_		_			Resolutions /	Support		
Proposal ID	Last Name	First Name	Title	Organization	Authorization	Letters	Tax Info Received	Funding Total
A. Foundatio	nal Natural Res	ource Data and	Information (32 Proposals / \$27,642,000)					
2021-011	Whitfeld	Timothy	Minnesota Flora: A New Generation of Discovery	U of MN, Bell Museum of Natural History		(9)		\$1,527,000
2021-031	Grinde	Alexis	Grassland Bird Conservation: To hay or delay?	U of MN, Duluth - NRRI	U of MN Approval	(1)		\$552,000
2021-052	Fieberg	John	Monitoring Carnivores Statewide: A Citizen-Science Trail- Cam Project	U of MN, College of Food, Agricultural and Natural Resource Sciences	U of MN Approval	(1)		\$450,000
2021-054	Јоусе	Michael	Distribution and Movements of Fishers in Southern Minnesota	U of MN, Duluth - NRRI	U of MN Approval	(2)		\$415,000
2021-055	Perleberg	Donna	Protecting Minnesota's Beneficial Macroalgae: All Stoneworts Aren't Starry	MN DNR, Ecological and Water Resources Division		(1)		\$1,081,000
2021-056	Јоусе	Michael	Healthy Forests: Wildlife as Dispersers of Beneficial Fungi	U of MN, Duluth - NRRI	U of MN Approval	(1)		\$290,000
2021-061	Onello	Emily	Manoomin Matters	U of MN, Duluth	U of MN Approval	(1)		\$314,000
2021-071	Putzier	Paul	County Groundwater Atlas	MN DNR, Ecological and Water Resources Division		(1)		\$2,500,000
2021-082	Arends	Heather	Aggregate Resource Mapping of St. Louis County	MN DNR, Lands and Minerals Division		(2)		\$767,000
2021-087	Markle	Tricia	Improving Resiliency and Conservation Outcomes for Minnesota Turtles	Minnesota Zoological Society				\$460,000
2021-103	Bump	Joseph	Offal Wildlife Watching: How Do Hunters Provision Scavengers?	U of MN, College of Food, Agricultural and Natural Resource Sciences		(1)		\$531,000
2021-104	Haus	Jacob	Habitat Use and Recruitment Rates in Exurban Wolves	Minnesota State Colleges and Universities, Bemidji State University				\$263,000
2021-113	Carlson	Bruce	Minnesota Biological Survey: Setting a Future Course	MN DNR, Ecological and Water Resources Division				\$3,200,000
2021-118	Halbach	Myrna	2021 Groundwater Contamination Mapping Project	Minnesota Pollution Control Agency				\$940,000
2021-126	Ozersky	Ted	Are Fish Mercury Concentrations Higher in Winter?	U of MN, Duluth - Large Lakes Observatory	U of MN Approval			\$387,000
2021-133	Berman	Jesse	Ticks in Minnesota! Informing Control and Response	U of MN, School of Public Health		(1)		\$250,000
2021-138	Lusardi	Barbara	Geologic Atlases for Water Resource Management	U of MN, MN Geological Survey				\$4,122,000
2021-152	Isbell	Forest	Assessing Benefits of Enhancing Biodiversity in Habitat Fragments	U of MN, Cedar Creek Ecosystem Science Reserve				\$498,000
2021-156	Fulton	David	Human Dimensions of Urban Carnivore Management	U of MN, College of Food, Agricultural and Natural Resource Sciences	U of MN Approval	(3)		\$392,000
2021-159	Knopik	Josh	Collaborative State and Tribal Wild Rice Monitoring Program	MN DNR, Ecological and Water Resources Division		(3)		\$859,000
2021-166	Bazurto	Jannell	Survey of Overlooked Natural Resource: Plant Growth- Stimulating Microbes	U of MN, College of Biological Sciences	U of MN Approval			\$339,000

					Resolutions /	Support		
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2021-181	Lord	Chris	Update Metro MLCCS for Enhanced Natural Resource Management	Metro Conservation Districts	Yes - signed	(3)	N/A	\$499,000
2021-183	Slaats	Alison	Supporting Integrated Resource Management through Upgraded Lidar Products	Minnesota IT Services		(2)		\$3,200,000
2021-228	Mulla	David	Solar Co-Benefits: Reducing Nitrates, Enhancing Habitat, Sequestering Carbon	U of MN, College of Food, Agricultural and Natural Resource Sciences				\$344,000
2021-230	Guala	Michele	Opening or Closing Parks in a Pandemic?	U of MN, St. Anthony Falls Laboratory				\$343,000
2021-243	Monson Geerts	Stephen	Baseline Asbestos-EMP Study of NE Minnesota Air, Pre- Mining	U of MN, Duluth - NRRI	U of MN Approval			\$388,000
2021-278	Dingmann	Brian	Preserving Minnesota's Wetlands: Our Resource for Future Medicine	U of MN, Crookston		(1)		\$247,000
2021-291	Weegman	Matt	Factors Influencing Wild Turkey Productivity in Southeast Minnesota	National Wild Turkey Federation	Yes - signed	(1)	Yes 2017-2018 28 pages	\$809,000
2021-354	Shen	Lian	Modeling Wind Energy Resources and Environment in Minnesota	U of MN, St. Anthony Falls Laboratory				\$318,000
2021-359	Caldwell	Wendy	Uniting Public and Private Sectors to Protect Pollinators	Monarch Joint Venture	Yes - signed		990 EZ 2018 & 1 pg of Profit & Loss Statement 2019	\$341,000
2021-372	Anderson	Pamela	Providing Critical Water Quality Information: Harmful Algal Blooms	Minnesota Pollution Control Agency		(4)		\$657,000
2021-396	West	Elena	Bioacoustics for broad-scale species monitoring and conservation	U of MN, College of Food, Agricultural and Natural Resource Sciences		(1)		\$359,000
A. Foundatio	onal Natural Res	ource Data and	Information					
H. Small Proj	jects (15 Propo	sals / \$2,575,00						
2021-019	Fallon	Ann	Does the Herbicide Paraquat Harm Insect Microbial Symbionts?	U of MN, College of Food, Agricultural and Natural Resource Sciences	U of MN Approval			\$157,000
