On May 18, 2023, the Legislature approved 85 projects for funding from the Environment and Natural Resources Trust Fund (ENRTF) and the Great Lakes Protection Account (GLPA), as recommended by the Legislative-Citizen Commission on Minnesota Resources (LCCMR). The Legislature also added one additional appropriation using unspent funds from a previous project. On May 24, 2023, the 86 appropriations were signed into law by the Governor as M.L. 2023, Chapter 60, Article 2, with \$79,644,000 from the ENRTF, \$176,000 recaptured from a prior fiscal year, and \$189,000 from the GLPA, for \$80,009,000 in total appropriations.

| Topic Area  | FY2024<br>ENRTF \$ | Great Lakes<br>Protection Account | Total ENRTF \$<br>Appropriated | Percentage of Total<br>Appropriation |
|---|--------------------|-----------------------------------|--------------------------------|--------------------------------------|
| Subd. 03 Foundational Natural Resource Data and Information<br>19 Appropriations                      | \$8,219,000        | \$0                               | \$8,219,000                    | 10.30%                               |
| Subd. 04 Water Resources<br>13 Appropriations   | \$8,139,000        | \$189,000                         | \$8,328,000                    | 10.43%                               |
| Subd. 05 Environmental Education<br>8 Appropriations  | \$3,905,000        | \$0                               | \$3,905,000                    | 4.89%                                |
| Subd. 06 Aquatic and Terrestrial Invasive Species<br>2 Appropriations                                 | \$5,104,000        | \$0                               | \$5,104,000                    | 6.39%                                |
| Subd. 07 Air Quality, Climate Change, and Renewable Energy<br>6 Appropriations                        | \$3,913,000        | \$0                               | \$3,913,000                    | 4.90%                                |
| Subd. 08 Methods to Protect or Restore Land, Water, and Habitat<br>18 Appropriations                  | \$15,997,000       | \$0                               | \$15,997,000                   | 20.04%                               |
| Subd. 09 Land Acquisition, Habitat, and Recreation 15 Appropriations                                  | \$31,241,000       | \$0                               | \$31,241,000                   | 39.13%                               |
| Subd. 10 Administration, Emerging Issues, and Contract Agreement<br>Reimbursement<br>4 Appropriations | \$3,126,000        | \$0                               | \$3,126,000                    | 3.92%                                |
| Subd. 19 Repurpose<br>1 Appropriation   | \$0                | \$0                               | \$0                            | 0.00%                                |
| Total Appropriations  | \$79,644,000       | \$189,000                         | \$79,833,000                   | 100.00%                              |

| Fund Source  |          | \$ Amount    |
|--|----------|--------------|
| FY 2024 - Environment and Natural Resources Trust Fund (ENRTF)               |          | \$79,644,000 |
| Great Lakes Protection Account (GLPA)  |          | \$189,000    |
| REPURPOSE FROM - Restoring Upland Forests for Birds M.L. 2021, First Special |          |              |
| Session, Chp.6, Art.6, Sec. 2, Subd. 08f                                     |          | -\$176,000   |
| REPURPOSE TO - Neonicotinoid Impacts on Minnesota Deer and Prairie Chickens  |          | \$176,000    |
|  | Total \$ | \$79,833,000 |

|          |                   |                                   |   |   |                 |            | Great Lakes | Total        |                 |
|----------|-------------------|-----------------------------------|---|---|-----------------|------------|-------------|--------------|-----------------|
|          | Proposal          |                                   |   |   | Project         | FY2024     | Protection  | ENRTF \$     |                 |
| Subd.    | ID                | Title                             | Summary   | Organization  | Manager         | ENRTF \$   | Account     | Appropriated | Region*         |
| Subd. 03 | <b>Foundation</b> | al Natural Resource Data and      | Information (19 Appropriations = \$8,219,000)   |   |                 |            |             |              |                 |
| 03a      | 2023-044          | Assessing Restorations for Rusty- | Using two prairie restorations, we will investigate how common  | Friends of the Mississippi                            | Alex Roth       | \$75,000   | \$0         | \$75,000     | Metro           |
|          |                   |                                   | restoration variables affect bumblebee habitat suitability by conducting  | River   |                 |            |             |              |                 |
|          |                   |                                   | bumblebee surveys and assessing nesting and foraging habitat in   |   |                 |            |             |              |                 |
| 03b      | 2023-066          |                                   | restored and remnant prairies.<br>Carbon markets incentivize carbon sequestration, but significant cost-  | U of MN, College of Food,                             | John Zobel      | \$482,000  | \$0         | \$482,000    | Statewide       |
