As of May 26, 2022, the Legislative-Citizen Commission on Minnesota Resources (LCCMR) received 174 proposals requesting a total of approximately \$164 million. This RFP process is for funding beginning July 1, 2023. On July 25, members will select a subset of high-ranking proposals to invite for presentation before the LCCMR on August 8-10 and 16-17 to receive further consideration. On August 30, LCCMR will make final selection and funding allocation decisions. These selected projects will be presented to the 2023 Minnesota Legislature as the official LCCMR recommendations for spending from the Environment and Natural Resources Trust Fund.

Proposal							
ID	Last Name	First Name	Title	Summary	Organization	Req	uested \$
A. Founda	ational Natur	al Resource I	Data and Information (21 Proposals /	\$14,278,000)			
				We will develop a decision tool for stakeholders and			
				resource managers to assess tradeoffs among			
				ecosystem service benefits that result from different			
2023-029	Mamun	Saleh	Nature's Benefits to People in Minnesota	land use policy and management options.	U of MN, Duluth - NRRI	\$	624,000
				Carbon markets incentivize carbon sequestration, but			
				significant cost-barriers exist for landowner			
				participation. Leveraging remotely sensed data, cost-	U of MN, College of Food,		
				effective fieldwork, and robust modeling will enable	Agricultural and Natural	١.	
2023-066	Zobel	John	Removing Barriers to Carbon Market Entry	climate-smart activities that benefit all Minnesotans.	Resource Sciences	\$	590,000
				Identifying Avian Migratory Stopover Sites to provide			
				foundational information necessary for the			
2023-072	Gentry	Dale	Mapping Migratory Pitstops in Minnesota	conservation of migratory birds.	Audubon Minnesota	\$	341,000
				Accurate inventories are needed to facilitate carbon			
				market entry for forestland owners. An estimated			
				1,000 plot-based inventories will be collected from			
			Statewide Forest Carbon Inventory and	private forestland to expand all-lands lidar forest			
2023-092	Wilson	David	Change Mapping	inventory statewide.	MN DNR, Forestry Division	\$	1,538,000
				Supporting lake and shoreline conservation through			
			Lake Biodiversity Conservation: Connecting	data collection and targeted outreach to lake and	MN DNR, Ecological and Water		
2023-093	Bernardo	Holly	Data to Action	shoreline stakeholders	Resources Division	\$	394,000
				Quantify age, size and reproductive status of four			
				fishes, classified as "rough fish" with minimal or no			
				harvest limits in Minnesota, which now experience			
			Understanding Native "Rough Fish" in the	increasing, significant exploitation by recreational			
2023-104	Clark	Mark	Bowfishing Era	bowfishing.	U of MN, Duluth	\$	382,000

Proposal ID	Last Name	First Name	Title	Summary	Organization	Re	quested \$
2023-106	Olmanson	Leif	Providing Critical Water Temperature Data for Minnesota Lakes	Create an automated system to acquire, process, and deliver new satellite-derived lake temperatures for all Minnesota lakes ~biweekly and make it available in the Minnesota LakeBrowser in near-real-time.	U of MN, College of Food, Agricultural and Natural Resource Sciences	\$	297,000
2023-146	Reddy	Sushma	Salvaged Wildlife to Inform Environmental Health, Ecology, Education	Establish a statewide network to collect, analyze, and archive salvaged dead wildlife and build a foundation of biodiversity resources to track ecosystem-wide changes, monitor environmental health, and promote public education.	U of MN, Bell Museum of Natural History	\$	486,000
2023-154	Lane	lan	Developing Conservation Priorities for Rare and Specialist Bees	We will collect data on occupancy and range of rare pollen specialized bees and their habitat preference to determine status and conservation strategies	U of MN, College of Food, Agricultural and Natural Resource Sciences	\$	668,000
2023-156	Yang	Ce	Multi-Level Monitoring and Control Toward Smart Pasture Management	This project will develop new pasture management strategies using multi-level robotic monitoring and precision agricultural techniques to remove weeds in pastures and determine optimal time and location for grazing rotation.	U of MN, College of Food, Agricultural and Natural Resource Sciences	\$	1,027,000
2023-159	Folta	Bradford	Water Protection Geomatic and Geospatial Intensive Data Capture	The goal is to establish a data foundation, with intensive data collection and educate the new and current workforce with modern tools that preserve, conserve and to protect Minnesota waters.	Minnesota Geospatial & Geomatics Institute	\$	2,478,000
2023-169	Haus	Jacob	Efficacy of Urban Archery Hunting to Manage Deer	Several municipalities across Minnesota conduct special deer hunts within city-limits, but the efficacy is unknown. An analysis of deer survival and habitat use will improve management practices in these regions.	Minnesota State Colleges and Universities, Bemidji State University	\$	393,000
2023-173	Salomon	Christine	Survey, Protection and Application of Rare Minnesota Fungi	Survey, characterization and assessment of rare and endangered fungal species found in old growth forests and protected habitats in Scientific and Natural Areas (SNAs) throughout Minnesota.	U of MN, College of Pharmacy	\$	647,000

Proposal ID	Last Name	First Name	Title	Summary	Organization	Pogu	uested \$
טו	Last Name	riist Naiile	Title	Synthesis of existing and new research coupled to	Organization	Keqi	uesteu ş
				modeling, will be used to develop decision-making			
				information on cover crop carbon sequestration,	U of MN, College of Food,		
	Garcia y		Cover Crops: Rooting for Sustainable	nitrogen and water use, and environmental benefits in	Agricultural and Natural		
2023-182	Garcia	Axel	Cropping in Minnesota	MN.	Resource Sciences	\$	365,000
2023 102	Gureia	71.70	er opping in winnessea	We will determine how disease prevalence, diet,	nessuree selences	7	303,000
				habitat use, and inter-species interactions of coyote	U of MN, College of Food,		
			Mapping the Ecology of Urban and Rural	and red fox populations change from urban to rural	Agricultural and Natural		
2023-183	Forester	James	Canids	areas along the Mississippi River corridor.	Resource Sciences	\$	624,000
				Continue monitoring forested peatland network for			,
				hydrology and wildlife including a new species, bog	U of MN, College of Food,		
	Windmuller-		Maximizing Lowland Conifer Ecosystem	lemming. Add measures to quantify above and below	Agricultural and Natural		
2023-186	Campione	Marcella	Services: Phase 2	ground carbon by age and forest type.	Resource Sciences	\$	500,000
				We will support Minnesota pollinator conservation by			
				working with the Conservation Corps to evaluate			
				habitat, share research findings, engage the public in			
			Pollinator Habitat, Investments, and	community science, and develop Minnesota-centric			
2023-208	Caldwell	Wendy	Community Science in Minnesota	education resources.	Monarch Joint Venture	\$	295,000
				Updating the Species in Greatest Conservation Need			
				list through surveys, standardized assessments, and			
			Modernizing Minnesota's Wildlife (and	including rare plants for the first time to create v.3.0 of	MN DNR, Ecological and Water		
2023-209	Hall	Kristin	Plant!) Action Plan	Minnesota's Wildlife Action Plan.	Resources Division	\$	889,000
				We will develop a method to monitor approximately			
				93,000 acres of protected old growth forest in			
				Minnesota to ensure that these rare and important	MN DNR, Ecological and Water		
2023-218	Peters	Emily	Old Growth Forest Monitoring	forest resources are properly protected.	Resources Division	\$	441,000
				Project goal is to monitor species response at a			
			Community Bonney March 1	community level, in order to determine if management			
2022 222	D. ((Da 14	Community Response Monitoring for	actions increase biodiversity and build ecosystem	The National Courses	,	400.000
2023-232	Ruff	David	Adaptive Management	resiliency as intended.	The Nature Conservancy	\$	498,000

