Proposal Title	Summary	Organization	$ Requested
X	101-C	Bryan	Providing Residential Environmental Learning Experiences to Under-Served Students	We wish to provide scholarships to serve a minimum of 1,000 under-served Minnesota students for 2-night, 3-day residential environmental learning experiences at the Audubon Center of the North Woods.	Audubon Center of the North Woods	$130,000
	102-C	Marcella	Restoring Resilient Long-Lived Conifer Stands through Experiential Learning	We propose the development of an experiential learning case study which will enhance the existing curriculum in silviculture at the University of Minnesota and Itasca Community College.	U of MN	$126,840
	103-C	Laura	North Minneapolis Blooming Alleys: Resilient Neighborhoods, Clean Water	We improve water quality, create habitat, and transform alleys into usable community space by engaging North Minneapolis residents and students to install and monitor raingardens, permeable pavement, and native plantings.	Cleveland Neighborhood Association	$313,289
	104-C	Alexander	Minnesota Bison Conservation Herd Film	A film documenting the history, state-of-the-art science and human connections involved in Minnesota's attempt to save bison as a wildlife species before it's too late.	MN DNR	$103,852
X	105-C	Adelheid	Northeast Minneapolis Sustainability Incubator	NE Incubator will engage, educate, and empower our diverse community creatively surrounding the causes and impacts of climate change and water quality issues, while also building community resilience.	Holland Neighborhood Improvement Association	$235,000
D. Aquatic and Terrestrial Invasive Species (RECEIVED: 21 Proposals / Subtotal $14,876,263)						
X	106-D	Susan	Using Science to Solve Minnesota's AIS problems - Phase II	10-14 competitive research projects or rapid assessments will be launched to find solutions to Minnesota's top AIS problems through control, prevention, and early detection of existing and emerging AIS threats.	U of MN	$6,100,000
X	107-D	Roger	Implementing Biological Control of Garlic Mustard	Gain approval and implement release of a crown-mining weevil for biological control of garlic mustard in Minnesota; complete testing of a seed–feeding weevil for additional control of garlic mustard.	U of MN	$421,987
X	108-D	Jonathan	EAB Biocontrol Phase III: Assessment and Citizen Engagement	Biocontrol is the best landscape level management option for EAB. We will implement biocontrol using a newly approved parasitic wasp, assess impact of the statewide program and engage citizen volunteers.	Minnesota Department of Agriculture	$729,540

2017 Environment and Natural Resouces Trust Fund Proposals Received - by Funding Priority Topic Area

to Present	ENRTF ID #	First Name	Proposal Title	Summary	Organization	$ Requested
X	109-D	Richard	Quantifying Spiny Waterflea Threats to Minnesota Walleye Lakes	The proposed project will quantify the threats posed by established populations of spiny waterflea (Bythotrephes longimanus) to the sustainability of aquatic ecosystems in vulnerable Minnesota walleye lakes.	U. S. Geological Survey	$1,690,320
	110-D	Lawrence	Natural Products for Protecting Minnesota Natural Resources	We will develop, demonstrate, and disseminate methods to replace the use broad-spectrum pesticides that kill many insects by using natural products that eradicate only undesirable, invasive species insects.	U of MN	$247,000
X	111-D	Michael	New Technology to Control Invasive Carp	We developed a new technology that can significantly reduce or eradicate an invasive species with no harm to native species. We will apply this to control invasive carp.	U of MN	$389,000
X	112-D	Brian	Mountain Pine Beetle Phase II: Protecting Minnesota	Phase I found that mountain pine beetle can kill every species of pine in Minnesota. This insect attacks in numbers. Now we extend surveys and determine minimum number for survival.	U of MN	$384,838
	113-D	Allen	Bioacoustics to Deter and Eliminate Invasive Bigheaded Carp	The next generation of sound based deterent barriers and herding/capture technolgy will be developed, tested and deployed to deter, control and/or eliminate invasive silver and bighead carp.	U of MN - Duluth	$399,934
X	114-D	Bradford	Continuation of Invasive Carp and Native Fish Evaluation	Minnesota DNR will continue Invasive Carp monitoring in the Mississippi River and tributaries, employ advanced acoustic telemetry, and assess food chains to determine how native species prevent Invasive Carp establishment.	MN DNR	$739,064
X	115-D	Tedy	Impact of Zebra Mussels on Mercury in Fish	Invasive zebra mussels have the potential to impact concentrations on toxic mercury in Minnesota's fish. We will study these effects of zebra mussels, helping understand their impact on Minnesota's resources.	U of MN - Duluth	$211,437
	116-D	Paula	Will the Invasive Alga Didymosphenia Degrade Minnesota Waters?	This project assesses the extent of the invasive alga Didymosphenia in Minnesota waters, examines bloom triggers and foodweb implications to lead to prevention and control measures, and includes outreach components.	St. Catherine Universtiy	$207,213

