

2018 RFP - LCCMR Member Presentation Selection Rankings: Environment and Natural Resources Trust Fund Proposals

Sorted by Funding Priority Category in Rank Order (Highest to Lowest) According to Compiled Member Rankings
(where Member Rankings tie, next sorted by Staff Ranking, then Last Name)

| Line #: Green Sheet | Number of Proposals by Category | ID # | Member Ranking | Conflict | Staff Ranking* | Project Title | \$ Requested | Organization | Project Manager |
|---------------------|---|-------|----------------|----------|----------------|---|--------------|-------------------------------------|-------------------------------|
| 4 | A. Foundational Natural Resource Data and Information (33 Proposals/Subtotal \$24,746,468) | | | | | | | | |
| 5 | 1 | 001-A | 14 | | 84 | Minnesota Geological Survey Geologic Atlases for Water Resource Management Part-A | \$4,121,625 | U of MN - MN Geological Survey | Setterholm, Dale |
| 6 | 2 | 002-A | 11 | | 83 | County Geologic Atlas for Water Resource Sustainability Part-B | \$2,400,000 | MN DNR | Putzier, Paul |
| 7 | 3 | 003-A | 10 | | 70 | Providing Critical Water Quality Information for Lake Management | \$477,000 | U of MN | Peterson, Jeffrey |
| 8 | 4 | 004-A | 9 | | 70 | Minnesota Biodiversity Atlas: Phase II Expansion | \$496,000 | U of MN | Weiblen, George |
| 9 | 5 | 006-A | 9 | | 69 | Maximizing Wildlife, Water, and Productivity in Peatland Forests | \$698,000 | U of MN | Windmuller-Campione, Marcella |
| 10 | 6 | 009-A | 8 | | 59 | Minnesota Trumpeter Swan Migration Ecology and Conservation | \$389,988 | U of MN | Andersen, David |
| 11 | 7 | 018-A | 8 | | 50 | Mapping Avian Movement in Minnesota | \$682,060 | U of MN - Duluth NRRI | Niemi, Gerald |
| 12 | 8 | 007-A | 7 | | 65 | Deer Movement Related to Potential CWD Prion Transmission | \$552,456 | MN DNR | Jennelle, Chris |
| 13 | 9 | 011-A | 7 | | 57 | Conserving Minnesota's Turtles through Research and Education | \$364,000 | Minnesota Zoological Garden | Stapleton, Seth |
| 14 | 10 | 012-A | 7 | | 55 | Forest Regeneration – Validating Operational Seed Zones | \$796,395 | U of MN - Duluth | Etterson, Julie |
| 15 | 11 | 015-A | 7 | | 53 | Restoring Prairie Biodiversity and Pollinator Habitat with Haying | \$458,362 | Carleton College | Daniel, Hernández |
| 16 | 12 | 016-A | 7 | | 52 | Conservation of Minnesota's Forest Birds of Management Concern | \$613,998 | U of MN - Duluth NRRI | Grinde, Alexis |
| 17 | 13 | 014-A | 6 | | 54 | An Early Warning System for Wildlife Health Threats | \$280,000 | U of MN | VanderWaal, Kimberly |
| 18 | 14 | 027-A | 6 | | 45 | Foundational Assessment of Soil Health Metrics in Minnesota | \$695,477 | U of MN | Jelinski, Nicolas |
| 19 | 15 | 008-A | 5 | | 64 | Safeguarding Red Pine Forest Health and Productivity | \$420,000 | U of MN | Montgomery, Rebecca |
| 20 | 16 | 019-A | 4 | | 49 | Downstream Effects of Contemporary Forest Practices: Phase 2 | \$294,000 | U of MN | Karwan, Diana |
| 21 | 17 | 026-A | 4 | | 45 | Statewide Wolf Survival Analysis to Build Management Capacity | \$333,179 | U of MN | Bump, Joseph |
| 22 | 18 | 028-A | 4 | | 44 | Cover Crops for Wildlife Phase I | \$346,720 | Pheasants Forever Inc | Bruse, Tanner |
| 23 | 19 | 013-A | 3 | | 55 | Assessing Ecosystem Services Provided by Lichens and Mosses | \$213,000 | U of MN | Stanton, Daniel |
| 24 | 20 | 025-A | 3 | | 46 | Safeguarding Our St. Louis River Restoration Investment | \$378,949 | U of MN - Duluth NRRI | Garono, Ralph |
| 25 | 21 | 005-A | 2 | | 69 | Building a Long-Term Wetland Hydrology Monitoring Network | \$573,413 | MN DNR | Norris, Doug |
| 26 | 22 | 010-A | 2 | | 59 | Improving Watershed Management by Modernizing Hydrography Data | \$1,277,727 | MN DNR | Hines, Nila |
| 27 | 23 | 017-A | 2 | | 52 | Minnesota Soil Microbiomes: Foundational Database for Environmental Health | \$924,000 | U of MN | Kinkel, Linda |
| 28 | 24 | 021-A | 2 | | 48 | Smart Mapping St. Louis River Estuary Habitats | \$301,000 | U of MN - Duluth NRRI | Reschke, Carol |
| 29 | 25 | 022-A | 2 | | 47 | Variable Winter Thermal Regimes and Managing Trout Streams | \$499,935 | U of MN | Ferrington, Leonard |
| 30 | 26 | 029-A | 2 | | 44 | Monitoring and Mapping of Mercury in Western Minnesota | \$489,376 | Minnesota State University Moorhead | Kramar, David |
| 31 | 27 | 030-A | 2 | | 43 | Data Acquisition to Develop Native Mussel Habitat Suitability | \$309,778 | National Park Service | Duncan, Nancy |
| 32 | 28 | 020-A | 1 | | 48 | Maintaining Minnesota's Natural Heritage by Monitoring Landscape Dynamics | \$272,000 | U of MN | Knight, Joseph |
| 33 | 29 | 031-A | 1 | | 41 | Measuring the Impact of Perennial Urban Green Space Management on Soil Ecosystems | \$177,346 | U of MN | Horgan, Brian |
| 34 | 30 | 023-A | 0 | | 47 | Four Centuries of Wildfire in Red Pine Forests | \$257,316 | U of MN | Kipfmuller, Kurt |
| 35 | 31 | 024-A | 0 | | 47 | Wetland-biodiversity Vulnerabilities to Changes In Land-use and Climate | \$481,705 | U.S. Geological Survey | Sadinski, Walt |
| 36 | 32 | 032-A | 0 | | 39 | Automated Boulevard Tree Inventory and Urban Forest Management | \$154,656 | St. Cloud State University | Sarnath, Ramnath |
| 37 | 33 | 033-A | 0 | | 37 | Tracking and Communicating Ice Safety | \$282,000 | U of MN | Magner, Joe |