Proposal ID	Last Name	First Name	Title	Summary	Organization	Re	quested \$
2023-248	Weiblen	Coorgo	Minnesota Biodiversity Atlas - Phase 3	We propose to expand the Minnesota Biodiversity Atlas, an online natural resource management tool, to include 2.5 million records by integrating expert observations and specimen records from multiple	U of MN, Bell Museum of Natural History	\$	801,000
2023-248	Weibieli	George	initilesota biodiversity Atlas - Filase 3	organizations	Subtotal =		14,278,000
A. Founda	ational Natur	al Resource	Data and Information			•	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	Projects (8 Pr						
		epodulo, y	Assessing Restorations for Rusty-Patched	Using two prairie restorations, we will investigate how common restoration variables affect bumblebee habitat suitability by conducting bumblebee surveys and assessing nesting and foraging habitat in restored			
2023-044	Roth	Alex	and Other Bumblebee Habitat	and remnant prairies.	Friends of the Mississippi River	\$	75,000
2023-086	Sindt	Anthony	Enhancing Knowledge of Minnesota River Fish Ecology	Collect baseline information about lower trophic fish diets, the distribution and status of rare benthic fishes, and the movement patterns of large river fishes in the Minnesota River.	MN DNR, Fish and Wildlife Division	\$	199,000
	Hausman	,		We will create the Voyageurs Wildlife Atlas to summarize nearly a half-century history of wildlife research and monitoring in Voyageurs National Park in			
2023-089	Rhode	Christina	Voyageurs Wildlife Atlas	accessible digital and hardcopy formats.	Voyageurs Conservancy	\$	195,000
2023-090	Joyce	Michael	Changing Distribution of Flying Squirrel Species in Minnesota	We will determine the current distribution and habitat associations of northern and southern flying squirrels to fill key knowledge gaps in flying squirrel status in Minnesota.	U of MN, Duluth - NRRI	\$	186,000
2023-120	Waterhouse	Lynn	Predicting the Future by Understanding the Past	We will predict the ranges of native aquatic species in Minnesota using recently available high quality datasets and information on past and present ranges coupled with powerful statistical techniques.	U of MN, College of Food, Agricultural and Natural Resource Sciences	\$	170,000
2023-139	Bracey	Annie	Assessing Status of Common Tern Populations in Minnesota	Common Tern populations across inland North America are significantly declining. Information on the status of breeding colonies in Minnesota is necessary to prioritize conservation and restoration actions.	U of MN, Duluth - NRRI	\$	199,000

Duamanal							
Proposal ID	Last Name	First Name	Title	Summary	Organization	Red	quested \$
2023-217	Pavlovic		Linking Breeding and Migratory Bird Populations in Minnesota	Understand seasonal movements, population connectivity, and contaminant exposure of Minnesota's breeding and migrating birds to inform long-term conservation efforts.	Hawk Ridge Bird Observatory	\$	199,000
2023-222	Du Plissis	John	Integrating Remotely Sensed Data with Traditional Forest Inventory	We will evaluate state-of-the-art lidar technology's ability to provide stand-level summary statistics of forest resource measurements and how these data can be used to estimate ecosystem services.	U of MN, Duluth - NRRI	\$	191,000
	2 4 1 110010			10 document consequence 10 document 10	Subtotal =		1,414,000
B. Water I	Resources (2	3 Proposals	/ \$14,767,000)				
2023-022	Graham	Andrew	Regional Assessment of Project Outcomes in the RRB	Carry out multi-resource monitoring at flood damage reduction and natural resource enhancement projects across the Red River Basin to evaluate outcomes and improve design of future projects at regional scale.	Red River Basin Flood Damage Reduction Work Group,	\$	954,000
2023-026	Marr	Jeffrey	Wind Wave and Boating Impacts on Inland Lakes	Field study to measure the impacts of boat propeller wash and boat wakes on lake water quality, and compare them to the impacts of wind-waves.	U of MN, St. Anthony Falls Laboratory	\$	440,000
2023-030	Wilson	Grace	Identification and Analysis of Contaminants in Fire Wastewater	The waste-water from extinguishing structural fires will be analyzed to identify and characterize chemicals present and better understand potential toxicity to humans and water systems.	U of MN, College of Food, Agricultural and Natural Resource Sciences	\$	345,000
2023-063	Arnold	William	Finding, Capturing, and Destroying PFAS in Minnesota Waters	Novel methods for the detection, sequestration, and degradation of poly- and perfluoroalkyl substances (PFAS) will be developed to address a pressing contamination issue in Minnesota's lakes and rivers.	U of MN, College of Science and Engineering	\$	500,000
2023-068	Ishii	Satoshi	Source Tracking of Bacterial Contamination in Minnesota Waters	This project will identify the sources of fecal contamination in Minnesota's watersheds to improve surface water quality.	U of MN, College of Biological Sciences	\$	488,000

Dunnand						
Proposal ID	Last Name	First Name	Title	Summary	Organization	Requested \$
2023-074	Minor	Elizabeth	Sinking and Suspended Microplastic Particles in Lake Superior	Microplastics suspended in and sinking within Lake Superior waters will be compared to help determine source and fate. The flux of microplastics from water to sediment will be determined.	U of MN, Duluth - Large Lakes Observatory	\$ 440,000
2023-082	Gilkeson	John	Turn Down the Mercury: Outreach and Capture Campaign	MPCA proposes an innovative mercury outreach, incentive, and collection campaign to prevent mercury releases, eliminate mercury, and meet statewide water quality goals so that all fish are safe to eat.	Minnesota Pollution Control Agency	\$ 1,223,000
			Using Local Forestry By-Products to	Developing cost effective, locally sourced biochar from Minnesota forestry by-products to remediate contaminated aquatic sediment in the St. Louis River	Minnesota Pollution Control	
2023-099	Breneman	Dan	Remediate Aquatic Sediments	estuary.	Agency	\$ 271,000
2023-107	Wammer	Kristine	Ecotoxicological Impacts of Quinone Outside Inhibitor (QoI) Fungicides	This work will provide a more comprehensive assessment of the ecological hazards associated with quinone outside inhibitor (QoI) fungicides and their major environmental transformation products.	University of St. Thomas	\$ 282,000
2023-129	Koliha	Anne	Brightsdale Dam Channel Restoration	Restore the channel of the North Branch Root River at the site of a former hydro power dam that failed and was removed in 2003.	Fillmore County Soil and Water Conservation District	\$ 1,020,000
2023-134	Kang	Peter	Mapping Aquifer Recharge Potential	We develop a practical tool for mapping aquifer recharge potential; demonstrate it with laboratory and field tests; and use it to evaluate the recharge potential of several aquifers in Minnesota.	U of MN, St. Anthony Falls Laboratory	\$ 417,000
2023-137	Gilbertson	Scott	ALASD's Chloride Source Reduction Pilot Program	The project reduces salt pollution in three impaired lakes in the Alexandria area via an innovative source reduction strategy that protects water quality and could serve as a replicable model.	Alexandria Lake Area Sanitary District (ALASD)	\$ 765,000
2023-138	Hu	Во	Novel Nutrient Recovery Process from Wastewater Treatment Plants	We request funding to extend an existing grant project, phosphorus recovery and anaerobic digestion at wastewater treatment plants, and include recovery of other nutrients as well as reduce sludge odor.	U of MN, College of Food, Agricultural and Natural Resource Sciences	\$ 482,000

Proposal							
ID	Last Name	First Name	Title	Summary	Organization	Req	uested \$
				We propose to develop an intelligent drainage system			
				with embedded miniature sensors for precise			
				monitoring and managing agricultural drainage water			
			Intelliget Drainage Systems Embedded with	to reduce nitrogen and phosphorus pollution of	U of MN, Southwest Research		
2023-162	Strock	Jeffrey	Miniature Nutrient Sensors	surface waters.	and Outreach Center	\$	951,000
				We will study and model the generation of			
				nano/microplastic from photoweathered bulk plastic			
				of different types and offer strategies preventing			
			Predicting and Preventing Microplastic	fragmentation, enabling collection, and reducing	U of MN, St. Anthony Falls		
2023-165	Xiong	Boya	Pollution in Minnesota Waters	plastic pollution in Minnesota's waterways	Laboratory	\$	497,000
	_			We will study how ubiquitous microplastic form			
				potentially toxic chemicals during wastewater			
				treatment or in Minnesota's waterways. The study will			
			Understanding Plastic Pollution Beyond	inform us to prevent toxic compounds from generating	U of MN, College of Science and		
2023-191	Xiong	Boya	Microplastic in Minnesota Waters	from microplastics.	Engineering	\$	424,000
				Locally produced high-concentration nitrogen	U of MN, College of Food,		
			Produce Green Nitrogen Fertilizer from Air	fertilizers from renewable and extremely low cost	Agricultural and Natural		
2023-196	Ruan	Roger	and Water	natural resources.	Resource Sciences	\$	499,000
				This project will optimize a treatment practice design			
				for removing contaminants of emerging concern			
				(CECs) from stormwater runoff using biofiltration			
			Removing CECs from Stormwater with	media. Guidance will be developed for stormwater	U of MN, St. Anthony Falls		
2023-215	Erickson	Andy	Biofiltration	managers statewide.	Laboratory	\$	650,000
				The goal of this research will be to develop better,			
				faster, and more reliable methods for determining			
			Reducing Beach Closures through Improved	whether Minnesota's lakes are unsafe for swimming,	U of MN, College of Science and		
2023-233	Hozalski	Raymond	Microbiological Monitoring	hopefully limiting unnecessary beach closures.	Engineering	\$	726,000
		,		We will characterize how warming lakes across	85	Τ	0,000
				Minnesota might intensify or alter harmful algal			
				blooms and share results and management strategies	U of MN, College of Food,		
			Understanding and Improving Minnesota's	with the public using innovative tools and engagement	Agricultural and Natural		
2023-236	Roop	Heidi	Future Lake Water Quality	strategies.	Resource Sciences	\$	492,000