2021-027	Sherman-Hoehn	Katherine	ML 2021 Contract Agreement Reimbursement	MN DNR, Grants Unit				\$135,000
2021-032	Grinde	Alexis	What's "Bugging" Minnesota's Insect-Eating Birds?	U of MN, Duluth - NRRI	U of MN Approval			\$199,000
2021-048	Duplissis	John	Precision Forest Inventory for Aspen and Red Pine	U of MN, Duluth - NRRI	U of MN Approval			\$199,000
2021-088	Moen	Ron	Minnesota Mammal Resource Atlas	U of MN, Duluth - NRRI	U of MN Approval			\$148,000
2021-112	Drewitz	Matt	Mapping Existing Structural Practices in Vulnerable Agricultural Landscapes	Board of Water and Soil Resources				\$190,000
2021-140	Zajac	Kristy	Redwood County RIM Easement Evaluation and Public Outreach	Redwood Soil & Water Conservation District	Yes - signed	(3)	N/A	\$197,000
2021-201	Clark	Mark	Status of Bigmouth Buffalo Populations in Minnesota	U of MN, Duluth				\$196,000

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2021-225	Huberty	Brian	Eyes Over Minnesota's Natural Resources	SharedGeo	Yes - Letter	(2)	Yes Form 990EZ 4 pages	\$119,000
2021-234	Stanton	Daniel	Moss and Lichens of Minnesota Prairies and Meadows	U of MN, College of Biological Sciences				\$200,000
2021-238	Wettstein	Shannon	Morrison County Performance Drainage and Hydrology Management II	Morrison Soil and Water Conservation District	Yes - Letter	(3)	N/A	\$197,000
2021-277	Aukema	Brian	Biocontrol breakdown in Minnesota's spruce budworm- affected forests	U of MN, College of Food, Agricultural and Natural Resource Sciences	U of MN Approval	(2)		\$200,000
2021-289	Frelich	Lee	A Biodiversity Checkup for Minnesota's Big Woods	U of MN, College of Food, Agricultural and Natural Resource Sciences		(1)		\$109,000
2021-321	Ponder	Julia	Microbiome in Raptors: A New Tool for Conservation	U of MN, Raptor Center	U of MN Approval	(1)		\$129,000
2021-400	Hahn	Jennifer	Unearthing Soil Health Economics in Southern Minnesota	Minnesota Soil Health Coalition	No Resolution Attached		Yes 4 pgs from Minnwest Bank	\$200,000
B. Water Res	sources (50 Pro	posals / \$30,43!	5,000)					
2021-023	Schumann	David	Larval Fishes as Indicators of Lake Ecosystem Change	University of Wisconsin-La Crosse	UW Approval	(1)	Yes FY17-18 Audit 247 pages	\$410,000
2021-047	Johnson	Heather	Updating Pesticide Analytical Capabilities to Protect Minnesota Waters	Minnesota Department of Agriculture				\$3,000,000
2021-050	Brady	Valerie	Trout Stream Habitat Restoration Success	U of MN, Duluth - NRRI	U of MN Approval	(1)		\$375,000
2021-053	Ulrich	Bridget	Protecting Minnesota's Waters Using Sustainable Waste Materials	U of MN, Duluth - NRRI	U of MN Approval	(1)		\$497,000
2021-057	Chun	Chan Lan	Reducing Nutrients and Methane Emissions Using Wetland Microbes	U of MN, Duluth - NRRI	U of MN Approval			\$334,000
2021-090	Beck	Brian	Leveraging Innovations in Data Analytics for Project Implementation	Minnehaha Creek Watershed District	Yes - signed	(11)	N/A	\$883,000
2021-114	Kang	Peter	Multi-scale Aquifer Characterization for Successful Aquifer Storage/Recovery	U of MN, St. Anthony Falls Laboratory	U of MN Approval			\$671,000
2021-121	Behrens	Sebastian	Monitoring Emerging Viruses in Minnesota's Urban Water Cycles	U of MN, College of Biological Sciences		(1)		\$489,000
2021-127	Fritz	Charles	Water Storage Project Implementation Framework	International Water Institute	Yes - Letter		Yes 2019 16 pages	\$290,000
2021-130	Baker	Anna	Sediment-phosphorus management in Rainy-Lake of the Woods Basin	US Geological Survey, Upper Midwest Water Science Center	No Resolution Attached	(1)		\$515,000
2021-134	Edlund	Mark	Salt Threatens Minnesota Water Quality and Food Webs	Science Museum of Minnesota, St. Croix Watershed Research Station	Yes - Letter		Yes Form 990 57 pages	\$1,174,000

					Resolutions /	Support		
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2021-142	Martinovic- Weigelt	Dalma	Refined Petroleum Leaks: Improving Remediation and Risk Assessment	University of St. Thomas	N/A		Yes 2018-2019 41 pages	\$340,000
2021-144	Singer	Randall	Microgeographic Impact of Antibiotics Released from Identified Hotspots	U of MN, College of Veterinary Medicine	U of MN Approval	(1)		\$598,000
2021-160	Ishii	Satoshi	Establishment of Safe Water Reuse	U of MN, College of Food, Agricultural and Natural Resource Sciences		(1)		\$362,000
2021-165	Bazurto	Jannell	Microbial Degradation of Formaldehyde to Clean Polluted Waters	U of MN, College of Biological Sciences	U of MN Approval			\$393,000
2021-174	Gran	Karen	Slope Failures in Minnesota: Drivers, Projections, and Mitigation	U of MN, Duluth	U of MN Approval	(4)		\$396,000
2021-177	Cotner	James	Glyphosate, Phosphorus and Harmful Algal Blooms	U of MN, College of Biological Sciences	U of MN Approval	(1)		\$506,000
2021-190	Hondzo	Miki	Quantitative Risk Assessment of Pathogens in Urban Waters	U of MN, St. Anthony Falls Laboratory		(1)		\$499,000
2021-195	Brauman	Kate	Changing Snowmelt Impacts Minnesota Forests, Streams, and Groundwater	U of MN, Institute on the Environment		(2)		\$607,000
2021-204	Miao	Yuxin	Developing Smart-N App to Reduce Corn Nitrogen Pollution	U of MN, College of Food, Agricultural and Natural Resource Sciences		(3)		\$248,000