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|----|--|-------|----|--|----|--|-----------|-------------------------------------|-------------------|
| 38 | B. Water Resources (65 Proposals/Subtotal \$32,197,134) | | | | | | | | |
| 39 | 1 | 041-B | 16 | | 70 | Contaminant Removal Efficiency of Urban Stormwater Treatment Ponds | \$377,588 | St. Cloud State University | Schoenfuss, Heiko |
| 40 | 2 | 035-B | 14 | | 75 | Wastewater Treatment Plant Optimization Pilot Program | \$236,360 | Minnesota Pollution Control Agency | Peck, Joel |
| 41 | 3 | 037-B | 14 | | 73 | Investigation of Road Salt Alternatives and Pavement Innovations | \$521,999 | U of MN | Gulliver, John |
| 42 | 4 | 048-B | 14 | | 63 | Small Cheap Purification System for Cleaner Drinking Water | \$496,788 | U of MN | Cui, Tianhong |
| 43 | 5 | 057-B | 13 | | 60 | Preventing Nitrate Contamination of Groundwater Using Perennial Grains | \$759,312 | Minnesota Department of Agriculture | Peterson, Heidi |
| 44 | 6 | 034-B | 10 | | 76 | Removing Plastic Particle Pollution from Minnesota Water Bodies | \$388,557 | U of MN | Coletti, Filippo |