	Final Proposals Received by Category with Summaries										
Proposal ID	Last Name	First Name	Title	Summary	Organization	Re	quested \$				
2023-237	Edlund	Mark	Didymo II – The North Shore Threat Continues	Didymo or rock snot has invaded our North Shore streams. We must prevent its further spread and adapt our management approaches to this new invader.	Science Museum of Minnesota, St. Croix Watershed Research Station	\$	394,000				
2023-238	Beck	Brian	Leveraging Innovations in Data Analytics for Project Implementation	Integrating local and statewide datasets into a 21st-century planning tool, widely called for by our communities, that forecasts the impacts of changing precipitation patterns and quantitatively compares cost-effective solutions.	Minnehaha Creek Watershed District	\$	738,000				
2022 247	Kananaday	Ismis	Protecting Minnesota's Headwaters of the	Enormous growth in irrigated agriculture in Minnesota's Mississippi Headwaters/Central Sands has occurred without assessment of water resource impacts. This project will assess aggregate irrigation	Anishinaaha Agricultura Instituta		1 760 000				
2023-247	Konopacky	Jamie	Mississippi/Pineland Sands	water quality and quantity impacts.	Anishinaabe Agriculture Institute Subtotal =		1,769,000 14,767,000				
	Resources Projects (7 Pr	oposals / \$1,	395,000)	Con we making noting noting the standard noting with the							
2023-004	Wickert	Andrew	Ditching Delinquent Ditches: Optimizing Wetland Restoration	Can we maximize native wetland restoration while minimizing impact on human land use? Evaluating the water-resources impact of targeted agricultural ditch removal on ecosystem restoration.	U of MN, College of Science and Engineering	\$	199,000				
2023-103	Filstrup		Wildfire Impacts on Minnesota's Pristine Lakes	Wildfires are increasing in Minnesota and threaten our iconic wilderness lakes. We will develop decision support tools to protect our lakes and the vital ecosystem services they provide.	U of MN, Duluth - NRRI	\$	197,000				
	·	·		Evaluate the effectiveness of high temperature acid hydrolysis as pretreatment for efficient anaerobic digestion of organic wastes and downstream	U of MN, College of Food, Agricultural and Natural	<u>.</u>	,				

Roger

Tianhong

Digestion of Organic Wastes

Device in Wastewater

Small Cheap Portable COVID-19 Monitoring

2023-121

2023-123

Ruan

Cui

200,000

200,000

\$

Resource Sciences

U of MN, College of Science and

Engineering

system.

acidophilic microalgae cultivation.

This project is to develop a low-cost device for continuous monitoring of COVID-19 in wastewater, providing a comprehensive snapshot of community

transmission to form an outbreak early warning

Proposal							
ID	Last Name	First Name	Title	Summary	Organization	Red	quested \$
				This project is to develop an electrochemical sensor for			
				monitoring water pollutants including PFAS and DBP in			
			Sensors for Monitoring PFAS and DBP in	Minnesota, which is small, simple, cheap, efficient, and			
2023-124	Cui	Tianhong	Water	accurate.	Engineering	\$	200,000
				The City of Lino Lakes is proposing to implement a			
				system that will empower users and the City to			
			Lino Lakes Water Stewardship Project-Phase	proactively manage groundwater use; addressing			
2023-133	Havranek	Tony	1	concerns surrounding groundwater conservation.	City of Lino Lakes	\$	200,000
				The project aims to create a disruptive technology that			
				can efficiently treat a broad spectrum of PFAS			
			Water Treatment Technology for a PFAS-	contaminated water, a growing health and	U of MN, College of Science and		
2023-175	Bruggeman	Peter	Free Minnesota	environmental concern in Minnesota.	Engineering	\$	199,000
					Subtotal =	\$	1,395,000
C. Environ	nmental Educ	ation (8 Pro	posals / \$5,328,000)				
				Friends of the Boundary Water Wilderness will connect			
				over 10,000 Minnesota youth to the Boundary Waters			
				through state standards-aligned environmental			
			Fostering Conservation by Connecting	education, experiential learning, and multi-day	Friends of the Boundary Waters		
2023-008	Nyenhuis	Alison	Students to the BWCA	wilderness canoe trips.	Wilderness	\$	1,148,000
				Saint John's Preparatory School seeks funding to build			
				an outdoor classroom to connect nature and learning			
				in an immersive environment for students in grades 6-	Order of Saint Benedict, Saint		
2023-020	Pasela	Sarah	Outdoor Classroom	12 and the surrounding community.	John's Preparatory School	\$	210,000
				Pioneer PBS will produce 26 new episodes of a			
				statewide television series designed to inspire			
			Statewide Environmental Education via PBS	Minnesotans to connect with the outdoors and to			
2023-051	Dorn	Cindy	Outdoor Series	restore and protect our valuable natural resources.	Pioneer PBS	\$	391,000
				This collaborative project creates a college to			
				workforce pathway for underrepresented students			
				interested in pursuing Natural Resources careers by			
			Increasing Diversity in Environmental	reducing barriers that inhibit successful educational	MN DNR, Operational Services		
2023-062	Daniel	Mimi	Careers	attainment.	Division (OSD)	\$	787,000

Dyonosal							
Proposal ID	Last Name	First Name	Title	Summary	Organization	Ro	quested \$
טו	Last Name	Tilstivallie	Title	Our goals are to engage 100,870 underserved youth	Organization	INC	questeu y
				and families statewide in environmental earning for			
				conservation and preservation of Minnesota			
				wilderness through immersive and interactive			
2023-071	Becker	Beth	Transforming Equity in Outdoor Spaces	experiences.	YMCA of the North	\$	1,491,000
				The Science Museum of Minnesota will relay the			
				results of LCCMR-funded research to public audiences;			
			5 55	dissemination will include a free online interactive			
2023-185	Hobbs	Joy	Environmental Investment	map, in-depth videos, and public events.	Science Museum of Minnesota	\$	628,000
				The North Shore Forest Collaborative (via Sugarloaf)			
				seeks to contract foresters to perform a concerted			
			North Shore Private Forestry Outreach and	private land forestry outreach to restore ecological	Sugarloaf The North Shore		
2023-201	Thompson	Molly	Implementation	health to Minnesota's North Shore forest landscape.	Stewardship Association	\$	375,000
				Hands-on learning outdoors will focus on water			
				quality, groundwater, aquatic life and students' role as			
				watershed stewards. Angling and volunteer			
			Teaching Students about Watersheds	opportunities for students and families will foster a			
2023-223	Lenczewski	John	through Outdoor Science	conservation ethic.	Minnesota Trout Unlimited,	\$	298,000
					Subtotal =	\$	5,328,000
C. Enviror	nmental Educ	cation					
H. Small F	Projects (11 I	Proposals / \$	1,820,000)				
				Expand the Green Crew's existing youth environmental			
				education, service, and leadership program to reach			
				and serve traditionally underrepresented communities			
			IWLA Green Crew Education, Service and	by partnering and supplementing existing youth	Izaak Walton League of America,		
2023-040	Barisonzi	Joseph	Leadership Program	programs.	Minnesota Division	\$	200,000
				Our project integrates a research-based environmental			
				science curriculum into classrooms at Heritage			
				Environmental STEM Magnet School in West Saint Paul			
			Integrating Environmental Education into	to delivery world-class learning for ~750 students	U of MN, College of Biological		
2023-087	Thompson	Seth	Classroom Curriculum	annually.	Sciences	\$	64,000