| 000      | 2023 000          | -                                 | barriers exist for landowner participation. Leveraging remotely sensed  | Agricultural and Natural                              | John Zobel      | \$ 102,000 | ΨŪ          | φ 102,000    | Statemac        |
|          |                   | -                                 | data, cost-effective fieldwork, and robust modeling will enable climate-  | Resource Sciences                                     |                 |            |             |              |                 |
|          |                   |                                   | smart activities that benefit all Minnesotans.  |   |                 |            |             |              |                 |
| 03c      | 2023-072          |                                   | Identifying avian migratory stopover sites to provide foundational  | Audubon Minnesota                                     | Dale Gentry     | \$340,000  | \$0         | \$340,000    | Statewide       |
|          |                   | Stops in Minnesota                | information necessary for the conservation of migratory birds.  |   |                 |            |             |              |                 |
|          |                   |                                   |   |   |                 |            |             |              |                 |
| 03d      | 2023-086          | Enhancing Knowledge of            | Collect baseline information about lower trophic fish diets, the  | MN DNR, Fish and Wildlife                             | Anthony Sindt   | \$199,000  | \$0         | \$199,000    | Metro, SE, SW   |
|          |                   | Minnesota River Fish Ecology      | distribution and status of rare benthic fishes, and the movement  | Division  |                 |            |             |              |                 |
|          |                   |                                   | patterns of large river fishes in the Minnesota River.  |   |                 |            |             |              |                 |
| 03e      | 2023-090          | Changing Distribution of Flying   | We will determine the current distribution and habitat associations of  | U of MN, Duluth - NRRI                                | Michael Joyce   | \$186,000  | \$0         | \$186,000    | Statewide       |
| 056      |                   |                                   | northern and southern flying squirrels to fill key knowledge gaps in flying   |   | Wilchael Joyce  | \$180,000  | ŲÇ          | \$100,000    | Statewide       |
|          |                   |                                   | squirrel status in Minnesota.   |   |                 |            |             |              |                 |
| -        |                   |                                   |   |   |                 |            |             |              |                 |
| 03f      | 2023-092          |                                   | Accurate inventories are needed to facilitate carbon market entry for   | MN DNR, Forestry Division                             | David Wilson    | \$987,000  | \$0         | \$987,000    | Statewide       |
|          |                   |                                   | forestland owners. An estimated 1,000 plot-based inventories will be collected from private forestland to expand all-lands LiDar forest         |   |                 |            |             |              |                 |
|          |                   |                                   | inventory statewide.  |   |                 |            |             |              |                 |
| 03g      | 2023-120          |                                   | We will predict the ranges of native aquatic species in Minnesota using   | U of MN, College of Food,                             | Lynn            | \$170,000  | \$0         | \$170,000    | Statewide       |
|          |                   |                                   | recently available high quality datasets and information on past and  | Agricultural and Natural                              | Waterhouse      |            |             |              |                 |
|          |                   | Past                              | present ranges coupled with powerful statistical techniques.  | Resource Sciences                                     |                 |            |             |              |                 |
| 03h      | 2023-139          | Assessing Status of Common        | Common Tern populations across inland North America are significantly   | U of MN, Duluth - NRRI                                | Annie Bracey    | \$199,000  | \$0         | \$199,000    | Statewide       |
|          |                   | 0                                 | declining. Information on the status of breeding colonies in Minnesota is   |   |                 | +,         | 7-          | +)           |                 |
|          |                   |                                   | necessary to prioritize conservation and restoration actions.   |   |                 |            |             |              |                 |
| 001      | 2022 446          |                                   |   |   |                 | ¢ 400 000  | 60          | <i></i>      |                 |