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|---------------------|---------------------------------|-------|----------------|----------|----------------|---|--------------|---|-----------------------|
| 45 | 7 | 054-B | 10 | | 61 | Emerging Pathogens in Lakes, Rivers, and Tap Water | \$355,244 | U of MN | LaPara, Timothy |
| 46 | 8 | 038-B | 9 | | 72 | Biological Sulfate Removal for Wastewater Treatment in Minnesota | \$494,000 | U of MN | Behrens, Sebastian |
| 47 | 9 | 039-B | 9 | | 71 | Defining Minnesota's Environmental Antibiotic and Antibiotic Resistance Footprint | \$921,584 | U of MN | Singer, Randall |
| 48 | 10 | 045-B | 9 | | 66 | Developing a Map of Arsenic Risk in Groundwater | \$550,000 | U of MN | Ng, G.-H. Crystal |
| 49 | 11 | 042-B | 6 | | 68 | Rapid Detection of Algal Toxins in Minnesota Lakes | \$686,013 | U of MN - Duluth NRRRI | Bramburger, Andrew |
| 50 | 12 | 064-B | 6 | | 56 | Unregulated Contaminants: Addressing Gaps in Drinking Water Protection | \$2,107,920 | Minnesota Department of Health | Robertson, Stephen |
| 51 | 13 | 067-B | 5 | | 54 | Innovative Technology to Remove Nitrate from Surface Water | \$173,847 | St. Cloud State University | Sivaprakasam, Kannan |
| 52 | 14 | 068-B | 5 | | 54 | Rural Wastewater Treatment: Water Reuse and Energy Production | \$297,000 | U of MN | Zamalloa, Carlos |
| 53 | 15 | 086-B | 5 | | 44 | Optimal Configuration of Windbreaks for Agricultural Water Conservation | \$368,614 | U of MN | Ebtehaj, Ardeshir |
| 54 | 16 | 036-B | 4 | | 73 | Phosphorus Accumulating Fungi to Control Agricultural Runoff Pollution | \$361,000 | U of MN | Bushley, Kathryn |
| 55 | 17 | 047-B | 4 | | 66 | Natural Denitrification: Helping and Hiding Drinking Water Problems | \$664,000 | U.S. Geological Survey | Trost, Jared |
| 56 | 18 | 055-B | 4 | | 60 | Working Farmlands: Targeting Alfalfa Production for Water Protection | \$752,913 | U of MN | Jordan, Nicholas |
| 57 | 19 | 058-B | 4 | | 59 | Preventing Lake and Stream Pollution from Stormwater Ponds | \$535,740 | U of MN | Gulliver, John |
| 58 | 20 | 094-B | 4 | | 37 | ShellRock River Watershed Stormwater Quality Trading Pilot Program | \$350,000 | Shell Rock River Watershed District | Christensen, Courtney |
| 59 | 21 | 044-B | 3 | | 66 | Wetland Contribution to Methylmercury Pollution of Surface Waters | \$567,604 | U of MN | Janke, Benjamin |
| 60 | 22 | 049-B | 3 | | 63 | Bounty and Outreach Program for Enhanced Recovery of Unwanted Mercury | \$467,000 | Minnesota Pollution Control Agency | Gilkeson, John |
| 61 | 23 | 053-B | 3 | | 61 | Rise and Fall of Superior: Water and Security | \$406,000 | U of MN - Duluth | Downing, John |
| 62 | 24 | 056-B | 3 | | 60 | Water Quality Through Capture/use of Agricultural Runoff | \$600,000 | U of MN | Lewandowski, Ann |
| 63 | 25 | 065-B | 3 | | 55 | Lake Restoration: Benefits and Duration in Agricultural Landscapes | \$459,356 | U of MN | Hansen, Amy |
| 64 | 26 | 071-B | 3 | | 53 | Sulfide Mineral-eating Microbes to Improve Water Quality | \$339,667 | U of MN | Jones, Daniel |
| 65 | 27 | 072-B | 3 | | 53 | Increasing Contaminants and Temperature Eliminate Minnesota Turtles | \$248,632 | St. Cloud State University | Kohno, Satomi |