2021-205	Jordan	Nicholas	Scaling A Market-Driven Water-Quality Solution for Row- Crop Farming	U of MN, College of Food, Agricultural and Natural Resource Sciences				\$909,000
2021-211	Gulliver	John	Reduction of Environmental Impacts with Road De-Icing Alternatives	U of MN, College of Science and Engineering	U of MN Approval	(2)	Yes 2019 92 pages	\$666,000
2021-227	Rose	Lucy	Seasonal Water Quality Effects of Commercial Peat Harvesting	U of MN, College of Food, Agricultural and Natural Resource Sciences	U of MN Approval	(2)	·	\$204,000
2021-242	Groten	Joel	USGS StreamStats Enhances Sediment Monitoring in Minnesota	US Geological Survey, Upper Midwest Water Science Center	No Resolution Attached		N/A	\$300,000
2021-259	Blumentritt	Dylan	Whitewater River Evolution: Sediment Dynamics and Cross- Section Inventory	Minnesota State Colleges and Universities, Winona State University	U of MN Approval			\$265,000
2021-260	Hall	Leah	Floodplain Reconnection in Southeast Minnesota's Driftless Area	The Nature Conservancy	Yes - Letter	(2)	Yes 2019 27 pages	\$572,000
2021-264	Sattar	Junaed	Automated Weed Management for Herbicide Water Runoff Reduction	U of MN, College of Science and Engineering	U of MN Approval	(1)		\$829,000
2021-265	Lenhart	Christian	Farming for Phosphorus Control at the Field Edge	U of MN, College of Food, Agricultural and Natural Resource Sciences		(1)		\$577,000
2021-266	Runck	Bryan	Sustainable Irrigation Management: Expanding a Statewide Web Application	U of MN, College of Food, Agricultural and Natural Resource Sciences		(3)		\$1,519,000
2021-279	Watkins	Eric	Optimizing Youth Sports Fields to Reduce Environmental Impact	U of MN, College of Food, Agricultural and Natural Resource Sciences		(2)		\$957,000
2021-286	Nieber	John	Downscaling Water Storage for Comprehensive Water Resources Management	U of MN, College of Food, Agricultural and Natural Resource Sciences	U of MN Approval	(1)		\$592,000
2021-303	Griffin	Daniel	Rainfall History Recovered from Old Oak Tree Rings	U of MN, College of Liberal Arts				\$332,000

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2021-314	Cui	Tianhong	Solar-Powered Pesticide Sensor Network for Water Monitoring	U of MN, College of Science and Engineering	U of MN Approval			\$660,000
2021-317	Cui	Tianhong	Sensor-Embedded Purification System for Clean Drinking Water	U of MN, College of Science and Engineering	U of MN Approval			\$536,000
2021-326	Marr	Jeffrey	Assessing Impacts of Boat Waves on Minnesota Lakes	U of MN, St. Anthony Falls Laboratory	U of MN Approval	(9)		\$420,000
2021-331	Noe	Ryan	Comprehensive Identification and Visualization of Sourcewater Protection Opportunities	U of MN, Humphrey School of Public Affairs			Yes 2019 92 pages	\$299,000
2021-346	Ruan	Roger	Treatment of Petrochemical Wastewater Using Photocatalysis and Algae	U of MN, College of Food, Agricultural and Natural Resource Sciences	U of MN Approval		Yes 2019 81 pages	\$559,000
2021-348	Ruan	Roger	Enhanced Thermophilic Anaerobic Digestion of Swine Manure	U of MN, College of Food, Agricultural and Natural Resource Sciences	U of MN Approval		Yes 2019 81 pages	\$609,000
2021-349	Ruan	Roger	Novel Microalgae Attached Growth for Animal Wastewater Treatment	U of MN, College of Food, Agricultural and Natural Resource Sciences	U of MN Approval		Yes 2019 81 pages	\$760,000
2021-350	Ruan	Roger	Plastic-Wastes to Fuels and Chemicals through Microwave- Assisted Pyrolysis	U of MN, College of Food, Agricultural and Natural Resource Sciences	U of MN Approval		Yes 2019 81 pages	\$914,000
2021-352	Ruan	Roger	Nitrogen Fixation Using Nano-Photocatalytic Non-Thermal Plasma	U of MN, College of Food, Agricultural and Natural Resource Sciences	U of MN Approval		Yes 2019 81 pages	\$555,000
2021-355	Shen	Lian	Microplastics in Minnesota Water and Impact on Wildlife	U of MN, St. Anthony Falls Laboratory				\$317,000
2021-358	Schoenfuss	Heiko	Assessing Membrane Bioreactor Wastewater Treatment Efficacy	Minnesota State Colleges and Universities, St. Cloud State University				\$493,000
2021-364	LaPara	Timothy	Evaluating Coronavirus and Other Microbiological Contamination of Drinking Water Sources from Wactowater	U of MN, College of Science and Engineering				\$699,000
2021-369	Ziegeweid	Jeffrey	Determining How Altered Streamflows Impair Fish and Macroinvertebrates	US Geological Survey, Upper Midwest Water Science Center	No Resolution Attached	(1)	N/A	\$600,000
2021-376	Lammi	Becky	St. James Pit Water Level Control	City of Aurora	Yes - pending signature		N/A	\$305,000
2021-382	St. Lawrence	Mark	Evaluating Landfill Leachate PFAS Reduction Utilizing Engineered Wetlands	St. Louis County	Yes - signed	(2)	N/A	\$895,000
2021-384	Fuchs	Dennis	Long-Term Nitrate Mitigation by Maintaining Profitable Kernza Production	Stearns County Soil and Water Conservation District	Yes - Letter		N/A	\$571,000
2021-390	Donato	Justin	Antibiotic Resistance and Wastewater Treatment: Problems and Solutions	University of St. Thomas	N/A		Yes 2018-2019 41 pages	\$508,000
B. Water Res H. Small Proj	ources jects (16 Propos	als / \$2,804,000	D)					