2017 Environment and Natural Resouces Trust Fund Proposals Received - by Funding Priority Topic Area

to Present	ENRTF ID #	First Name	Proposal Title	Summary	Organization	$ Requested
X	117-D	Peter	Acquiring Key Information for a Carp Deterrent System at Lock and Dam #5	We complete an approach to stop invasive carp by perfecting a sound deterrent system while helping the DNR with feasibility studies and the US Army Corps with improving gate operations.	U of MN	$284,000
	118-D	Mark	Conserving Trees and Biodiversity with Strategic EAB Management	EAB is spreading but most of Minnesota is not yet affected. We will measure impacts of tree removal and treatments on EAB populations and non-target organisms to improve management strategies.	Minnesota Department of Agriculture	$708,500
X	119-D	Przemyslaw	Adapting Stream Barriers to Remove Invasive Fish	Field tests at existing barrier sites and laboratory experiments to adapt a recently developed technology to remove invasive carp from streams during their spawning migrations in Minnesota.	U of MN	$381,150
	120-D	Kathryn	Microbial Associates of the Emerald Ash Borer	This project will investigate microbes associated with the invasive Emerald Ash Borer with the goal of identifying strain or chemical compounds that can be used for biological control.	U of MN	$400,000
	121-D	Suzanne	Northward Expansion of Ecologically Damaging Species	This work will predict the future Northern expansion of two species (American bullfrogs and Red-eared slider turtles) that have great potential to negatively alter the fish communities of Minnesota's lakes and streams.	U of MN	$213,000
X	122-D	Monika	Tactical Invasive Plant Management Plan Development	Develop regional priorities and an action plan for invasive plant management to protect and promote habitat and native species.	Minnesota Department of Agriculture	$296,832
X	123-D	Kristin	Maximize Value of Water Impoundments to Wildlife	Water impoundments function as important artificial wetlands for many migrating and breeding birds. We propose to control invasive hybrid cattail which reduces the habitat quality and functionality of these impoundments.	Audubon Minnesota	$195,000
	124-D	Colin	Preventing the Spread of AIS with Decontamination Units	Seven decontamination units would be deployed to prevent the spread of aquatic invasive species on Forest Lake (3), Square Lake, Big Marine Lake, Lake Elmo, and the Saint Croix River.	Washington County	$455,000
	125-D	Adam	A Native Biocontrol for Invasive Hybrid Cattails	Our project will quantify the impact of invasive hybrid cattails on MN wetlands and investigate the effectiveness of reintroduced muskrat populations as a potential native biocontrol.	Kansas State University	$306,728