| 66 | 28 | 074-B | 3 | | 53 | Minnesota's Coldwater Fish Decline: Causes and Solutions | \$789,021 | U of MN - Duluth NRRRI | Reavie, Euan |
| 67 | 29 | 082-B | 3 | | 48 | Water Quality Benefits of Red River Basin Impoundments | \$495,042 | Red River Basin Commission | Ostlund, Aaron |
| 68 | 30 | 096-B | 3 | | 34 | Creating a Algal Toxin Alert Network for Central and Upper Minnesota | \$154,630 | St. Cloud State University | Julius, Matthew |
| 69 | 31 | 040-B | 2 | | 70 | Promoting Nitrogen Removal in Channels, Floodplains, and Riparian Areas | \$390,641 | U of MN | Hondzo, Miki |
| 70 | 32 | 043-B | 2 | | 67 | Hydro acoustic Monitoring to Understand Sediment Impacts - Phase 2 | \$328,640 | U.S. Geological Survey | Groten, Joel |
| 71 | 33 | 046-B | 2 | | 66 | Improving Agricultural Sustainability on Irrigated Sandy Soils | \$470,000 | U of MN | Rosen, Carl |
| 72 | 34 | 050-B | 2 | | 63 | Linking Food, Energy, and Water For Resource Recovery | \$941,600 | U of MN | Novak, Paige |
| 73 | 35 | 051-B | 2 | | 63 | Hydrochars to Remove Nitrates from Agricultural Drainage | \$359,000 | U of MN | Valentas, Kenneth |
| 74 | 36 | 059-B | 2 | | 57 | Developing Nutrient Separation Systems for Livestock Environmental Sustainability | \$304,000 | U of MN | Lin, Hongjian |
| 75 | 37 | 066-B | 2 | | 55 | Predicting Impact of Oil Spill in Minnesota Lakes | \$394,948 | U of MN | Lee, Sungyon |
| 76 | 38 | 070-B | 2 | | 53 | Nutrient Removal and Recovery Technology for Agricultural Drainage | \$880,000 | U of MN | Ishii, Satoshi |
| 77 | 39 | 075-B | 2 | | 53 | Water Saving Subsurface Irrigation to Reduce Contamination | \$93,391 | U of MN | Strack, Otto |
| 78 | 40 | 077-B | 2 | | 52 | Establishing Priorities for Restoring Minnesota's Nutrient-impaired Lakes | \$375,000 | Science Museum of Minnesota | Edlund, Mark |
| 79 | 41 | 081-B | 2 | | 48 | Web-GIS for Satellite Monitoring of all Minnesota Lakes | \$393,506 | U of MN | Ebtehaj, Ardeshir |
| 80 | 42 | 092-B | 2 | | 39 | Geospatial Airborne Sensor Survey to Manage Water Resources | \$999,768 | Northland Community and Technical College | Bergee, Anton |
| 81 | 43 | 093-B | 2 | | 39 | A Landscape Conservation Design for the Lower St. Louis River | \$397,000 | Minnesota Land Trust | Peterson, Daryl |
| 82 | 44 | 052-B | 1 | | 62 | Characterizing Fractured Bedrock to Assess Pollution Risk to Groundwater | \$330,000 | U of MN | Guzina, Bojan |
| 83 | 45 | 060-B | 1 | | 57 | Improving Water Quality by Capturing Sulfate in Wetlands | \$578,000 | U of MN | Santelli, Cara |
| 84 | 46 | 061-B | 1 | | 56 | Natural Nitrogen Fertilizer Production with Low-Runoff Potential | \$727,000 | U of MN | Barney, Brett |
| 85 | 47 | 063-B | 1 | | 56 | Benefits of Lake Plant Diversity for Water Quality | \$463,113 | U of MN | Larkin, Daniel |
| 86 | 48 | 076-B | 1 | | 53 | Protecting Fish Habitat in Streams From Groundwater Withdrawal | \$93,391 | U of MN | Strack, Otto |
| 87 | 49 | 078-B | 1 | | 52 | How does Iron Protect Wild Rice from Sulfate? | \$401,142 | U of MN - Duluth | Johnson, Nathan |
| 88 | 50 | 079-B | 1 | | 50 | Determining the Impact of Microfibers on Septic System Performance | \$367,000 | U of MN | Heger, Sara |
| 89 | 51 | 083-B | 1 | | 48 | Incentivizing Oilseed Cash Cover Crops for Water Quality Improvement | \$1,320,000 | U of MN | Wells, M. Scott |