2021-025	Kovalenko	Katya	Does Micro-Pollution Impact Aquatic Food Webs and Birds?	U of MN, Duluth - NRRI	U of MN Approval			\$175,000

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2021-076	Noe	Ryan	Will BMPs Be Effective with Increased Precipitation Variability?	U of MN, Humphrey School of Public Affairs		(1)	Yes 2019 Rpt 92 pages	\$63,000
2021-089	Barry	John	Sentinel Springs, Measuring Continuous Groundwater Response and Improvement	MN DNR, Ecological and Water Resources Division		(1)		\$183,000
2021-115	Hu	Во	Novel Nutrient Recovery Process from Wastewater Treatment Plants	U of MN, College of Food, Agricultural and Natural Resource Sciences	U of MN Approval			\$200,000
2021-128	Ulrich	Jason	Resilience and Increased Intense Rain in Minnesota Watersheds	Science Museum of Minnesota, St. Croix Watershed Research Station	Yes - Letter		Yes Form 990 57 pages	\$189,000
2021-158	Dieterman	Doug	Evaluating Stream Habitat Projects in Southeast Minnesota	MN DNR, Fish and Wildlife Division				\$197,000
2021-170	Xiong	Воуа	Minimizing Plastic Pollution through Prediction of Nano/Microplastic Generation	U of MN, College of Science and Engineering				\$200,000
2021-184	Hondzo	Miki	Algal Toxicity Detection and Mitigation in Minnesota Waters	U of MN, St. Anthony Falls Laboratory				\$199,000
2021-189	Musser	Kimberly	Ag-Urban Partnership Pilot: Accelerating Action in Priority Watersheds	Minnesota State Colleges and Universities, Minnesota State University Mankato				\$199,000
2021-216	Brigham	Mark	White Iron Chain of Lakes: Baseline Trace Metals	US Geological Survey, Upper Midwest Water Science Center	No Resolution Attached		N/A	\$117,000
2021-237	Fixen	Kathryn	Converting Toxic Compounds to Fuels Using Solar Energy	U of MN, College of Biological Sciences				\$171,000
2021-258	Wilson	Melissa	Manure Testing for Better Management and Clean Water	U of MN, College of Food, Agricultural and Natural Resource Sciences		(5)	Yes 2019 81 pages	\$200,000
2021-267	Capel	Paul	Optimization of Water-Quality Monitoring in Surface Waters	U of MN, College of Science and Engineering	U of MN Approval			\$147,000
2021-304	Barney	Brett	Minimizing Agricultural Impacts through Biological Nitrogen Fixation Alternatives	U of MN, College of Food, Agricultural and Natural Resource Sciences				\$196,000
2021-379	Downing	John	Understanding and Fixing Excess Lake Oxygen Depletion	U of MN, Duluth	U of MN Approval			\$171,000
2021-381	Wagner	Margaret	Nitrate Testing and Education for Private Well Owners	Minnesota Department of Agriculture		(3)		\$197,000
C. Environme	ental Education	(20 Proposals /	[′] \$9,359,000)					
2021-006	Remucal	David	Promoting Minnesota Conservation through Classroom Plant Science Research	U of MN, Landscape Arboretum		(3)		\$480,000
2021-041	Thompson	Seth	Connecting Minnesotans to Water Through Environmental Education	U of MN, College of Biological Sciences	U of MN Approval			\$287,000
2021-042	Walz	Shannon	Increasing Outdoor Learning For Young Minnesotans	Wolf Ridge Environmental Learning Center	Yes - signed		Yes 2018-2019 22 pages	\$450,000
2021-086	Halvorson	Joel	Boreal Observatory at Chik-Wauk on the Gunflint	Gunflint Trail Historical Society	Yes - signed		Yes 990 1 page	\$545,000

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2021-100	Locke	Christina	MN Backyard Science: Home-Based Environmental Education and Conservation	U of MN, Humphrey School of Public Affairs	U of MN Approval		Yes 2019 Rpt 92 pages	\$502,000
2021-111	Wolf	Tiffany	Engaging Culturally-Diverse Hunting Communities on Chronic Wasting Disease	U of MN, College of Veterinary Medicine				\$288,000
2021-131	Evans	Elaine	Pollinator Education in the Science Classroom	U of MN, College of Food, Agricultural and Natural Resource Sciences				\$430,000
2021-132	Edmiston	Julie	Minnesota Freshwater Quest: Environmental Education for 20000 Youth	Wilderness Inquiry	Yes - signed	(1)	Yes 2018-2019 20 pages	\$932,000
2021-141	Schmitt	Lee	ESTEEM (Earth Science Teachers Environmental Education Matters)	Minnesota Science Teachers Association	Yes - Letter		Yes Form 990 4 pages	\$582,000
2021-146	Wood	Bryan	Providing K-12 Residential Environmental Learning Experiences	Osprey Wilds Environmental Learning Center	Yes - Letter	(1)	Yes 2018-2019 15 pages	\$400,000
2021-175	Blair	Robert	Minnesota Master Naturalist: Nature for New Minnesotans	U of MN, College of Food, Agricultural and Natural Resource Sciences				\$345,000
2021-186	Hausman Rhode	Christina	The Voyageurs Classroom Initiative	Voyageurs National Park Association	Yes - signed	(1)	Yes Form 990 13 pages	\$409,000
2021-219	Thompson	Seth	Promoting Environmental Conservation Through Storytelling	U of MN, College of Biological Sciences	U of MN Approval		Yes 2019 81 pages	\$392,000
2021-240	Adler	Trina	Engaging Diverse Low-Income Residents with Minnesota's Parks	U of MN, Extension Center for Family Development	U of MN Approval			\$568,000
2021-255	Dhakal	Narayan	Cross Cultural Environmental Education	Diversity Intelligence in Climate Action	N/A		Yes Tentative Budget	\$420,000
2021-300	Lord	Chris	Changing Yards and Minds: Overcoming Barriers to Ecoscaping	Metro Conservation Districts	Yes - signed	(8)	N/A	\$546,000