Proposal ID	Last Name	First Name	Title	Summary	Organization	Rea	uested \$
				This project integrates specific cultural customs among			,
				American Indian groups with environmental education	Morrison Soil and Water		
2023-100	Wettstein	Shannon	Planting for the Future	on native prairie plants.	Conservation District	\$	82,000
				From Science to Stewardship equips 500 6th-12th			
				grade students with the knowledge to become the			
				next generation of environmental stewards through			
				water quality monitoring and student-led stewardship			
2023-108	Zachay	Monica	From Science to Stewardship for Students	projects.	Wild Rivers Conservancy	\$	188,000
				The Raptor Center proposes to foster long-lasting			
				environmental stewardship and literacy in Minnesota			
				youth in underserved schools through providing			
			Reducing Biophobia & Fostering	engaging, multi-unit, standards-based environmental			
			Environmental Stewardship in Underserved	curriculum programming featuring positive			
2023-167	Hall	Victoria	Schools	interactions with raptors.	U of MN, Raptor Center	\$	180,000
				This program will teach 4,000 children and adults			
				about natural resources while also teaching them to			
			Environmental Learning by Bicycle for Ages	safely explore trails, parks, wetlands, lakes, and rivers			
2023-188	Grilley	Dorian	8-80	and their communities by bicycle.	Bicycle Alliance of Minnesota	\$	197,000
				West Central Initiative seeks to engage families in			
				exploring, understanding, and protecting the region's			
				ecology through regionally-based activities at home,			
	_		West Central Young Citizen Scientists	through child care, and in partnership with existing		١.	
2023-216	Amundson	Jill	Project	enrichment centers.	West Central Initiative	\$	187,000
				Adult Learn to Ride will teach 1,500 adults to safely			
				bicycle in their Greater Minnesota communities and			
2022 225	Crillo	Dorion	Adult Loarn to Rido	will include learning about the environmental, health,	Diguelo Alliance of Minnesott	ے	100 000
2023-225	Grilley	Dorian	Adult Learn to Ride	and community benefits of bicycling. MPRB will work strategically with allies and volunteers	Bicycle Alliance of Minnesota	\$	199,000
				to collect baseline biodiversity data for urban parks to			
			Righlitz Urhan Parks: Engaging Communities	inspire stewardship and inform habitat restoration	Minneapolis Park and		
2023-229	Pulscher		in Scientific Efforts	work.	Recreation Board	\$	198,000
2023-229	ruiscilei	iviai yLyiiii	in Scientific Enorts	WOIK.	NECIEALION DUAIU	ڔ	130,000

Proposal							
ID	Last Name	First Name	Title	Summary	Organization	Red	quested \$
				We will increase community awareness of natural			
				resources through directed outreach and engagement			
				targeting a diverse audience that more accurately			
			Engaging a Diverse Public in Environmental	reflects the community in which we are restoring			
2023-242	Kilgore	Amy	Stewardship	natural areas.	Great River Greening	\$	200,000
				The Monarch Joint Venture will increase the efficiency			
				•			
				and scale of pollinator conservation across the state by			
2023-246	Caldwell	Wondy	Partnering for Pollinator Protection	fostering an organized network of stakeholders in a multi-sector conservation consortium.	Monarch Joint Venture	\$	125 000
2023-240	Caldwell	Wendy	Partnering for Poliliator Protection	muiti-sector conservation consortium.	Subtotal =		125,000 1,820,000
D. Aquatio	and Torroct	rial Invasivo	Species (2 Proposals / \$7,487,000)		Subtotal –		1,020,000
D. Aquatio	c and refrest	liai ilivasive					
				The Buffalo-Red River Watershed District will contain			
				AIS from spreading using civic engagement and lake			
			Preventing AIS Spread Through Hay Creek	outlet modifications that prevent the spread of zebra	Buffalo-Red River Watershed		
2023-095	Altrichter	Kristine	Watershed	mussels downstream of Turtle and Long Lakes.	District	\$	1,987,000
				MAISRC will launch 18-24 high-priority projects aimed			, ,
				at solving Minnesota's AIS problems using a rigorous,			
				prioritized, and collaborative process. Results will be			
			Developing Research-Based Solutions to	delivered to end-users through strategic			
2023-176	Phelps	Nicholas	Minnesota's AIS Problems	communication and outreach.	U of MN, MAISRC	\$	5,500,000
					Subtotal =	\$	7,487,000
D. Aquation	c and Terrest	rial Invasive	Species				
H. Small P	rojects (1 Pr	oposal / \$16	3,000)				
				American bullfrogs and Red-eared sliders are non-			
				native predators and competitors in Minnesota's			
				native fish communities. This research will assess the	U of MN, College of Food,		
			Northward Expansion of Ecologically-	distribution and potential for expansion of these	Agricultural and Natural		
2023-153	Kozak	Kenneth	Damaging Amphibians and Reptiles	species in Minnesota.	Resource Sciences	\$	163,000
					Subtotal =	\$	163,000
E. Air Qua	lity, Climate	Change, and	Renewable Energy (20 Proposals / \$1	11,709,000)			

Over three years, we will train, deploy, and support 150 members to build more resilient ecosystems in communities statewide. Members will focus on planting trees and conducting tree inventories. ServeMinnesota \$ Expand technical and financial assistance to reduce high global warming potential (GMP) refrigerant emissions at small retailers. Promote adoption of low-GWP refrigerants and educate on system best management practices (BMPs). Agency \$ The biochar industry is poised to bring carbon sequestration and forest health to Minnesota but it will require large-scale deployment demonstrations in order to become a reality. Converting Post-Combustion CO2 to Green Butanol Fuel Don't Minnesota Wood Products To mitigate greenhouse gas (GHG) emissions in Minnesota we propose to convert post-combustion CO2 to green butanol fuel via a novel CuP2/3D graphene catalyst. U of MN, Duluth - NRRI \$ The Ecological Monitoring Network will install the final 250 plots. Data are needed to understand how climate change is imperiting Minnesota and identify resilient natural lands for conservation or enhancement. No NDR, Ecological and Water natural lands for conservation or enhancement.	
2023-013 Delcambre Sharon Community Forestry AmeriCorps planting trees and conducting tree inventories. ServeMinnesota \$ Expand technical and financial assistance to reduce high global warming potential (GWP) refrigerant emissions at small retailers. Promote adoption of low-GWP refrigerants and educate on system best Minnesota Pollution Control management practices (BMPs). Agency \$ The biochar industry is poised to bring carbon sequestration Markets for will require large-scale deployment demonstrations in order to become a reality. U of MN, Duluth - NRRI \$ To mitigate greenhouse gas (GHG) emissions in Minnesota, we propose to convert post-combustion CO2 to Green Butanol Fuel Group Installment of the Minnesota Completing Installment of the Minnesota Erika Ecological Monitoring Network will demonstrate that energy-rich biogas production from wastewater at cold temperatures	equested \$
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Cool It! Reducing Refrigerant Emissions in Retail Refrigeration GWP refrigerants and educate on system best management practices (BMPs). The biochar industry is poised to bring carbon sequestration and forest health to Minnesota but it will require large-scale deployment demonstrations in order to become a reality. Description of Minnesota Wood Products To mitigate greenhouse gas (GHG) emissions in Minnesota wood Products graphene catalyst. To mitigate greenhouse device to understand how climate change is impacting Monitoring Network will install the final 250 plots. Data are needed to understand how climate change is impacting Minnesota and identify resilient natural lands for conservation or enhancement. This project will demonstrate that energy-rich biogas production from wastewater at cold temperatures	
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Creating Carbon Sequestration Markets for Minnesota Wood Products will require large-scale deployment demonstrations in order to become a reality. To mitigate greenhouse gas (GHG) emissions in Minnesota, we propose to convert post-combustion CO2 to green butanol fuel via a novel CuP2/3D graphene catalyst. U of MN, Duluth - NRRI \$ To mitigate greenhouse gas (GHG) emissions in Minnesota, we propose to convert post-combustion CO2 to green butanol fuel via a novel CuP2/3D graphene catalyst. U of MN, Duluth \$ The Ecological Monitoring Network will install the final 250 plots. Data are needed to understand how climate change is impacting Minnesota and identify resilient natural lands for conservation or enhancement. Resources Division \$ This project will demonstrate that energy-rich biogas production from wastewater at cold temperatures	
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Converting Post-Combustion CO2 to Green Minnesota, we propose to convert post-combustion CO2 to green butanol fuel via a novel CuP2/3D graphene catalyst.	408,000
Converting Post-Combustion CO2 to Green Butanol fuel via a novel CuP2/3D graphene catalyst. U of MN, Duluth The Ecological Monitoring Network will install the final 250 plots. Data are needed to understand how climate change is impacting Minnesota and identify resilient natural lands for conservation or enhancement. Rowe Erika Ecological Monitoring Network This project will demonstrate that energy-rich biogas production from wastewater at cold temperatures	
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This project will demonstrate that energy-rich biogas production from wastewater at cold temperatures	
production from wastewater at cold temperatures	1,160,000
production from wastewater at cold temperatures	
1	
Accelerating Biogas Production in Cold could be possible using small solar-powered devices U of MN, College of Biological	
2023-111 Bond Daniel Climates that directly aid microbial growth. Sciences \$	399,000
The proposed technology converts municipal solid	
waste into aromatics, green hydrogen, and biochar via	
a catalytic microwave-assisted pyrolysis process U of MN, College of Food, Complete Municipal Solid Waste coupled with a porous calcium oxide based chemical Agricultural and Natural	
2023-116 Ruan Roger Valorization Towards Carbon Neutrality looping process. Agricultural and Natural Sciences \$	499,000