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| 90 | 52 | 087-B | 1 | | 44 | Sediment Impairments in Northern Minnesota Non-Agricultural Streams | \$335,000 | U of MN | Karwan, Diana |
| 91 | 53 | 090-B | 1 | | 41 | Determining Which Iron Minerals Remove Phosphorous from Stormwater | \$384,591 | U of MN | Feinberg, Joshua |
| 92 | 54 | 097-B | 1 | | 34 | A Multi-faceted Approach Towards Reducing Nitrogen Inputs and Loss in Urban Landscapes | \$284,300 | U of MN | Trappe, Jon |
| 93 | 55 | 098-B | 1 | | 25 | Farmer Generated Water Quality Solutions | \$348,000 | U of MN | Current, Dean |
| 94 | 56 | 062-B | 0 | | 56 | Re-connecting Fish Habitat at Road-Stream Crossings | \$474,689 | U of MN | Kozarek, Jessica |
| 95 | 57 | 069-B | 0 | | 53 | Microbial Transformation of Plastics in Minnesota Waters | \$506,000 | U of MN | Barney, Brett |
| 96 | 58 | 073-B | 0 | | 53 | How Rapidly Can Groundwater Quality Be Improved? | \$716,000 | U of MN | Nieber, John |
| 97 | 59 | 080-B | 0 | | 48 | Non-invasive, Cost-effective Investigation of Groundwater Resources | \$93,783 | U of MN | Bezada, Maximiliano |
| 98 | 60 | 084-B | 0 | | 48 | Reducing Water Nitrogen to Restore Minnesota Lakes | \$362,000 | University of St. Thomas | Zimmer, Kyle |
| 99 | 61 | 085-B | 0 | | 46 | Assessing Water Quality in Mississippi Headwaters Region Lakes | \$406,200 | U of MN | Knoll, Lesley |
| 100 | 62 | 088-B | 0 | | 44 | Maximizing Water Safety Against Antibiotic Resistance | \$350,000 | U of MN | Khodursky, Arkady |
| 101 | 63 | 089-B | 0 | | 43 | Polycyclic Aromatic Hydrocarbons Abatement Using Non-thermal Plasma Technology | \$820,000 | U of MN | Ruan, Roger |
| 102 | 64 | 091-B | 0 | | 41 | Better Fertilizer Management to Prevent Further Water Contamination | \$392,000 | U of MN | Yang, Ce |
| 103 | 65 | 095-B | 0 | | 35 | Guidelines for Sustainable Biomass Production for Multiple Benefits | \$192,000 | U of MN | Current, Dean |

| 104 | C. Environmental Education (33 Proposals/Subtotal \$12,581,000) | | | | | | | | |
|-----|--|-------|----|---|----|--|-------------|---|--------------------|
| 105 | 1 | 101-C | 10 | | 64 | Connecting Students with Watersheds through Hands-on Learning | \$581,270 | Minnesota Trout Unlimited | Lenczewski, John |
| 106 | 2 | 121-C | 10 | | 49 | River Watch on the Minnesota River | \$103,000 | Friends of the Minnesota Valley | Suss, Ted |
| 107 | 3 | 099-C | 9 | | 69 | Increasing Diversity in Environmental Careers: Fellowships, internships, Mentorships | \$1,000,000 | MN DNR | Legato, Denise |
| 108 | 4 | 102-C | 9 | | 63 | Pollinator Ambassadors for Urban Gardens | \$421,431 | U of MN | Evans, Elaine |
| 109 | 5 | 109-C | 9 | | 58 | Phase 2 Prairie Sportsman Statewide Environmental Education Project | \$300,000 | Pioneer Public Television | Bakken, Timothy |
| 110 | 6 | 111-C | 8 | | 57 | Youth Convening Minnesota | \$300,000 | Climate Generation: A Will Steger Legacy | Poppleton, Kristin |
| 111 | 7 | 112-C | 8 | | 53 | Get Outdoors After School! | \$30,000 | Project Get Outdoors, Inc. | Holger, Sara |
| 112 | 8 | 127-C | 8 | 1 | 45 | Preparing Minnesotans for Changes in Wolf Management | \$1,200,000 | International Wolf Center | Kline, David |
| 113 | 9 | 115-C | 7 | | 52 | Students Using Local Phenology Contributes to Citizen Science | \$224,000 | U of MN | Carlson, Stephan |
| 114 | 10 | 116-C | 7 | | 52 | Strengthening Natural Resources Management with Drone Training | \$132,000 | U of MN | Knight, Joseph |
| 115 | 11 | 108-C | 6 | | 59 | Preserve Resources by Expanding the State's Reuse Sectors | \$363,910 | ReUSE Minnesota | Thomas, Steve |
| 116 | 12 | 114-C | 6 | | 53 | Integrating Environmental Science Research in High School Education | \$445,000 | U of MN | Yakub, Mohamed |
| 117 | 13 | 118-C | 6 | | 50 | Morris Prairie Pollinator Demonstration and Education | \$681,000 | U of MN - Morris | Poppe, Steven |
| 118 | 14 | 103-C | 5 | | 63 | Online Modules Build Local Capacity to Protect Groundwater | \$335,000 | Minnesota Department of Health | Raber, Carrie |
| 119 | 15 | 106-C | 5 | | 60 | YES! Students Take on Minnesota Water Quality Challenge | \$213,700 | Prairie Woods Environmental Learning Center | Foster, Shelli-Kae |
| 120 | 16 | 120-C | 5 | | 49 | Expanding Nature Knowledge and Experience in North Minneapolis | \$865,000 | Minneapolis Park & Recreation Board | Pulscher, MaryLynn |
| 121 | 17 | 126-C | 5 | | 45 | Dangerous Plant Guides: How to Recognize and React | \$138,380 | Minnesota Department of Agriculture | Justen, Emilie |
| 122 | 18 | 100-C | 4 | | 65 | Providing Enduring Ecology Experiences for All Minnesota Middle-schoolers | \$308,000 | U of MN | Potter, Caitlin |
| 123 | 19 | 104-C | 4 | | 61 | The SAFL Summer Experience | \$158,069 | U of MN | Heitkamp, Barbara |
| 124 | 20 | 110-C | 4 | | 58 | Unlocking the Science of Minnesota's Moose Decline | \$300,000 | Minnesota Zoological Garden | Mattson, Nicole |
| 125 | 21 | 119-C | 4 | | 49 | Minnesota River Water Quality Education | \$65,000 | Minnesota State University-Mankato | Ceurvorst, Robyn |
| 126 | 22 | 107-C | 3 | | 60 | Blue Thumb Pollinator Plantings Connecting Regional Population Centers | \$321,034 | Metro Blooms | Scholl, Laura |
| 127 | 23 | 113-C | 3 | | 53 | Minnesota River Education Model: Connecting Students to Watersheds | \$248,582 | Minnesota State University-Mankato | Musser, Kimberly |
| 128 | 24 | 128-C | 3 | | 41 | Farm Based Environmental Education: Studies Measuring Altered Hydrology | \$206,199 | Cannon River Watershed Partnership | Kraus, Alan |
| 129 | 25 | 130-C | 3 | | 34 | Aquatic Education & Outreach Programs: Engaging 6,000 Students | \$52,477 | Aquatic Research & Conservation Society, Inc. | Waters, Amy |
| 130 | 26 | 105-C | 1 | | 60 | Engaging a Diverse Public in Ecological Restoration | \$383,600 | Great River Greening | Buck, Wiley |
| 131 | 27 | 122-C | 1 | | 48 | Online Training for Front Line Water Quality Protectors | \$322,175 | U of MN | Arlt, Timothy |
| 132 | 28 | 125-C | 1 | | 46 | RAPID: Google for the Environment | \$228,000 | U of MN | Wackett, Lawrence |