2021-320	Bloome	Katie	Restoring Land, Reviving Heritage: Conservation Through Indigenous Culture	Belwin Conservancy	Yes - Letter	(1)	Yes 2017-2018 32 pages	\$494,000
2021-335	Papanikolopoulos	Nikolaos	Water Quality and Robots: Experientially Educating Minnesotan Youth	U of MN, College of Science and Engineering		(2)		\$344,000
2021-341	Lenczewski	John	Fostering Water Stewardship Through Hands-On Learning	Minnesota Trout Unlimited	No Resolution Attached		Yes 2019 20 pages	\$654,000
2021-386	Burns	Katie	Bird Academy: Conservation for Kids	Audubon Minnesota	No Resolution Attached	(1)	Yes 1 pg - FY20 Spring Forecast	\$291,000
	ental Education							
H. Small Proj	jects (14 Propos	als / \$2,108,00	0)				1	
2021-026	Donahue	Patrick	Off-site Construction Technology Portal	U of MN, Duluth - NRRI	U of MN Approval	(6)		\$197,000

					Resolutions /	Support		
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2021-085	Cadieux	Valentine	Ecosystem Benefits from Urban Agriculture	Hamline University	N/A		Yes 2018-2019 46 pages	\$200,000
2021-116	Furuseth	Lee	Water: Keep It Fresh	Headwaters Science Center	Yes - Letter	(3)	Yes Form 990 28 pages	\$86,000
2021-157	Jensen	Marissa	Minnesota Conservation Outreach & Education	Pheasants Forever Inc	Yes - Letter		Yes 2018-2019 44 pages	\$68,000
2021-171	Becker	Beth	Expansion of YMCA Mobile Day Camp	YMCA of the Greater Twin Cities	No Resolution Attached		Yes 2017-2018 38 pages	\$195,000
2021-214	Huberty	Brian	Emergency Location Markers for Minnesota's Trails, Parks & Landings	SharedGeo	Yes - Letter		Yes Form 990 4 pages	\$130,000
2021-224	Daub	Betsy	High School River Bluff Pollinator Habitat Creation	Friends of the Mississippi River	Yes - signed	(2)	Yes 2017-2018 22 pages	\$28,000
2021-226	Watkins	Eric	Smart Lawns: Data-Driven Lawn Care Information for Homeowners	U of MN, College of Food, Agricultural and Natural Resource Sciences		(1)		\$200,000
2021-262	Schultz	Peter	The Longspur Prairie Fund Urban Prairie Learning Lab	The Longspur Prairie Fund	Yes - signed	(1)	Yes 1 pg on financials	\$82,000
2021-311	Mercer-Taylor	Elizabeth	Empowering Youth to Become 21st Century Energy Leaders	U of MN, Institute on the Environment		(6)		\$200,000
2021-323	Ponder	Julia	Expanding Access to Environmental Education for Underserved Communities	U of MN, Raptor Center	U of MN Approval			\$178,000
2021-389	МсСоу	Casey	Firewise in the Classroom	MN DNR, Forestry Division				\$155,000
2021-391	Pulscher	MaryLynn	BioBlitz Urban Parks: Engaging Community in Scientific Efforts	Minneapolis Parks and Recreation Board	Yes - signed		N/A	\$198,000
D. Aquatic ar	nd Terrestrial In	vasive Species	(6 Proposals / \$8,742,000)					
2021-162	Wettstein	Shannon	Oak Wilt Suppression at the Northern Edge II	Morrison Soil and Water Conservation District	Yes - Letter	(2)	N/A	\$498,000
2021-164	Krischik	Vera	Biocontrol of Bee Lawns and Parklands	U of MN, College of Food, Agricultural and Natural Resource Sciences				\$500,000
2021-188	Phelps	Nicholas	Building Knowledge and Capacity for AIS Solutions	U of MN, MAISRC				\$5,000,000
2021-217	Sorensen	Peter	Evaluating Minnesota's Last Best Chance to Stop Carp	U of MN, College of Food, Agricultural and Natural Resource Sciences		(3)		\$499,000
2021-313	Forester	Jeff	Stop Starry Invasion - Community Invasive Species Containment	Minnesota Lakes and Rivers Advocates	Yes - signed	(10)	Yes 2018 26 pages	\$1,676,000
2021-383	James	John	Balancing Aquatic Plant Communities for Recreation and Conservation	Fish and Waters Conservation Fund	Yes		Yes Form 990-EZ 8 pages	\$569,000

					Resolutions /	Support		
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•		vasive Species						
H. Small Proj	jects (3 Proposa	als / \$325,000)				1		
2021-017	Wersal	Ryan	Starch Allocation Patterns of Starry Stonewort (Nitellopsis Obtusa) Harvested from Lake Koronis, MN	Minnesota State Colleges and Universities, Minnesota State University Mankato				\$101,000
2021-091	Anderson	Mike	Long-Term Efficacy of Invasive Removal in Floodplain Forests	Macalester College	N/A	(1)	Yes 2019 Audit 31 pages	\$25,000
2021-268	Hammes	Mary	Mississippi River Crew for Forest Resilience	Mississippi Park Connection	Yes - signed	(11)	Yes 2019 22 pages	\$199,000
E. Air Quality,	Climate Change,	, and Renewable	Energy (22 Proposals / \$16,339,000)					
2021-010	Mwesigye	Aggrey	Enhanced Thermo-Active Foundations for Space Heating in Minnesota	U of MN, Duluth	U of MN Approval			\$367,000
2021-167	Kortshagen	Uwe	Solar Windows: Combining Agriculture and Photovoltaics	U of MN, College of Science and Engineering	U of MN Approval			\$280,000
2021-169	Herrmann	Bryan	Storing Renewable Energy in Flow-Battery for Grid Use	U of MN, Morris		(2)		\$3,210,000
2021-191	Heins	Bradley	Agrivoltaics to Improve the Environment and Farm Resiliency	U of MN, WCROC	U of MN Approval		Yes 2019 Audit 81 pages	\$861,000
2021-196	Swanson	Jacob	Electricity Generation from Glycerol - Minnesota Biodiesel Waste	Minnesota State Colleges and Universities, Minnesota State University Mankato				\$679,000