Dronocal							
Proposal ID	Last Name	First Name	Title	Summary	Organization	Rec	quested \$
			Establishing the Center for Renewable	The focus of this project is to establish the University of Minnesota Center for Renewable Energy Storage Technology in Morris, Minnesota (CREST) and to hire	-		-
2023-126	Herrmann	Bryan	Energy Storage Technology	its first coordinator and interns.	U of MN, Morris	\$	472,000
2023-130	Barney	Brett	Capturing Carbon Dioxide as Simple Sugars	Our project seeks to incentivize the capture of carbon dioxide from industrial or atmospheric sources by converting it into simple sugars that will be transformed into a new crop.	U of MN, College of Food, Agricultural and Natural Resource Sciences	\$	240,000
2023 130	Barriey	Dicti	captaring carbon bloxide as simple sugars	This proposal aims to demonstrate a) production of	Resource Sciences	7	240,000
			Production and Utilization of Fuels from	low-carbon fuels from single-use plastics and organic wastes, and b) utilization of waste-derived fuels	U of MN, College of Science and		
2023-150	Biswas	Sayan	Landfill Waste	sustainably and efficiently to power engines.	Engineering	\$	205,000
			Carbon-Free Green Ammonia to Power	This proposal aims to demonstrate a heavy-duty agricultural equipment engine fueled solely by green ammonia, employing a novel and inexpensive plasmabased ignition technology that minimizes nitrous oxide	U of MN, College of Science and		
2023-151	Biswas	Sayan	Minnesota Farms	production.	Engineering	\$	250,000
2020 202	2.5.1.45	ou, u		The proposed project aims to develop protocols for		7	200,000
2023-152	Mossmann Koch	Natalia	Lichens as Low-Cost Air Quality Monitors in Minnesota	using lichens as indicators of air quality data across Minnesota and through time.	U of MN, College of Biological Sciences	\$	344,000
			Environment-Friendly Decarbonizing of	Conventional ironmaking requires massive amounts of fossil fuels and generates significant waste and CO2 emissions. Our microwave hydrogen plasma ironmaking eliminates fossil fuel use and CO2	U of MN, College of Science and		
2023-171	Kortshagen		Steel Production with Hydrogen Plasma	emissions while reducing waste.	Engineering	\$	769,000
2023 171	Kortshagen	owe -	Steet Floodetion with Hydrogen Flooring	Minnesota Lakes are a major source of greenhouse gases, but the amounts of these gases coming from them is unknown. We will fill this gap and determine	U of MN, College of Biological	Ψ	703,000
2023-190	Cotner	James	Managing Lakes for Our Future	the causes.	Sciences	\$	545,000
				A research-informed collaborative technology accelerator where iterative piloting, researching, and learning feeds into the decarbonization, electrification,	6		
2023-193	Chan	Gabriel	The Distributed Energy Resource Innovation Initiative	and distributed energy goals of Great River Energy's 28 member utilities.	U of MN, Humphrey School of Public Affairs	\$	408,000
2023-133	Cildii	Gabilei	IIIIuauve	member dundes.	Fubilc Allalis	ڔ	400,000

Proposal ID	Last Name	First Name	Title	Summary	Organization	Rea	uested \$
טו	Last Ivallie	riist ivaille	Title	Summary	Organization	Neq	uesteu 3
				Development and demonstration of the feasibility of			
				using low temperature microwave and nonthermal	U of MN, College of Food,		
			Virus, Bacteria and Odorous Air Pollutant	plasma (NTP) with catalysis enhancement for effective	Agricultural and Natural		
2023-202	Ruan	Roger	Control	air sanitation for livestock and poultry facilities.	Resource Sciences	\$	499,000
				Using origami design methods and modern			,
				experimental fluid dynamics, we will design a high			
				efficiency vertical axis wind turbine for power			
			Vertical Axis Wind Turbine for Greater	generation in urban, suburban, exurban and rural	U of MN, College of Science and		
2023-228	James	Richard	Minnesota	Minnesota	Engineering	\$	720,000
				The MPCA will modernize statewide measurement			
				through waste composition sorts, economic data, and			
				life cycle coefficients to develop an environmental			
			Modernizing Minnesota's Materials and	impact calculator for products/materials consumed	Minnesota Pollution Control		
2023-234	Hetzel	Colleen	Waste Data for Climate	and wasted in Minnesota.	Agency	\$	1,732,000
				Our aim is to develop a novel drone-based tool for			
				autonomously measuring wildfire smoke aerosols,			
			Wildfire Air Quality Mapping Using Real-	tracing them from the emission source, with the goal	U of MN, College of Science and		
2023-235	Hong	Jiarong	Time Drone-Based Diagnostics	of improving air quality management capabilities.	Engineering	\$	304,000
				The team will develop a comprehensive model for MN-			
			l	-	U of MN, College of Science and		
2023-244	Ferry	Vivian	Production Systems	efficient energy and water utilization.	Engineering	\$	363,000
		-1			Subtotal =	\$	11,709,000
	-	_	Renewable Energy				
H. Small P	Projects (6 Pr	oposals / \$95	56,000)				
				This work supports greenhouse gas emission (GHG)			
				reductions by promoting healthy and wildfire-resilient			
				forests in Minnesota through improved management			
			Wildfire Resilience and Carbon Reductions	and removal of low-value and small-diameter balsam			
2023-005	Aro	Matthew	Through Forest Management	fir ladder fuels.	U of MN, Duluth - NRRI	\$	120,000

Proposal ID	Last Name	First Name	Title	Summary	Organization	Rec	uested \$
2023-042	Wang	Ping	Dry State Biofiltration to Cleanup Animal Farming Emissions	This work develops novel bioactive filters which can be managed as regular air filters, but can absorb and digest airborne VOCs to fight in-situ air pollution generated in animal farming.	U of MN, College of Food, Agricultural and Natural Resource Sciences	\$	200,000
2023-043	Rexine	Todd	Biochar Implementation in Habitat Restoration: Pilot	Great River Greening will pilot the Implementation of portable biochar kilns in natural resource management and restoration as a reduced carbon-emitting, biologically beneficial alternative to open pile burning when managing invasive.	Great River Greening	\$	185,000
2023-078	Hunter	Jon	Reducing Woodsmoke Emissions Exposure From Recreational Fires	This project will identify, test, and implement a public engagement effort with a high likelihood of reducing health impacts from recreational fire smoke while enabling ongoing enjoyment of backyard recreation.	American Lung Association in Minnesota	\$	197,000
2023-199	Ruan	Roger	Innovative Utilization of Waste CO2	Ammonia-based CO2 capture and utilization for valuable bioproducts production by ammonia-tolerant microalgae integrated with two-stage cultivation and pH-stat feeding strategy.	U of MN, College of Food, Agricultural and Natural Resource Sciences	\$	200,000
2023-240	Bael	David	Economic Analysis Guide for Minnesota Climate Investments	Develop an economic analysis guide of the best practices, tools, and methodologies to include climate economics, including the incorporation of costs and benefits, into Minnesota climate policy decisions.	Minnesota Pollution Control	\$	54,000
2023-240	bdei	Daviu	Climate investments	benefits, into Milinesota ciimate policy decisions.	Agency Subtotal =		956,000
F. Method	ds to Protect,	Restore, and	d Enhance Land, Water, and Habitat (-			
2023-006	Adams	Sabin	Minnesota Bee and Beneficial Species Habitat Enhancement II	This proposal seeks to enhance grassland habitats to benefit pollinators and other species on permanently protected lands. Research on enhanced sites will be conducted by the UofM.	Pheasants Forever Inc	\$	948,000
2023-010	Moriarty	John	Karner Blue Butterfly Insurance Population Establishment in Minnesota	To establish a breeding insurance population of Karner Blue Butterflies for climate mitigation in a restored prairie/savanna at Crow-Hassan Park and assess the quality of habitat on butterfly populations.	Three Rivers Park District	\$	422,000