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| 133 | 29 | 129-C | 1 | | 35 | Managing Soil Quality for Ecosystem Services & Productivity | \$1,451,404 | Rural Advantage | Meschke, Linda |
| 134 | 30 | 131-C | 1 | | 28 | Native Plant Education/Implementation Benefitting Pollinators and Water | \$224,900 | Ramsey Conservation District | WhiteEagle, Ann |
| 135 | 31 | 117-C | 0 | | 51 | Digital Watershed Simulator for K-12 Education and Outreach | \$314,489 | St. Cloud State University | Liu, Zengqiang |
| 136 | 32 | 123-C | 0 | | 48 | Customized Water Education Combining Stories, Histories, and Science | \$427,215 | Minnesota Humanities Center | Tonko, Jennifer |
| 137 | 33 | 124-C | 0 | | 47 | Market Science: Connecting Minnesotans with Environmental Research | \$236,165 | U of MN | Tiffin, Peter |

| 138 | D. Aquatic and Terrestrial Invasive Species (25 Proposals/Subtotal \$31,581,850) | | | | | | | | |
|-----|---|-------|----|---|----|--|--------------|---|---------------------|
| 139 | 1 | 132-D | 14 | | 74 | Minnesota Invasive Terrestrial Plants and Pests Center 4 | \$7,000,000 | U of MN | Venette, Robert |
| 140 | 2 | 139-D | 10 | | 69 | Determining Minnesota's Risk of a Toxic Algal Invader | \$243,000 | Science Museum of Minnesota | Heathcote, Adam |
| 141 | 3 | 141-D | 10 | | 64 | Palmer Amaranth Detection and Eradication | \$431,200 | Minnesota Department of Agriculture | Chandler, Monika |
| 142 | 4 | 133-D | 9 | | 73 | Developing RNA Interference Genetic Controls for Zebra Mussels | \$769,528 | U.S. Geological Survey | Merkes, Christopher |
| 143 | 5 | 152-D | 9 | | 50 | Evaluate Control Methods for Invasive Hybrid Cattails | \$131,920 | Voyageurs National Park | Windels, Steve |
| 144 | 6 | 134-D | 8 | | 73 | An Effective and Practical Invasive Carp Deterrent | \$998,000 | U of MN | Sorensen, Peter |
| 145 | 7 | 135-D | 8 | | 72 | Slow the Spread of the Emerald Ash Borer | \$14,689,500 | Minnesota Department of Agriculture | Abrahamson, Mark |
| 146 | 8 | 138-D | 7 | | 70 | Monitoring and Biocontrol of Brown Marmorated Stink Bug | \$199,224 | Minnesota Department of Agriculture | Ambourn, Angie |
| 147 | 9 | 136-D | 5 | | 71 | Sound Gradient for Acoustic Deterrence of Bigheaded Carp | \$396,310 | U of MN - Duluth | Mensingher, Allen |
| 148 | 10 | 142-D | 5 | | 61 | Using CO2 to Kill Undesirable Fish Including Carp | \$470,000 | U of MN | Cotner, James |
| 149 | 11 | 146-D | 5 | | 57 | New Tools for Fight Against Zebra Mussels | \$539,323 | U.S. Geological Survey | Amberg, Jon |
| 150 | 12 | 147-D | 5 | | 57 | Terrestrial Invasive Plant Detection Methods for Forest Lands | \$300,000 | MN DNR | Burks, Susan |
| 151 | 13 | 137-D | 4 | | 71 | Fish on a Chip: An AIS Detection Platform | \$399,000 | U of MN | Sadowsky, Michael |
| 152 | 14 | 140-D | 4 | | 66 | Stopping Invasive Species By Attacking From Below | \$491,515 | U of MN | Tiffin, Peter |
| 153 | 15 | 148-D | 4 | | 56 | Integrating Control of Zebra Mussels and Aquatic Vegetation | \$251,310 | U.S. Geological Survey | Waller, Diane |
| 154 | 16 | 149-D | 3 | | 55 | Testing a New Method for Eradicating Dwarf Mistletoe | \$352,000 | U of MN | Russell, Matthew |
| 155 | 17 | 153-D | 3 | 1 | 44 | Circle Lake Wild Rice Restoration and Carp Management | \$594,985 | Rice Soil and Water Conservation District | Pahs, Steven |
| 156 | 18 | 155-D | 3 | | 35 | Controlling Densities of Zebra Mussels in Infested Lakes | \$428,864 | Limnopro Aquatic Science, Inc. | McEwen, Daniel |
| 157 | 19 | 156-D | 3 | | 33 | Minnesota Traditions Newspaper AIS Awareness Campaign | \$230,000 | Mississippi Headwaters Board | Terrill, Tim |
| 158 | 20 | 143-D | 2 | | 61 | Innovative and Ecological Coatings to Mitigate Invasive Species | \$321,500 | U of MN | Elias, Mikael |
| 159 | 21 | 144-D | 2 | | 61 | Accelerated Watershed Approach to Invasive Carp Management | \$342,796 | Prior Lake-Spring Lake Watershed District | Karschnia, Maggie |
| 160 | 22 | 154-D | 2 | | 44 | Invasive Species Wash Site Innovation, Improvements, and Standards | \$908,023 | MN DNR | Peterson, Jason |
| 161 | 23 | 150-D | 1 | | 53 | Development of Predictive Tools for AIS Management | \$331,644 | Concordia College | Marko, Michelle |
| 162 | 24 | 145-D | 0 | | 58 | River Food Webs With and Without Invasive Carp | \$495,000 | MN DNR | Dieterman, Doug |
| 163 | 25 | 151-D | 0 | | 52 | Boot Brush Use to Prevent Spreading Invasive Species | \$267,208 | MN DNR | Burks, Susan |

| 164 | E. Air Quality, Climate Change, and Renewable Energy (20 Proposals/Subtotal \$13,974,044) | | | | | | | | |
|-----|--|-------|---|--|----|---|-------------|---|-----------------|
| 165 | 1 | 158-E | 9 | | 63 | Clean Electricity from Solar Windows | \$458,494 | U of MN | Kortshagen, Uwe |
| 166 | 2 | 159-E | 9 | | 62 | Community-Scale Energy Storage Guide for Renewable Energy | \$625,478 | U of MN | Anderson, Ellen |
| 167 | 3 | 166-E | 9 | | 43 | Life Cycle Analysis of Anaerobic Digestion and Organics | \$250,000 | Minnesota Pollution Control Agency | Walsh, Kayla |
| 168 | 4 | 157-E | 6 | | 72 | Agricultural Weed Control Using Robots | \$600,000 | University of Minnesota - Morris | Reese, Michael |
| 169 | 5 | 160-E | 5 | | 59 | Cheap Solar Energy from Roll-to-Roll Manufacturing | \$388,852 | U of MN | Cui, Tianhong |
| 170 | 6 | 173-E | 5 | | 33 | Diverting Prepared Food from Landfills, Reducing Greenhouse Gases | \$478,000 | Second Harvest Heartland | Chatmas, Bob |
| 171 | 7 | 164-E | 4 | | 46 | Phase II- Reduce Solid Waste and Greenhouse Gas Emissions | \$1,151,931 | The NetWork for Better Futures (D/B/A) Better Futures Minnesota | Swaggert, Nick |
| 172 | 8 | 169-E | 4 | | 37 | Bringing Geothermal Power to MN: CO2 Power-system Test | \$315,250 | TerraCOH Inc. | Randolph, Jimmy |
| 173 | 9 | 161-E | 3 | | 55 | Cheap Efficient Air Filter to Remove Organic Compounds | \$386,187 | U of MN | Cui, Tianhong |
| 174 | 10 | 170-E | 3 | | 37 | Color-Change Solar Coating for Residential Energy Savings | \$151,306 | St. Cloud State University | Sinko, John |
| 175 | 11 | 174-E | 3 | | 32 | Production and Utilization of Biomass: St. Louis County | \$3,999,300 | St. Louis County Land and Minerals Department | Weber, Mark |
| 176 | 12 | 162-E | 2 | | 54 | Lowering Costs of Solar Energy in Minnesota | \$410,692 | U of MN | Marr, Jeffrey |