2021-241	Spigarelli	Brett	Foundational Data for Sequestering CO2 using Minnesota Minerals	U of MN, Duluth - NRRI	U of MN Approval			\$353,000
2021-263	Gutknecht	Jessica	The Carbon Sequestration Potential of a Perennial Grain	U of MN, College of Food, Agricultural and Natural Resource Sciences		(1)		\$219,000
2021-290	Yang	Suo	Efficient Production and Clean Combustion of Renewable Biofuels	U of MN, College of Science and Engineering	U of MN Approval	(1)		\$681,000
2021-294	Feist	Christopher	Behavioral Response of Bald and Golden Eagles to Acoustic Stimuli	U of MN, St. Anthony Falls Laboratory	U of MN Approval			\$307,000
2021-305	Xiong	Воуа	Reducing Plastic Waste by Innovating Waste-To-Energy Conversion Technology	U of MN, College of Science and Engineering				\$530,000
2021-315	Cortus	Erin	Greenhouse Gas Sampling Approaches for Minnesota Livestock Farms	U of MN, College of Food, Agricultural and Natural Resource Sciences	U of MN Approval			\$294,000
2021-318	Simon	Terrence	Efficient Filter and Sensor for Organic PAH Compounds	U of MN, College of Science and Engineering				\$275,000
2021-336	Chan	Gabriel	Distributed Energy Storage Partnerships with Municipal and Cooperative Utilities	U of MN, Humphrey School of Public Affairs	U of MN Approval	(1)	Yes 2019 92 pages	\$364,000
2021-344	Thomas	Steve	Create Jobs Statewide by Diverting Materials from Landfills	Better Futures Minnesota	Yes - Letter		Yes 2017-2018 16 pages	\$2,992,000

					Resolutions /	Support		
Proposal ID	Last Name	First Name	Title	Organization	Authorization	Letters	Tax Info Received	Funding Total
2021-345	Ruan	Roger	Treatment of Organic Medical and COVID-19 Contaminated Wastes	U of MN, College of Food, Agricultural and Natural Resource Sciences	U of MN Approval		Yes 2019 81 pages	\$910,000
2021-347	Ruan	Roger	Renewable and Green Polymers from Pennycress	U of MN, College of Food, Agricultural and Natural Resource Sciences	U of MN Approval		Yes 2019 81 pages	\$559,000
2021-351	Ruan	Roger	Disinfect Airborne-Pathogens and Contaminants in Animal Production Facilities	U of MN, College of Food, Agricultural and Natural Resource Sciences	U of MN Approval		Yes 2019 81 pages	\$754,000
2021-387	Ruan	Roger	Value Added Treatment of Sewage Sludge	U of MN, College of Food, Agricultural and Natural Resource Sciences	U of MN Approval		Yes 2019 81 pages	\$910,000
2021-392	Dry	Carolyn	A Novel CO2-Reducing Cement Made from Minnesota Wastes	Designs by Natural Processes, Inc.	N/A	(3)	Yes FDP Cost Reimbursement Research Subaward Agreement	\$290,000
2021-394	Ranade	Aditya	Assessing Wind Curtailment Reduction Potential via Hydrogen Production	Aerio Technologies	N/A	(1)	Yes 1 pg - 2019 Income Statement	\$751,000
2021-398	Hagel	Tom	Cleaner Air for Park Events and Disaster Resilience	City of St. Paul	No Resolution Attached			\$360,000
2021-402	Kedward	Jennifer	Strengthening Minnesota's Reuse Economy to Conserve Natural Resources	ReUse Minnesota	Yes - signed		Yes 2019 Balance Sheet	\$393,000
E. Air Quality,	Climate Change,	and Renewable	Energy					
H. Small Proje	ects (11 Proposals	s / \$1,634,000)	1					
2021-044	Barry	Brian	Bringing Minnesota Farmers into the Low-Carbon Economy	U of MN, Duluth - NRRI	U of MN Approval			\$176,000
2021-098	Hu	Во	Biomass Inventory for Minnesota Renewable Natural Gas Production	U of MN, College of Food, Agricultural and Natural Resource Sciences	U of MN Approval			\$200,000
2021-135	McFarland	Ashley	Climate Mitigation Through Improved Forest Understory Health	Dovetail Partners Inc	Yes - Letter	(1)	Yes Form 990 34 pages	\$179,000
2021-193	Dahlen	Reta	Restoration of Riverside Park	City of Long Prairie	Yes - signed		N/A	\$156,000
2021-199	Swanberg	Kevin	Twin Ports Air Quality Monitoring and Education Project	Twin Ports Action Alliance	No Resolution Attached		Yes Form 990-EZ 4 pages	\$30,000
2021-202	Shaffer	David	Studying Solar Panels' Impact on Wetland Quality	Minnesota Solar Energy Industries Project	Yes - signed	(1)	Form 990N E-Postcard 1 page 2019 Budget & Projections	\$199,000
2021-239	O'Keefe	Pete	Increasing Recycling of Building Materials, Supplies, Home Goods	Twin Cities Habitat for Humanity, Inc.	No Resolution Attached		Need Tax Info	\$60,000
2021-261	Costa	Kyle	Increasing Efficiency of Methane Digesters	U of MN, College of Biological Sciences				\$148,000
2021-269	Twine	Тгасу	Reducing Urban Heat through Reflective Roofs	U of MN, College of Food, Agricultural and Natural Resource Sciences	U of MN Approval			\$165,000

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2021-281	Guala	Michele	Protecting Stream Banks Producing Energy	U of MN, St. Anthony Falls Laboratory	U of MN Approval			\$198,000
2021-360	Yamin	Mohammad	Sustainable Bricks Using Minnesota Clay and Recycled Aggregate	Minnesota State Colleges and Universities, Minnesota State University Mankato				\$123,000
F. Methods t	o Protect, Rest	ore, and Enhand	e Land, Water, and Habitat (28 Proposals / \$19,15	4,000)				
2021-007	Christenson	Scott	South Central Minnesota Rock Berm Fish Barriers	State Line Lake Restoration Inc	Yes - signed		New nonprofit	\$855,000
2021-022	Barrick	Melissa	Camp Ripley Sentinel Landscape Forest Restoration and Enhancements	Crow Wing Soil and Water Conservation District	Yes - signed	(7)	N/A	\$975,000