Proposal ID	Last Name	First Name	Title	Summary	Organization	Re	quested \$
2023-025	Foehrenbache r		Root River Habitat Restoration	The Root River Restoration project is 3,300 linear feet of stream bank and instream habitat restoration located within Eagle Bluff and state owned land north of Lanesboro, Minnesota.	Eagle Bluff Environmental Learning Center	\$	866,000
2023-027	Current	Dean	Landowner Networking for More Resilient Woodlands in Minnesota	We will increase management, resilience, and carbon storage on private woodlands by fostering peer exchange about land management practices and informing landowners about new payment systems for conservation services.	U of MN, College of Food, Agricultural and Natural Resource Sciences	\$	610,000
2023-037	deLaittre	Mary	East Side River District	The East Side River District project will reconnect Saint Paul to the river, restoring compromised ecosystems and biodiversity while protecting water quality and linking underserved communities to a long-neglected area.	Great River Passage Conservancy	\$	2,300,000
2023-060	Pletta	Madeline	Restoring Mussels in Streams and Lakes - Continuation	Restoring native mussel assemblages can improve water quality and ecological health of rivers. Mussel filter water, purifying and improving water clarity by removing particles and contaminants like E. coli bacteria.	MN DNR, Ecological and Water Resources Division	\$	825,000
2023-061	Etterson	Julie	Minnesota Million: Seedlings for Reforestation and CO2 Sequestration	A grower network will raise tree seedlings so that we have enough to conduct widespread reforestation in Minnesota to improve carbon sequestration, wildlife habitat, watershed resilience, and create economic opportunity.	U of MN, Duluth	\$	1,012,000
2023-079	Gulliver	John	Groundwater Pollution of Surface Waters: Chloride and Phosphate	We propose identifying two hot spots of groundwater to surface water pollution: chloride which is a long term source increasing impairment and phosphate pollution from groundwater is a substantial unknown.	U of MN, College of Science and Engineering	\$	602,000
2023-117	Gordon	Brad	Restoring Forests and Savannas Using Silvopasture - Phase2	Demonstrate, evaluate, and increase adoption of silvopasture - the combined use of tree, forage, and grazing management - as a method to restore and manage forests and savannas across Minnesota.	Great River Greening	\$	674,000

Proposal							
ID	Last Name	First Name	Title	Summary	Organization	Requ	uested \$
2023-122	Barney	Brett	Biological Methods for Nitrogen Removal from Contaminated Waters	Our project will construct demonstration scale bioreactors using native microbes to remove nitrates accumulating in rural water systems.	U of MN, College of Food, Agricultural and Natural Resource Sciences	\$	269,000
2023-132	Biswas	Sayan	Minimizing Wildlife Collisions with Wind Turbines Using LiDAR	Design improved deterrent technologies to minimize wildlife fatalities at wind facilities by applying a novel sensing technique – LiDAR, enabling a better understanding of bat/bird behavior near wind turbines.	U of MN, College of Science and Engineering	\$	500,000
2023-135	Weiss	Eric	Minnesota Community Schoolyards	Minnesota Community Schoolyards will create at least 24 nature-focused habitat improvement projects at schoolyards across the state; engage students and the community in environmental stewardship; and encourage outdoor learning.	The Trust for Public Land	\$	1,630,000
2023-142	Bruse	Tanner	Conservation Cooperative for Working	Increasing federal conservation dollars coming to Minnesota by expanding technical expertise for working lands programs available to landowners. This project enhances our natural resources providing public benefits for every Minnesotan.	Pheasants Forever Inc	\$	3,174,000
2023-142	Chapman	Eric	Rural-Urban Partnerships to Advance Conservation Farming With Technology	We seek to broaden participation in conservation agriculture statewide by applying high-tech assessment tools, building farmer-scientist-student collaborations across rural and urban communities, and expanding farmer-farmer knowledge exchange networks.	University of St. Thomas	\$	530,000
2023-164	Berini	John	Restoring Wildlife Habitat with Perennial Grain Agriculture	Compare the wildlife benefits of Kernza® perennial grain to traditional annual crops and natural perennial cover, and create new modules for outreach and education focused on agriculture-wildlife dynamics.	U of MN, College of Food, Agricultural and Natural Resource Sciences	\$	575,000
2023-174	Jin	Zhenong	Innovative Sensing and Modeling for Improving Water Quality	Integrated soil nutrient management for improving Minnesotan water quality through a novel sensing and hybrid model data assimilation system.	U of MN, College of Food, Agricultural and Natural Resource Sciences	\$	841,000

Proposal ID	Last Name	First Name	Title	Summary	Organization	Po	quested \$
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2023-177	Nieber	John	Quantifying Environmental Benefits of Peatland Restoration in Minnesota	We will quantify the capacity of restored peatlands to store and accumulate atmospheric carbon and their capacity to prevent release of accumulated mercury into streams, rivers and lakes.	U of MN, College of Food, Agricultural and Natural Resource Sciences	\$	766,000
2023-189	Luokkala	Lisa	Addressing Erosion Along High Use River Loops	Rehabilitate and renew popular river loops of the Trail for a more resilient future to withstand high visitor use and serve Minnesotans for years to come.	Superior Hiking Trail Association	\$	379,000
2023-194	Shen	Lian	Making Prescribed-Fire Safer and Wildfires Easier to Predict	To make wildfires easier to predict and prescribed-fires safer to conduct, we will develop a modeling tool that learns from drone-measured in-situ data, providing fast, accurate predictions of fire spread.	U of MN, St. Anthony Falls Laboratory	\$	489,000
2023-211	Pederson	Eric	Pollinator Habitat Creation at Minnesota Closed Landfills	Create the maximum acres of pollinator habitat at five Closed Landfill Program sites. These sites will act as pilot projects to inform future pollinator habitat reconstruction projects in the program.	Minnesota Pollution Control Agency	\$	1,581,000
2023-214	deLaittre	Mary	Mississippi River Learning Center	The Mississippi River Learning Center will be a place of restoration, reconnecting Saint Paul to the river and protecting and enhancing this vital area's landscape, water, and habitat.	Great River Passage Conservancy	\$	1,818,000
2023-219	Dolan	Shawn	Statewide Diversion of Furniture and Mattress Waste Pilots	Divert the growing problem of furniture disposal and implement test methods in collaboration with local governments to expand mattress and furniture recycling efforts. Reduce demand for new landfills. Create jobs.	EMERGE Community Development	ć	2 000 000
2023-219	Dolan	Snawn	Mattress waste Phots	Restoration of 28 acres of prairie and 20 acres of	Development	\$	3,000,000
2023-250	Leonard	Nicholas	Phelps Mill Wetland and Prairie Restoration	wetland along 3/4 miles of the Otter Tail River.	Otter Tail County	\$	974,000
			Training the Trainers: Expanding	We will expand regenerative agriculture education capacity by recruiting and training farmer and agricultural landlord mentors passionate about conservation using a series of strategically designed	Izaak Walton League of America,		
2023-251	Zentner	Dave	Regenerative Agriculture Mentor Networks	workshops and conferences.	Minnesota Division	\$	383,000
			d Enhance Land Water and Habitat		Subtotal =	\$	25,168,000