| Line #: Green Sheet | Number of Proposals by Category | ID # | Member Ranking | Conflict | Staff Ranking* | Project Title | \$ Requested | Organization | Project Manager |
|---------------------|---------------------------------|-------|----------------|----------|----------------|--|--------------|--|--------------------|
| 177 | 13 | 165-E | 2 | | 45 | Field Testing/demonstration of Novel Ground Source Heat Pump | \$174,757 | U of MN | Randolph, Jimmy |
| 178 | 14 | 176-E | 2 | | 27 | Keeping Groceries from Landfills to Reduce Greenhouse Gases | \$848,000 | Second Harvest Heartland | Chatmas, Bob |
| 179 | 15 | 167-E | 1 | | 40 | Electrically Switchable Adsorption of PAHs on Renewable Cellulosic Nano Carbon Materials for Mitigation of Airborne Pollutants | \$202,000 | U of MN | Wang, Ping |
| 180 | 16 | 171-E | 1 | | 34 | Capacity Building for Rural Resource Management Implementation | \$655,424 | Institute for Agriculture and Trade Policy | Claussen, Anna |
| 181 | 17 | 172-E | 1 | | 34 | Developing Innovative Mercury Capture Technology for Crematoria Emissions | \$435,984 | U of MN | Myers, Sandra |
| 182 | 18 | 175-E | 1 | | 30 | Stove Swap: Improving Air and Health; Avoiding Violations | \$1,008,389 | Environmental Initiative | Droessler, William |
| 183 | 19 | 163-E | 0 | | 49 | A Solar-Powered Electrochemical System for Sulfide Removal | \$435,000 | U of MN | Hu, Bo |
| 184 | 20 | 168-E | 0 | | 39 | Optimizing Food Waste Reduction Throughout Minnesota | \$999,000 | U of MN | Baker, Lawrence |

| 185 | F. Methods to Protect or Restore Land, Water, and Habitat (22 Proposals/Subtotal \$30,965,697) | | | | | | | | |
|-----|---|-------|----|--|----|--|--------------|---|-------------------|
| 186 | 1 | 179-F | 10 | | 68 | Preserving and Restoring Minnesota's Native Orchids – Phase 2 | \$468,000 | U of MN | Remucal, David |
| 187 | 2 | 183-F | 8 | | 57 | Sediment Hazards to Trout in Southeast Minnesota Streams | \$337,000 | U of MN | Wickert, Andrew |
| 188 | 3 | 184-F | 8 | | 55 | Repurposing Unprofitable Cropland: Water and Wildlife's Silver Bullet? | \$319,063 | Science Museum of Minnesota | Ulrich, Jason |
| 189 | 4 | 185-F | 8 | | 53 | Advancing Streambank Protection Systems | \$286,426 | U of MN | Guala, Michele |
| 190 | 5 | 178-F | 7 | | 69 | Nongame Wildlife Program Acceleration | \$2,000,000 | MN DNR | Henderson, Carrol |
| 191 | 6 | 182-F | 7 | | 58 | Restoring Minnesota's Forests in State Parks | \$432,240 | MN DNR | Quinn, Edward |
| 192 | 7 | 186-F | 7 | | 52 | Restoring Wetland Invertebrates to Revive Wildlife Habitat | \$417,895 | MN DNR | Larson, Danelle |
| 193 | 8 | 187-F | 7 | | 50 | Implementing Novel Market-based Methods for Urban Habitat Restoration | \$499,900 | Great River Greening | Huckett, Steven |
| 194 | 9 | 189-F | 7 | | 49 | Increasing Timber Availability and Habitat With Soil Management | \$396,000 | U of MN | Slesak, Robert |
| 195 | 10 | 190-F | 6 | | 47 | Working Conservation Lands for Grazing, Harvest, and Habitat | \$315,000 | Minnesota Board of Water and Soil Resources | Rhees, Suzanne |
| 196 | 11 | 194-F | 6 | | 45 | MN CREP for Water Quality and Habitat | \$20,000,000 | Minnesota Board of Water and Soil Resources | Rickert, Dave |
| 197 | 12 | 188-F | 5 | | 50 | Converting Agricultural Wastes Into Energy, Polymers, and Fertilizers | \$949,000 | U of MN | Pagliari, Paulo |
| 198 | 13 | 196-F | 5 | | 32 | Okabena Creek Water Quality and Flood Protection Demonstration | \$720,565 | Heron Lake Watershed District | Voit, Jan |
| 199 | 14 | 177-F | 4 | | 72 | Identifying Pollinator Conservation Areas in Minnesota Prairie Parklands | \$552,100 | U of MN | Lonsdorf, Eric |
| 200 | 15 | 180-F | 3 | | 66 | Show Me the Money:10 Markets for Perennials | \$347,500 | Science Museum of Minnesota | Schottler, Shawn |
| 201 | 16 | 181-F | 3 | | 65 | Restoration Strategies for Ditched Peatland SNA Phase II | \$460,294 | MN DNR | Walker, Michele |
| 202 | 17 | 191-F | 3 | | 46 | Are We Turning Wild Prairie Plants Into Crops? | \$555,441 | U of MN - Duluth | Haines, Dustin |
| 203 | 18 | 193-F | 3 | | 46 | Preserving Natural Shoreline on the St. Croix River | \$128,520 | St. Croix River Association | Warren, Natalie |
| 204 | 19 | 198-F | 3 | | 25 | Saving Our Mosquito-Eaters: Management of White-nose Syndrome | \$580,000 | U of MN | Marchetto, Peter |
| 205 | 20 | 195-F | 2 | | 42 | Replacing Plastic Cover in Vegetable Production with BioMulch | \$310,000 | U of MN | Pagliari, Paulo |
| 206 | 21 | 192-F | 1 | | 46 | Floating Mini-gardens for Shoreline Protection and Wetland Restoration | \$310,753 | U of MN | Shen, Lian |
| 207 | 22 | 197-F | 0 | | 25 | Hearing the Cry of the Loon | \$580,000 | U of MN | Marchetto, Peter |