2021-039	Davis	Mike	Restoring Mussels in Streams and Lakes - continuation	MN DNR, Ecological and Water Resources Division				\$825,000
2021-058	Tucker	Rebecca	Pollinator Central II: Habitat Improvement with Community Monitoring	Great River Greening	Yes - signed	(5)	Yes 2017-2018 16 pages	\$742,000
2021-059	Windmuller- Campione	Marcella	Maximizing Economic and Ecological Benefits of Forest Management	U of MN, College of Food, Agricultural and Natural Resource Sciences	U of MN Approval	(3)		\$650,000
2021-065	Johnson	Nathan	Phase 2 - Prescribed-Fire Management for Roadside Prairies	Minnesota Department of Transportation				\$255,000
2021-094	Pederson	Eric	Pollinator Habitat Study for Closed Landfill Program	Minnesota Pollution Control Agency				\$300,000
2021-097	Weiss	Eric	Minnesota Green Schoolyards	The Trust for Public Land	Yes - letter signed	(7)	Yes 2019 Audit 33 pages	\$1,997,000
2021-155	Chapman	Eric	Rural-Urban Partnerships to Advance Conservation Farming with Technology	University of St. Thomas	N/A		Yes 2018-2019 41 pages	\$548,000
2021-161	Magner	Joe	Threshold Resiliency with Increased Precipitation Uncertainty	U of MN, College of Science and Engineering				\$1,899,000
2021-180	Hrubes	Jeff	Carbon Sequestration and Climate Resiliency Using Forest Management	Board of Water and Soil Resources				\$615,000
2021-182	Hogan	Christopher	Minnesota Center for Agricultural Spray Drift Reduction	U of MN, College of Science and Engineering	U of MN Approval	(1)		\$1,049,000
2021-212	Gordon	Riley	Reducing Plastic Pollution with Biodegradable Erosion Control Products	Agricultural Utilization Research Institute	Yes - signed		Yes 2019 Audit 20 pages	\$227,000
2021-213	Carson	Michael	Forests, Wildlife & Climate Change: Proactive Landscape Designs	U of MN, North Central Research and Outreach Center				\$404,000
2021-223	Ebtehaj	Ardeshir	Remote Sensing and Super-resolution Imaging of Microplastics	U of MN, St. Anthony Falls Laboratory				\$364,000
2021-231	Daub	Betsy	Urban Pollinator and Native American Cultural Site Restoration	Friends of the Mississippi River	Yes - signed	(3)	Yes 2017-2018 22 pages	\$250,000

					Resolutions /	Support		
Proposal ID	Last Name	First Name	Title	Organization	Authorization	Letters	Tax Info Received	Funding Total
2021-270	Labuz	Joseph	A Safety Rating System of Mining Waste Storage in Northern Minnesota	U of MN, College of Science and Engineering	U of MN Approval		Yes 2019 92 pages	\$390,000
2021-274	Ferrington	Leonard	Winter Dynamics of Vulnerable Trout Streams: Central Minnesota	U of MN, College of Food, Agricultural and Natural Resource Sciences	U of MN Approval			\$520,000
2021-280	Wold	Scott	Economic and Ecological Benefits of Soil Health	Redwood Soil & Water Conservation District	Yes - Letter	(3)	N/A	\$339,000
2021-283	Barney	Brett	Engineered Solutions to Remove Nitrates from Contaminated Waters	U of MN, College of Food, Agricultural and Natural Resource Sciences				\$234,000
2021-295	Arvidson	Adam	Kenilworth Channel Riparian Restoration and Enhancement	Minneapolis Parks and Recreation Board	Yes - signed	(1)	N/A	\$930,000
2021-328	Weegman	Matt	Restoring Oak Forests for Wildlife in Southeast Minnesota	National Wild Turkey Federation	Yes - signed	(1)	Yes 2017-2018 28 pages	\$661,000
2021-337	Shaw	Dan	Lawns to Legumes Program Phase 2	Board of Water and Soil Resources				\$1,389,000
2021-340	Arvidson	Adam	Bohemian Flats Savanna Restoration	Minneapolis Parks and Recreation Board	Yes - signed	(1)	N/A	\$424,000
2021-357	Griffis	Timothy	Quantifying Environmental Benefits of Peatland Restoration in Minnesota	U of MN, College of Food, Agricultural and Natural Resource Sciences		(5)		\$742,000
2021-375	Lewanski	Tom	Reintroduction of Bison to Spring Lake Park Reserve	Dakota County	Yes - signed	(1)	N/A	\$659,000
2021-377	Tuominen	Todd	Elm Creek Habitat Restoration Final Phase	City of Champlin	Yes - Letter		N/A	\$613,000
2021-397	Lenczewski	John	Creating Prioritized Plan for Restoring the Stewart River Watershed	Minnesota Trout Unlimited	No Resolution Attached		Yes 2019 20 pages	\$298,000
	-	ore, and Enhand als / \$2,618,000	ະe Land, Water, and Habitat ງ)					
2021-020	Elston	Bob	Sleepy Eye Lake Reclamation	Board of Water and Soil Resources	Yes - signed			\$120,000
2021-062	Remucal	David	Preserving Minnesota's only Ball Cactus Population	U of MN, Landscape Arboretum		(1)		\$103,000
2021-068	Kerski	Michael	Shakopee Riverfront Habitat Restoration and Education Project	City of Shakopee	Yes - signed	(1)	N/A	\$200,000
2021-078	Taylor	Carrie	Developing a Rare Plant Rescue Program for Minnesota	Anoka Conservation District	Yes - signed	(3)	N/A	\$199,000
2021-084	Sheppard	Kevin	Restoring Upland Forests for Birds	American Bird Conservancy, Great Lakes Program	Yes - pending signature	(5)	Yes 2018 Audit 38 pages	\$193,000
2021-117	Jennings	Carrie	Water, Wildlife and Weather Friendly Labeling Pilot Program	Freshwater Society	Yes - Letter	(1)	Yes 2019 15 pages	\$195,000

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2021-137	Caneff	Denny	Plumbing the Muddy Depths of Superior Hiking Trail	Superior Hiking Trail Association	Yes - signed		Yes 2018-2019 19 pages	\$187,000