2017 Environment and Natural Resouces Trust Fund Proposals Received - by Funding Priority Topic Area

to Present	ENRTF ID #	First Name	Proposal Title	Summary	Organization	$ Requested
	126-D	Amy	Commercial Fisheries Management Project	In Minnesota, no harvest quotas exist for commercial fish. Working with the DNR, this 3 year project will determine harvest levels, establish conservation practices, and assist in Asian Carp removal.	Aquatic Research & Conservation Society, Inc.	$115,720
E. Air Quality, Climate Change, and Renewable Energy (RECEIVED: 25 Proposals / Subtotal $15,424,082)						
X	127-E	Peter	Managing for “Climate Smart” Trees and Forests	We’ll fill a knowledge gap by identifying trees likely to be ‘winners’ under future conditions; and use that knowledge to manage forests favoring trees likely to thrive in the future.	U of MN	$385,000
X	128-E	Tianhong	Cheap Solar Energy from Simple Roll-to-Roll Manufacturing	This project is to develop cheap clean solar energy by simple roll-to-roll manufacturing. Perovskite is a new photovoltaic material, very economical while maintaining high power conversion efficiency.	U of MN	$388,852
X	129-E	Ellen	Community-Scale Energy Storage Guide for Clean Energy	Create user-friendly, research-based energy storage guide and decision tools (print and web-based) for community-scale sites with renewable energy and do three geographically dispersed battery storage demonstration projects, through broad stakeholder.	U of MN	$625,478
	130-E	Brett	Harnessing Natural Nitrogen Fixation to Replace Industrial Production	This project will leverage recent success in optimizing a nitrogen-fixing bacterium to construct a sustainable route to cheap biofertilizers by utilizing agricultural residues and waste steams or direct microbial electrosynthesis.	U of MN	$847,000
X	131-E	Filippo	Enabling Extraction of Solar Thermal Energy in Minnesota	This project will develop new Solar Particle Receivers, a low-cost, high-efficiency and clean technology to absorb, store, and utilize solar thermal energy, and show its viability at Minnesotas latitudes.	U of MN	$351,040
X	132-E	Monika	Deploying New Technology to Understand Urban Air Pollution	This project will operate a network of 250 sensors at 50 sites to monitor 5 pollutants in each of the metro zip codes to understand urban air pollution variability.	MPCA	$981,564
	133-E	Perry	Compressed Air Energy Storage for Renewable Energies	This project will develop a novel compressed air energy storage system for renewable energies that will solve the increasing challenge of integrating these intermittent energy sources into the electrical grid.	U of MN	$712,392

2017 Environment and Natural Resouces Trust Fund Proposals Received - by Funding Priority Topic Area

to Present	ENRTF ID #	First Name	Proposal Title	Summary	Organization	$ Requested
	134-E	Terrence	Energy Storage Panels for Home and Office Upgrade	Proposed: Wall panel for home and office energy efficiency upgrade, holding energy storage material to exchange heat with the room during daily cycle. Novelty: fabrication using plate and roll-to-roll technology.	U of MN	$687,746
	135-E	Uwe	Clean Electricity from Cheap Luminescent Solar Concentrators	Cheap luminescent solar concentrators are a disruptive photovoltaic technology that virtually invisibly integrates with buildings. This renewable energy technology will increase photovoltaics adoption, reduce air pollution, and ameliorate climate change.	U of MN	$627,149
	136-E	Kim	Development of Efficient and Reliable Wind Turbine Transmission	A reliable and efficient hydrostatic wind power transmission with advanced controls and energy storage will be tested at the University of Minnesota.The design will ultimately be demonstrated at Morris.	U of MN	$414,839
X	137-E	Julie	Forest Regeneration: Maximizing the Value of Our Investment	Minnesota invests heavily in forest regeneration. But are we planting seeds that maximize the future returns on our investment? Our statewide planting trials and genetic research will answer this question.	U of MN - Duluth	$732,046
	138-E	Lian	Wind-loading Study for Environmental Management and Engineering Innovation	We will utilize a unique facility of wind research station to study wind loading for environmental management and engineering innovation, with a focus on wind turbines, solar arrays, and infrastructures.	U of MN	$397,270
	139-E	Stefan	Development of an Early-Warning System for Minnesota Droughts	Complete an early-warning system by creating detailed drought risk assessment maps for Minnesota up to six months ahead using projections of ocean currents to effectively plan for regional water scarcity.	U of MN	$265,616
	140-E	Zongxuan	Low Cost and Efficient Biomass Based Electricity Generation	The objective of this project is to provide a new low cost and efficient technology for generating electricity from biomass feedstocks in the state of Minnesota.	U of MN	$450,000
	141-E	Chris	Feed Additive for Reducing Climate-Damaging Methane Emissions from Cattle	A valuable central Minnesota collaborative project that reduces greenhouse gas emissions from Minnesota cattle will have far reaching impacts on climate in Minnesota and beyond.	St. Cloud State University	$372,485
	142-E	Romas	Engineering Stable Microbes for Biofuels and Biodegradation	Microbes grow faster if they lose their engineered traits. Reducing this growth advantage will stabilize them and thus, lower the cost of making butanol and cleaning up polluted sites.	U of MN	$269,000