| 208 | G. Land Acquisition, Habitat, and Recreation (18 Proposals/Subtotal \$40,157,964) | | | | | | | | |
|-----|--|-------|----|--|----|--|-------------|---|-------------------------|
| 209 | 1 | 201-G | 13 | | 70 | Local Parks, Trails and Natural Area Grants | \$3,000,000 | MN DNR | Mularie, Audrey |
| 210 | 2 | 202-G | 13 | | 70 | Minnesota State Trails - Development and Enhancement | \$5,000,000 | MN DNR | Skaar, Kent |
| 211 | 3 | 207-G | 12 | | 55 | Harmony State Trail Extension Land Acquisition | \$235,000 | City of Harmony | Illg, Jerome |
| 212 | 4 | 209-G | 12 | | 54 | Superior Hiking Trail Enhancement Plan | \$100,200 | Superior Hiking Trail Association | Caneff, Denny |
| 213 | 5 | 200-G | 11 | | 70 | Minnesota State Parks and State Trails Land Acquisition | \$5,000,000 | MN DNR | Christie, Jennifer |
| 214 | 6 | 213-G | 11 | | 46 | A Local-State-Federal Partnership Protects multiple public benefits on the Mississippi River | \$700,000 | City of Baxter | Doty, Josh |
| 215 | 7 | 199-G | 10 | | 75 | SNA Habitat Restoration, Public Engagement, and Strategic Acquisition | \$6,760,265 | MN DNR | Booth, Margaret (Peggy) |
| 216 | 8 | 205-G | 8 | | 60 | Mesabi Trail, County Road 88 to Ely Segment | \$600,000 | St. Louis and Lake Counties Regional Railroad Authority | Manzoline, Robert |
| 217 | 9 | 215-G | 7 | | 40 | Prioritize and Target north-central Minnesota Lakes for Protection | \$1,492,500 | Crow Wing Soil and Water Conservation Districts | Barrick, Melissa |

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|---------------------|---------------------------------|-------|----------------|----------|----------------|---|--------------|---------------------------------------|-------------------|
| 218 | 10 | 208-G | 6 | | 55 | Mississippi Blufflands State Trail - Red Wing Riverfront | \$920,000 | City of Red Wing | Owens, Jay |
| 219 | 11 | 212-G | 6 | | 47 | Swedish Immigrant Trail Segment within Interstate State Park | \$2,254,665 | Chisago County Environmental Services | Mork, Laird |
| 220 | 12 | 203-G | 4 | | 69 | Private Native Prairie Conservation through Native Prairie Bank | \$4,535,000 | MN DNR | Schulte, Judy |
| 221 | 13 | 206-G | 4 | | 57 | State Park and Trail Integrated Public Information System | \$3,984,142 | MN DNR | Smith, Stacy |
| 222 | 14 | 210-G | 4 | | 53 | Bayport St. Croix Conservation Initiative | \$550,000 | City of Bayport | Taylor, Sara |
| 223 | 15 | 204-G | 3 | | 62 | Browns Creek 40 Acre Acquisition | \$350,000 | Browns Creek Watershed District | Kill, Karen |
| 224 | 16 | 214-G | 2 | | 46 | Mississippi Riverfront Redevelopment Project | \$1,000,000 | City of Brainerd | Thoreen, Jim |
| 225 | 17 | 216-G | 1 | | 22 | East Fork Des Moines River Wetland Restoration | \$1,716,192 | Martin County Drainage Authority | Forstner, Michael |
| 226 | 18 | 211-G | 0 | | 51 | Improving Hydrologic Resilience in Rural Dakota County | \$1,960,000 | Dakota County | West, Lisa |

| | | | | | | | | | |
|-----|---|-------|---|--|---|----------------------------------|-----------|--------|--------------------------|
| 227 | H. Administration and Contract Agreement Reimbursement (1 Proposal/Subtotal \$135,000) | | | | | | | | |
| 228 | 1 | 217-H | 2 | | 0 | Contract Agreement Reimbursement | \$135,000 | MN DNR | Sherman-Hoehn, Katherine |

* Staff Ranking - Staff applied LCCMR evaluation criteria to determine the score

Evaluation Criteria

All proposals should strive to maximize efficiency and return on investment for the proposed expenditures. Additionally the following criteria, as applicable, will be considered in evaluating proposals (additional explanation of evaluation criteria is available at www.lccmr.leg.mn titled "Additional Explanation of Evaluation Criteria"):

1. FUNDING PRIORITIES: Responds to RFP funding priorities and LCCMR Six-Year Strategic Plan for the Environment and Natural Resources Trust Fund articulated and adopted by the LCCMR.
2. MULTIPLE BENEFITS: Delivers multiple benefits to Minnesota's environment and natural resources.
3. OUTCOMES: Identifies clear objectives likely to result in measurable, demonstrated, and meaningful outcomes.
4. KNOWLEDGE BASE: Contributes to knowledge base or disseminates information that will benefit other efforts.
5. EXTENT OF IMPACTS: Results in broad, long-term impacts of statewide or regional significance.
6. INNOVATION: Employs or demonstrates innovative approaches to more effectively and efficiently solve specific environment and natural
7. SCIENTIFIC/TECHNICAL BASIS: Reflects current scientific and technical knowledge, standards, and best practices.
8. URGENCY: Addresses an issue for which immediate future action is necessary and essential to avoid undesirable consequences.
9. CAPACITY AND READINESS: Demonstrates capacity and readiness for efforts to be managed and completed in a timely, accountable, and
10. LEVERAGE: Leverages collaborative partnerships and additional efforts, resources, and non-state funds.