2021-229	Gabrielson	Sara	Woodcrest Trail Expansion and Prairie Restoration	Country Manor Foundation	Yes - Letter		Yes Charitable Org Rpt Form	\$92,000
2021-245	Meschke	Linda	Improving Landscape Ecological Value With Hazelnuts	Rural Advantage	Yes - Letter	(1)	Yes Form 990 12 pages	\$161,000
2021-302	Arvidson	Adam	Mississippi Flyway Habitat Fingers	Minneapolis Parks and Recreation Board	Yes - signed		N/A	\$171,000
2021-308	Cariveau	Daniel	Creating Cost-Effective Forage and Management Actions for Pollinators	U of MN, College of Food, Agricultural and Natural Resource Sciences	U of MN Approval	(1)		\$198,000
2021-319	Cui	Tianhong	Surface Water Purification System Powered by Renewable Energy	U of MN, College of Science and Engineering	U of MN Approval			\$200,000
2021-322	Vlaming	Jonathan	Shoreline Stabilization, Fishing, ADA Improvements at Silverwood Park	Three Rivers Park District	No Resolution Attached		N/A	\$200,000
2021-343	Cui	Tianhong	Small, Cheap, and Fast Nitrobenzene Detector for Water	U of MN, College of Science and Engineering	U of MN Approval			\$200,000
2021-356	Shen	Lian	Help MPCP by Understanding Seeds and Pollens Dispersion	U of MN, St. Anthony Falls Laboratory				\$199,000
G. Land Acqu	isition for Habi	tat and Recreat	ion (24 Proposals / \$49,009,000)					
2021-012	Yavarow	Matthew	Perham to Pelican Rapids Regional Trail (McDonald Segment)	Otter Tail County	Yes - signed		N/A	\$2,245,000
2021-013	Cammilleri	Kenneth	Gateway State Trail	City of Scandia	Yes - signed	(8)	N/A	\$4,295,000
2021-021	Hayes	Dillon	Soo Line Trail Trestle Bridge	Mille Lacs County	Yes - signed		Yes 2018 Audit 165 pages	\$725,000
2021-028	Manzoline	Robert	Mesabi Trail CSAH 88 to Ely	St. Louis & Lake Counties Regional Railroad Authority	Yes - signed		N/A	\$2,200,000
2021-043	Mularie	Audrey	Local Parks, Trails and Natural Areas Grant Programs	MN DNR, Grants Unit				\$3,000,000
2021-049	Lee	Jessica	Metropolitan Regional Parks System Land Acquisition- Phase 7	Metropolitan Council				\$3,000,000
2021-069	Schultz	Todd	Sauk Rapids Rapids Project Lions Park	City of Sauk Rapids	Yes - signed		N/A	\$545,000
2021-092	Chanski	David	City of Brainerd - Mississippi Landing Trailhead	City of Brainerd	Yes - signed	(1)	Yes 2018 191 pages	\$3,800,000
2021-093	Welle	Ron	Brooten Land Acquisition	Midwest Outdoors Unlimited	NO - only gave a list of board members		Yes - only a listing	\$950,000
2021-105	Schulte	Judy	Native Prairie Stewardship & Prairie Bank Easement Acquisition	MN DNR, Ecological and Water Resources Division				\$2,100,000
2021-109	Bloom	Katie	Moose Lake - Trunk Highway 73 Trail	City of Moose Lake	Yes - signed	(1)	N/A	\$330,000

		_			Resolutions /	Support		
Proposal ID	Last Name	First Name	Title	Organization	Authorization	Letters	Tax Info Received	Funding Total
2021-145	Wood	Bryan	Preserving Grindstone Lake's Shoreline: McConnell Property Acquisition	Osprey Wilds Environmental Learning Center	Yes - Letter	(2)	Yes 2018-2019 15 pages	\$640,000
2021-151	Roske	Molly	SNA Acquisition, Restoration, Citizen-Science and Outreach	MN DNR, Ecological and Water Resources Division				\$4,760,000
2021-154	Phillips	Courtney	Precision Acquisition for Restoration, Groundwater Recharge and Habitat	Shell Rock River Watershed District	Yes - signed		Yes 2018 61 pages	\$549,000
2021-325	Olson	Neil	Veterans on the Lake	Veterans on the Lake	Yes - Letter	(2)	Need Tax Info	\$650,000
2021-329	Pohlman	JoAnn	Voyageur National Park Crane Lake Visitors Center Project	Town of Crane Lake	Yes - signed		N/A	\$3,600,000
2021-330	Melin	Каусее	Brookston Campground, Boat Launch & Outdoor Recreational Facility Final	City of Brookston	Yes - signed	(1)	N/A	\$500,000
2021-332	Burich	Rebecca	Moose/Seven Beaver Multi-Use Trail Upgrade	City of Hoyt Lakes	Yes - signed	(6)	N/A	\$1,200,000
2021-338	Arvidson	Adam	Above the Falls Regional Park Acquisition and Restoration	Minneapolis Parks and Recreation Board	Yes - signed		N/A	\$1,267,000
2021-339	See-Benes	Britt	Silver Lake Trail Improvement Project	City of Virginia	Yes - signed	(4)	N/A	\$1,428,000
2021-362	Skaar	Kent	Minnesota State Trails Development	MN DNR, State Parks and Trails Division				\$6,000,000
2021-363	Vollbrecht	Lisa	Highbanks Ravine Bat Habernaculum Project	City of St. Cloud	Yes - signed	(1)	N/A	\$1,100,000
2021-371	Skaar	Kent	State Parks and State Trails In-Holdings	MN DNR, State Parks and Trails Division				\$3,725,000
2021-380	Stewart	Nancy	Accessible Fishing Piers and Shore Fishing Areas	MN DNR, State Parks and Trails Division				\$400,000
-	isition for Habi ects (4 Proposa	tat and Recreat ls / \$631.000)	ion					
2021-029	Bartosh	Jeremy	SW MN Single Track Trail	Jackson County	Letter from Jackson Cty Board	(9)		\$190,000
2021-036	Aro	Matthew	A Second Life for Urban Ash Trees	U of MN, Duluth - NRRI	U of MN Approval	(6)		\$156,000
2021-038	Langowski	Harold	Ely Trezona Trail / Pioneer Mine Site Restoration	City of Ely	Yes - signed	(1)	N/A	\$185,000
2021-222	Brand	Jefferson	Lake Brophy Trail Expansion	Big Ole Bike Club	N/A	(3)	Form 990N E-postcard	\$100,000