2017 Environment and Natural Resouces Trust Fund Proposals Received - by Funding Priority Topic Area

to Present	ENRTF ID #	First Name	Proposal Title	Summary	Organization	$ Requested
	143-E	Julianna	Active Wind Turbine Skin for Wind Energy Harvesting	This project will develop and test an actuation technology to actively change the shape of a wind turbine blade to produce maximum power over a range of atmospheric conditions.	U of MN	$302,621
	144-E	Michele	Developing Bank-Protection Energy-Converter Systems for Minnesota Rivers	A new device able to prevent side-bank erosion while extracting energy will be designed, tested and deployed in Minnesota rivers. The material included is being evaluated for a provisional patent.	U of MN - St. Anthony Falls Laboratory	$622,000
	145-E	Xiaojia	Novel Nanocomposite Materials for Thermal Management and Energy Conversion/Storage	This proposal focuses on fabricating novel nanocomposite materials for better thermal management in operating devices, as an enabling technique that will improve the efficiency for energy conversion and storage.	U of MN	$256,112
	146-E	Rusen	Cheap and Clean Energy from Friction-Induced Static Charges	We will develop nanogenerators to harness energy from road vibration, wind, and waves. The device will power a state-wide sensor network and improve the air, water, and safety in Minnesota.	U of MN	$422,874
X	147-E	Bradley	Generation, Storage, and Utilization of Solar Energy	This project will develop and demonstrate an integrated facility to generate electricity, shade dairy cattle, and provide energy storage and utilization from solar technologies at the WCROC in Morris, MN.	U of MN	$795,500
	148-E	Jacob	Air Quality Network Sensing Aircraft Pollution Near MSP	Design, build, and deploy an air quality sensor network to determine the impact of aircraft pollution in neighborhoods near MSP. Conclusions will inform decisions about changes needed in flight patterns.	Minnesota State University, Mankato	$571,210
X	149-E	DJ	Climate-Smart Cities: Helping Cities Make Smarter Land-Use Decisions	Develop a decision-support tool which allows cities and watershed-districts to identify and plan land-use responses at the parcel-level to address climate adaptation and green infrastructure needs in Minneapolis/Saint Paul.	The Trust for Public Land	$288,800
X	150-E	Josh	District Heating with Renewable Biomass at Camp Ripley Training Center	This project will facilitate the effective implementation of clean energy technology for the Camp Ripley Training Center, reduce net CO2 emissions by approximately 740 metric tons.	Department of Military Affairs	$1,969,988

2017 Environment and Natural Resouces Trust Fund Proposals Received - by Funding Priority Topic Area

to Present	ENRTF ID #	First Name	Proposal Title	Summary	Organization	$ Requested
X	151-E	Melanie	Renewable Energy Production from Municipal Organic Waste	Renewable energy production fueled by municipal organic will reduce landfill waste and provide electrical power for 25 homes and reduce pollution while being a site for undergraduate and faculty research.	Minnesota Energy Center (MNEC)	$1,687,500
F. Methods to Protect, Restore, and Enhance Land, Water, and Habitat (RECEIVED: 17 Proposals / Subtotal $8,598,558)						
X	152-F	Emilie	Optimizing the Nutrition of Roadside Plants for Pollinators	This research will produce site-specific recommendations for roadside plantings in Minnesota to maximize the nutritional health of native bees and monarch butterflies that rely on such habitats as conservation corridors.	U of MN	$815,000
X	153-F	Vera	Promoting Conservation Biocontrol of Beneficial Insects	Research ways to conserve beneficial insects (bees, butterflies, predators, and parasitoids) in landscapes and restoration projects thru conservation biocontrol, cultural management, and biorational insecticides.	U of MN	$399,000
X	154-F	David	Restoring and Preserving Savanna Using Bison	Restoration of Minnesota's oak savanna, of which < 1% remains, has been problematic. Our research would determine if some combination of bison grazing and fire can restore this threatened ecosystem.	Cedar Creek Ecosystem Science Reserve, U of MN	$388,000
X	155-F	Edward	State Parks for Monarchs and Other Native Pollinators	Restores 520 acres of Monarch/native pollinator habitat at 7 state parks in MN Prairie Plan core areas. Establishes pollinator plantings with multi-sensory, ADA-accessible interpretive exhibits at 10 state park locations.	MN DNR	$672,159
X	156-F	William	Prioritizing Shoreline Habitat Restoration in Minnesota Lakes	This project will enhance efforts to increase natural reproduction of fish in Minnesota lakes by assembling easily accessible information on wave energy and near-shore spawning habitat.	U of MN - St. Anthony Falls Laboratory	$294,913
X	157-F	Ken	Roadside Prairie Prescribed Fire	This project will protect biodiversity and enhance pollinator habitat on roadsides by helping to create a self-sufficient prescribed fire program at the Minnesota Department of Transportation.	Minnesota Department of Transportation	$345,000
X	158-F	Matt	MN Honey Bee & Monarch Butterfly Partnership	This proposal contributes to the recovery of monarch butterflies and native pollinators by working cooperatively on 75-100 sites to enhance 800-acres of permanently protected habitat in priority Minnesota landscapes.	Pheasants Forever	$732,162