F. Methods to Protect, Restore, and Enhance Land, Water, and Habitat

Droposal						
Proposal ID		First Name	Title	Summary	Organization	Requested \$
				Summary	Organization	Requesteu 3
H. Small F	Projects (13 P	roposais / Şa	2,354,000) T	American sincens a rare native plant prized and		
				American ginseng, a rare native plant prized and		
			Kaaning Amarican Cincons Avaund for	harvested, is in danger of disappearing across its		
2023-003	Dominal	David	Keeping American Ginseng Around for	range, including Minnesota. We need to assess its	U of MN, Landscape Arboretum	ć 1F0.000
2023-003	Remucal	David	Future Generations	current status, monitor, and bank seed.	O of Min, Landscape Arboretum	\$ 159,000
				Scenarios of current and possible urban agriculture		
				help connect conservation programs with community		
				agricultural sites. Outreach and information tools		
			Facilitating Community Conservation Via	enable growers' and landholders' conservation	Twin Cities Community	
2023-011	Komoto	Kara	Urban Agriculture	investments, benefiting ecosystem health.	Agricultural Land Trust	\$ 199,000
			9		<u> </u>	
				Fire is a natural ecosystem process, but communities		
				are threatened by wildfire. This project increases our	U of MN, College of Food,	
	Windmuller-		Quantifying and Creating Fire Resilience in	understanding of fire in northern Minnesota and	Agricultural and Natural	
2023-065	Campione	Marcella	Northern Minnesota	effective treatments to protect lives and property.	Resource Sciences	\$ 174,000
						. ,
				This project will feature an underwater wave break to		
				create a buffer that will restore, enhance and protect		
			Panoway on Wayzata Bay Shoreline	Lake Minnetonka shoreline, using innovative and		
2023-080	Kieser	Nick	Restoration Project	replicable technologies to improve the ecosystem.	City of Wayzata	\$ 200,000
				Road-stream crossings affect roadway safety, fish		
				movement and access to habitat, and water quality.		
				We will investigate the benefits and design of culverts		
			Maintaining Connectivity at Road-Stream	for connectivity, fish passage, and infrastructure	U of MN, St. Anthony Falls	
2023-083	Kozarek	Jessica	Crossings: Floodplains and Fish	resiliency.	Laboratory	\$ 199,000
				This project will evaluate benefits and effectiveness of		
				current restoration efforts on the Zumbro River in		
			Zumbro River Biological Monitoring	addition to future restoration efforts at confluences of	· · · · · · · · · · · · · · · · · · ·	
2023-102	Peters	Terri	Pre/Post Habitat Improvement	cold water and warm water streams.	Conservation District	\$ 154,000

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Proposal ID	Last Name	First Name	Title	Summary	Organization	Re	quested \$	
2023-105	Tucker	Rebecca	Pollinator Central III: Habitat Improvement with Community Monitoring	Small phase promoting the restoration and enhancement of 29 acres of pollinator habitat on 4 new sites, with community engagement and education through public planting and pollinator monitoring events.	Great River Greening	\$	190,000	
2023-136	Pennington	Josh	Pollinator Enhancement and Mississippi River Shoreline Restoration	This restoration project will restore native prairie, support pollinator plantings, and stabilize a large section of streambank along the Mississippi River. Habitat restoration been completed in five phases on	Department of Military Affairs	\$	187,000	
2023-179	Nelson	Heather	Elm Creek Restoration Biological Monitoring	Elm Creek. Our project will evaluate fish and invertebrate populations to determine the success and	City of Champlin	\$	106,000	
2023-181	Luokkala	Lisa	Renewing Access to an Iconic North Shore Vista	We seek to renew access to one of Minnesota's most iconic vistas, the Bean and Bear Lakes section of the Superior Hiking Trail, using national trail design best practices.	Superior Hiking Trail Association	\$	197,000	
2023-197	Ruan	Roger	Remove Chemical and Biological Contaminants from Minnesota Soils	Develop and examine the feasibility of using a continuous low-cost microwave-assisted treatment system for destruction of organic contaminants in Minnesota soils.	U of MN, College of Food, Agricultural and Natural Resource Sciences	\$	200,000	
2023-198	Hahn	Jennifer	Science Based Soil Health Examination and Execution	Examine the benefits of soil health implementation to both operators and natural resources, and support practical implementation approaches to encourage and elevate success.	Washington Conservation District	\$	199,000	
2023-212	Arvidson	Adam	Enhancing Habitat Connectivity within the Urban Mississippi Flyway	A pilot project that will enhance connectivity within the Mississippi Flyway by linking urban neighborhood parks to the Mississippi River through restoration and implementation of identified habitat corridors.	Minneapolis Park and Recreation Board Subtotal =	\$	190,000 2,354,000	
G. Land Acquisition, Habitat, Recreation (25 Proposals / \$76,201,000)								
2023-009	Vlaminck	Dawn	Bluebird Creek Trail	Improvement and expansion of walking/biking trail to create connectivity, increase public access to conservation areas, and increase recreational opportunities in our community.	City of Ghent	\$	10,906,000	

Proposal							
ID	Last Name	First Name	Title	Summary	Organization	Red	quested \$
				To complete construction of northern 3.7-mile			-
			The Missing Link: Fairview Township Trail	"missing link" segment of Fairview Township's portion			
2023-012	Yoho	Marla	Part 2	of Gull Lake Trail. (Part 2).	Fairview Township	\$	1,443,000
				This project consists of the design and construction of			
				a new campground with necessary amenities in the			
2023-024	Pelland	Sonja	Littlefork Public RV Campground	City of Littlefork.	City of Littlefork	\$	4,500,000
				Scientific and Natural Area (SNA) habitat			
				restoration/enhancement (500+ acres), increased			
				public involvement, and strategic acquisition (50+			
			SNA Stewardship, Outreach, and	acres) will conserve Minnesota's most unique places	MN DNR, Ecological and Water		
2023-028	Roske	Molly	Biodiversity Protection	and rare species for everyone's benefit.	Resources Division	\$	1,955,000
				Acquire 174.55 acres for river corridor conservation			
				and future development of Wannigan Regional Park,	Frazee Community Development		
				where the Heartland State, North Country National,	Corporation, Wannigan Regional		
2023-032	Anderson	Denise	Wannigan Regional Park Land Acquisition	and Otter Tail River Water Trails will meet.	Park Land Acquisition FCDC	\$	727,000
				Provide approximately 19 matching grants for local			
				parks, trail, acquisition of natural areas and trails to			
			Local Parks, Trails and Natural Areas Grant	connect people safety to desirable community			
2023-039	Mularie	Audrey	Programs	locations and regional or state facilities.	MN DNR, Grants Unit	\$	4,000,000
				This project will complete a critical Minnesota River			
			MN River Valley State Trail, Appleton/Marsh	State Trail connection to the recently redeveloped			
2023-045	Hegland	Dawn	Lake	Marsh Lake Recreation area.	Swift County	\$	3,808,000
				The Minnesota Forest Zone Trappers Association			
				(MFZTA) is requesting a \$7,500,000 grant to acquire			
				additional property and develop a Sportsmen's &			
			Sportsmen's and Women's Training and	Sportswomen's Outdoor Training and Development	Minnesota Forest Zone Trappers		
2023-052	Sogard	Ray	Development Learning Center	Center.	Association	\$	7,500,000
				Prairie outreach and technical assistance will be			
				provided to landowners, practitioners, and the public.			
				Native prairie enhancement and monitoring activities			
			Native Prairie Outreach and Stewardship	will be implemented on existing Native Prairie Bank	MN DNR, Ecological and Water	١.	
2023-064	Schulte	Judy	through Native Prairie	Easements.	Resources Division	\$	650,000