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to Present	ENRTF ID #	First Name	Proposal Title	Summary	Organization	$ Requested
	159-F	Christian	Mississippi River Gorge Restoration Planning and Assessment	Restoration of the Mississippi River Gorge would have great ecological and recreational benefits. With increasing opportunity for restoration, a feasibility assessment is needed to guide future restoration and management actions.	U of MN	$130,000
X	160-F	Tom	Restoring 83-acres of Prairie, Savanna & Forest Habitat	Friends of the Mississippi River is proposing to increase and improve 83 acres of habitat at 7 sites along the Mississippi and Vermillion river corridors.	Friends of the Mississippi River	$213,450
X	161-F	Wiley	Restoring Our Metro Lands and Waters: MeCC 10	We will restore 250 acres of critical habitat, engage 530 volunteers, improve restoration practices, foster partnerships, promote community stewardship of urban natural resources, and leverage $132,000 in non-state dollars.	Great River Greening	$524,400
X	162-F	Tanner	Precision Conservation and Agriculture: Growing Green2 Together	Demonstrating a new economic approach to precision conservation by incorporating return on investment (ROI). Identify revenue negative acres with ~200 farmers to source ~10,000 acres for conservation implementation.	Pheasants Forever	$508,370
	163-F	Leonard	Variable Winter Thermal Regimes and Managing Trout Streams	Trout streams in Minnesota are important economic and recreational resources. We will investigate and model how groundwater input improves conditions for trout in winter for developing management plans for streams.	U of MN	$583,000
X	164-F	Robert	Identifying Optimal Soil Conditions for Sustainable Forest Management	Quantify factors that control soil operability with historic data and experimental manipulations. Develop strategies and tools to identify conditions that minimize impacts to soil and promote regeneration of diverse forests.	U of MN	$415,000
	165-F	Mikael	Methods for Removing Problematic Pesticides from Minnesota Waters	We will develop, demonstrate, and disseminate, a simple, effective, innovative and inexpensive technology to remove toxic pesticides from Minnesota waters, increasing safety for Minnesotans health and environmental quality.	U of MN	$344,000
	166-F	Lian	Modeling/Measurement of Wetland Processes for Habitat Protection	We will measure/model water and sediment/nutrients motions in wetlands for accurate description of habitat environment, and will develop predictive tools for vegetation landscape evolution for wetland restoration and habitat protection.	U of MN	$298,504

2017 Environment and Natural Resouces Trust Fund Proposals Received - by Funding Priority Topic Area

to Present	ENRTF ID #	First Name	Proposal Title	Summary	Organization	$ Requested
X	167-F	Adam	Mississippi River Habitat Restoration at Halls Island	A large-scale project to restore lost Mississippi River habitat by re-creating Halls Island in Minneapolis, through construction activities based in sound restoration science.	Minneapolis Park and Recreation Board	$1,451,500
	168-F	John	Promoting Active Management of Privately Owned Woodlands	Promote active management of privately owned woodlands which account for one third of Minnesotas 17 million acres of forestland. Benefits will accrue to the environment, wildlife and industry.	Minnesota Forestry Association	$484,100