Proposal						
ID	Last Name	First Name	Title	Summary	Organization	Requested \$
2023-081	Skaar	Kent	Minnesota State Trails Development	This project proposes to expand recreational opportunities on Minnesota State Trails through the rehabilitation and enhancement of existing state trails and replacement or repair of existing state trail bridges.	MN DNR, State Parks and Trails Division	\$ 5,925,000
2023-091	Keller	Nate	East Park	Complete the first phase of East Park along the Sauk River in St. Joseph, including a canoe/kayak access, floating dock, paved and mowed trails, and parking/entrance enhancements.	City of St. Joseph	\$ 700,000
2023-110	Cammilleri	Kenneth	Scandia Gateway Trail to William O'Brien State Park	Complete construction-ready Gateway State Trail segment between Scandia Village Center and William O'Brien State Park with highway tunnel and trailhead parking lot on ROW already acquired by DNR.	City of Scandia	\$ 7,00,000
2023-127	Gruber	Anna	35th Street North Trail Connection	Construction of a 10-foot wide, paved, multi-use trail along 35th Street North between existing trails at Blackberry Circle and 12th Avenue North. Trail connection length would be 3,600 feet.	City of Sartell	\$ 840,000
2023-141	Arola	Nick	Hull Rust Mine View Park	The Hull Rust Mine View located within Hibbing, MN City limits, is an overlook park residing on top of a stockpile overlooking the massive Hull Rust Mine.	City of Hibbing	\$ 1,416,000
2023-148	Kok	Shelby	Acquisition of State Parks and Trails Inholdings	Acquire top priority in-holdings within legislatively established boundaries of Minnesota's 75 State Parks and State Recreation Areas and 26 State Trails from willing sellers.	MN DNR, State Parks and Trails Division	\$ 6,211,000
				Acquire, preserve and enhance strategic quality natural resources and expand outdoor recreational access to the St. Louis River through additions and connections to state, regional, and local parks and		
2023-172	Knettel	Cliff	St. Louis River Re-Connect Phase II	trails.	City of Duluth	\$ 1,469,000
2022 222		- III	City of Moose Lake - Campground	Expansion of Moose Lake Campground adding 21 campsites to accommodate recreational vehicles and tent campers. New campground office/garage will be constructed and both existing bathhouses will be		4 2552255
2023-204	Owens	Ellissa	Improvements	upgraded.	City of Moose Lake	\$ 3,563,000

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Proposal ID	Last Name	First Name	Title	Summary	Organization	Re	quested \$
	<u> Last Italiic</u>	THIS HAIR	Title	To protect the natural resource of the North Shore of	O I gamzation	-110	questeu y
				MN and beyond, and expose more people to the sport			
				Cross Country skiing through the Arts and Cultural	Norpine Trail Association, Cook		
2023-205	Kindler	Patrick	Norpine Trail Association - Thomas Dambo	Heritage.	County Trail system	\$	325,000
			- P			<u> </u>	,
				Reconstruction & renovation of amenities and multi-			
				modal pathways to, and within, the Biwabik Recreation			
				Area which consists of the city campground, beach,			
2023-207	Jacobson	Jeff	City of Biwabik Recreation	boat access, fishing pier, and walking/biking trails.	City of Biwabik	\$	1,414,000
				Development of a Multi-Modal Trailhead Center that			
				provides ample parking, safe access to non-motorized			
				and motorized trails, a multi-use building with			
				lavatories/showers, picnic/playgrounds, and			
2023-210	Fralich	Lana	Silver Bay Multimodal Trailhead Project	conveniently located.	City of Silver Bay	\$	3,000,000
				This project would acquire industrial acreage from			
			Above the Falls Regional Park Acquisition	willing sellers along the Mississippi River within the	Minneapolis Park and		
2023-213	Arvidson	Adam	and Restoration	Above the Falls Regional Park.	Recreation Board	\$	2,000,000
				The City of Ranier will be constructing a safe			
				harbor/transient dock on Rainey Lake to accommodate		١.	
2023-227	Gautreaux	Sherril	Ranier Safe Harbor/Transient Dock Phase 3	watercraft of all sizes.	City of Ranier	\$	1,238,000
				The Redhead Mountain Bike Park will add an			
				additional 14 miles of trail and accommodations to			
2023-231	Johnson	Donna	Redhead Mountain Bike Park	Redhead Mountain Bike Trail System at the Minnesota	Minnosota Dissovery Contor	\$	1,977,000
2023-231	JOHNSON	Donna	Redileda Mountain Bike Park	Discovery Center in Chisholm, Minnesota. The Otter and Campbell Lakes Restoration Project will	Minnesota Discovery Center	Ş	1,977,000
				restore and improve habitat within the lakes and			
			Otter and Campbell Lake Restoration	provide additional public access and opportunities for			
2023-239	Paulson		Project	lake recreation activities.	City of Hutchinson	\$	5,050,000
2023-239	rauisoii	JOIIII	rioject	Construction of the Maplewood State Park Segment	City of Hutchinsoff	ڔ	3,030,000
				(4.2 miles) of the 32-mile Perham to Pelican Rapids			
				Regional Trail that will connect the City of Pelican			
2023-249	Leonard	Nicholas	Maplewood State Park Trail Segment	Rapids to Maplewood State.	Otter Tail County	Ś	2,514,000
	20011010	. 110110103	maple mode of date i dirk i i din degitient		Subtotal =	т	76,201,000

G. Land Acquisition, Habitat, and Recreation

Last Name	First Name	Title	Summary	Organization	Re	quested \$
H. Small Projects (4 Proposals / \$740,000)						
			Install a modern bathroom, hook up to local rural			
			water provider, improve and remodel current shelter	Jackson County, Jackson County		
			house, and add additional recreational opportunities	Public Works Department-		
Bartosh	Jeremy	Sandy Point Park	at Sandy Point Park for the public.	Parks & Trails Division	\$	198,000
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Ni a mallo mand	Davil			Consider Coaling Association	,	200.000
Noraiuna	Paul	Renabilitation: Phase II		Superior Cycling Association	Ş	200,000
			, ,			
			·			
Otremba	Bob	Development		,	\$	200,000
	_	•	·			
Pietila	Miranda	Planning	Two Harbors Waterfront.	*		142,000
						740,000
			•			
			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
Shorman		ML 2022 Contract Agreement				
	Katherine	<u> </u>		MN DNR Grants Unit	¢	224,000
Hoeim	Ratherine	rembursement	Tappi oved work pians.			224,000
				Subtotal –	7	224,000
				Total =	\$:	164,004,000
	Bartosh Nordlund Otremba	Bartosh Jeremy Nordlund Paul Otremba Bob Pietila Miranda tration (1 Proposal / \$22	Bartosh Jeremy Sandy Point Park Grand Marais Mountain Bike Trail Rehabilitation: Phase II Pierz Gravel Pit Restoration - Park Development Two Harbors Lake Superior Waterfront Planning tration (1 Proposal / \$224,000) Sherman- ML 2023 Contract Agreement	Install a modern bathroom, hook up to local rural water provider, improve and remodel current shelter house, and add additional recreational opportunities at Sandy Point Park for the public. Rehabilitate existing mountain bike trail to increase environmental sustainability through best trail building practices and to provide better user access through modifications allowing adaptive cycling opportunities. Purchase land adjacent to city owned park and campground for the purpose of restoration and expansion. Create a master park plan to enhance the regional park, trail, and campground. Two Harbors Lake Superior Waterfront Planning Two Harbors Lake Superior Waterfront Two Harbors Waterfront. Provide contract management to ENRTF pass-through appropriation recipients for approximately 115 open grants. Ensure funds are expended in compliance with appropriation law, state statute, grants policies, and	Install a modern bathroom, hook up to local rural water provider, improve and remodel current shelter house, and add additional recreational opportunities at Sandy Point Park at Sandy Point Park for the public. Bartosh Jeremy Sandy Point Park at Sandy Point Park for the public. Rehabilitate existing mountain bike trail to increase environmental sustainability through best trail building practices and to provide better user access through modifications allowing adaptive cycling opportunities. Purchase land adjacent to city owned park and campground for the purpose of restoration and expansion. Create a master park plan to enhance the regional park, trail, and campground. City of Pierz The City of Two Harbors is requesting a \$142,000 grant to complete a site evaluation and a master plan for the Development to complete a site evaluation and a master plan for the City of Two Harbors Subtotal = tration (1 Proposal / \$224,000) Provide contract management to ENRTF pass-through appropriation recipients for approximately 115 open grants. Ensure funds are expended in compliance with appropriation law, state statute, grants policies, and AMN DNR, Grants Unit Subtotal =	Install a modern bathroom, hook up to local rural water provider, improve and remodel current shelter house, and add additional recreational opportunities at Sandy Point Park at Sandy Point Park for the public. Rehabilitate existing mountain bike trail to increase environmental sustainability through best trail building practices and to provide better user access through modifications allowing adaptive cycling opportunities. Purchase land adjacent to city owned park and campground for the purpose of restoration and expansion. Create a master park plan to enhance the regional park, trail, and campground. Pietila Miranda Planning Pietila Miranda Pietila Pietila Pietila Miranda Pietila Pieti