2017 Environment and Natural Resouces Trust Fund Proposals Received - by Funding Priority Topic Area

to Present	ENRTF ID #	First Name	Proposal Title	Summary	Organization	$ Requested
G. Land Acquisition for Habitat and Recreation (RECEIVED: 12 Proposals / Subtotal $33,307,890)						
X	169-G	Deborah	Metropolitan Regional Parks System Land Acquisition	This project will acquire 369 acres of high-quality wooded land and wetlands and three miles of shoreline for the Metropolitan Regional Parks System (MRPS) with $2.4 million from ENRTF.	Metropolitan Council	$2,400,000
X	170-G	Margaret (Peggy)	SNA Acquisition, Restoration, Citizen Science and Engagement	The SCIENCE in state Scientific and Natural Areas (SNAs) will be strengthened through strategic acquisition and land protection, monitoring-based restoration and improvements, and citizen science-based action and outreach.	MN DNR	$6,022,220
X	171-G	Jennifer	Minnesota State Parks and State Trails Land Acquisition	Minnesota State Parks and State Trails land acquisition proposes to acquire the highest priority parcels with critical natural and cultural resources attributes to protect, preserve and enhance Minnesotas environmental stewardship.	MN DNR	$1,500,000
X	172-G	Judy	Native Prairie Stewardship and Prairie Bank Easement Acquisition	Native prairie will be permanently protected and conservation actions by prairie landowners will be increased through a suite of tools offered by the DNR Scientific and Natural Area (SNA) Program.	MN DNR	$5,185,457
	173-G	Lisa	Dakota County Natural Area Protection and Restoration	Achieving Dakota County's land conservation vision continues, with focus on land acquisition, water resource protection and restoration projects, guided by approved plans, extensive land cover data, successful programs and partnerships.	Dakota County	$600,000
X	174-G	Levi	Leech Lake Natural Resource Multi-Benefit Conservation Acquisition	Acquisition and protection of 45.27 acres, 0.67 miles of shoreline of high quality aquatic and wildlife habitat and the historic meeting place between Henry Schoolcraft and Anishinabe people.	Leech Lake Division of Resource Management	$1,500,000
	175-G	Jay	Mississippi Blufflands State Trail Red Wing River Walk	Design and construction of a three-quarter mile segment of the Mississippi Blufflands State Trail from Barn Bluff Park to Colvill Park in Red Wing.	City of Red Wing	$1,840,000
X	176-G	Robert	Mesabi Trail, Wetland Crossing and Bridge Rehab	This project is needed to complete the TH 135 to Embarrass segment of the Mesabi Trail. Work needed is specific to constructing a 4,000 LF floating dock over a wetland and rehabilitating a bridge (circa 1928) over the Embarrass River. Costs for construct.	St Louis and Lake Counties Regional Railroad Authority	$1,231,500

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to Present	ENRTF ID #	First Name	Proposal Title	Summary	Organization	$ Requested
	177-G	Stacy	Experiential Nature Play at Whitewater State Park	Nature play areas provide children opportunities to engage the natural world through independent play, a component of outdoor recreation, which creates long-lasting conservation values into the next generation.	MN DNR	$710,265
	178-G	Kurt	Swedish Immigrant Regional Trail, Interstate State Park Connection	A paved trail and bridge within Interstate State Park providing connections to internal trails, a trail head and providing accessibility and a logical terminus for a developing regional trail.	Chisago County	$1,785,000
	179-G	Bruce	Wolverton Creek Land Acquisition and Stream Habitat Restoration	Project to acquire land, restore and expand fish and wildlife habitat, improve water quality, reduce flooding and protect the natural resources of Wolverton Creek located in west central Minnesota.	Buffalo-Red River Watershed District	$9,550,000
X	180-G	Linda	Tower Trailhead Boat Landing and Habitat Improvement	The City of Tower is requesting funding for the construction of a trailhead/parking lot, access road, boat landing and for the construction of a vegetative habitat area.	City of Tower	$983,448
H. Other (RECEIVED: 1 Proposal / Subtotal $135,000)						
X	181-H	Katherine	Contract Agreement Reimbursement	This appropriation would provide continued contract management services (grant agreements, amendments, reimbursements, fiscal monitoring, etc.) to pass-through recipients of ENRTF dollars appropriated to the commissioner of natural resources.	MN DNR	$135,000