| 03i      | 2023-146          | -                                 | Establish a statewide network to collect, analyze, and archive salvaged dead wildlife and build a foundation of biodiversity resources to track | U of MN, Bell Museum of<br>Natural History            | Sushma Reddy    | \$486,000  | \$0         | \$486,000    | Statewide       |
|          |                   |                                   | ecosystem-wide changes, monitor environmental health, and promote   | Natural History                                       |                 |            |             |              |                 |
|          |                   |                                   | public education.   |   |                 |            |             |              |                 |
| 03j      | 2023-154          |                                   | We will collect data on occupancy and range of rare pollen specialized  | U of MN, College of Food,                             | Daniel Cariveau | \$619,000  | \$0         | \$619,000    | Statewide       |
|          |                   |                                   | bees and their habitat preference to determine status and conservation  | Agricultural and Natural                              |                 |            |             |              |                 |
|          |                   | Bees                              | strategies  | Resource Sciences                                     |                 |            |             |              |                 |
| 03k      | 2023-169          | Efficacy of Urban Archery         | Several municipalities across Minnesota conduct special deer hunts  | Minnesota State Colleges                              | Jacob Haus      | \$393,000  | \$0         | \$393,000    | NW              |
|          |                   |                                   | within city-limits, but the efficacy is unknown. An analysis of deer  | and Universities, Bemidji                             |                 |            |             |              |                 |
|          |                   |                                   | survival and habitat use will improve management practices in these   | State University                                      |                 |            |             |              |                 |
| 021      | 2022 102          |                                   | regions.  | LL of MNL College of Food                             |                 | ¢(01.000   | ćo          | ¢c01.000     | Control Motro   |
| 031      | 2023-183          |                                   | We will determine how disease prevalence, diet, habitat use, and inter-<br>species interactions of coyote and red fox populations change from   | U of MN, College of Food,<br>Agricultural and Natural | James Forester  | \$601,000  | \$0         | \$601,000    | Central, Metro  |
|          |                   |                                   | urban to rural areas along the Mississippi River corridor.  | Resource Sciences                                     |                 |            |             |              |                 |
|          |                   |                                   |   |   |                 |            |             |              |                 |
| 03m      |                   | -                                 | Continue monitoring forested peatland network for hydrology and   | U of MN, College of Food,                             | Marcella        | \$482,000  | \$0         | \$482,000    | Central, NE, NW |
|          |                   | •                                 | wildlife including a new species, bog lemming. Add measures to quantify   | J. J              | Windmuller-     |            |             |              |                 |
|          |                   |                                   | above and below ground carbon by age and forest type.   | Resource Sciences                                     | Campione        |            |             |              |                 |

| Subd.    | Proposal<br>ID | Title   | Summary   | Organization  | Project<br>Manager | FY2024<br>ENRTF \$ | Great Lakes<br>Protection<br>Account | Total<br>ENRTF \$<br>Appropriated | Region*   |
|----------|----------------|---|---|---|--------------------|--------------------|--------------------------------------|-----------------------------------|-----------|
| 03n      | 2023-209       | Modernizing Minnesota's<br>Wildlife (and Plant) Action Plan                           | Updating the Species in Greatest Conservation Need list through<br>surveys, standardized assessments, and including rare plants for the first<br>time to create v.3.0 of Minnesota's Wildlife Action Plan.                      | MN DNR, Ecological and                                  | Kristin Hall       | \$889,000          | \$0                                  | \$889,000                         | Statewide |
| 030      |                | Linking Breeding and Migratory<br>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<br>Observatory                          | Janelle Long       | \$199,000          | \$0                                  | \$199,000                         | Statewide |
| 03p      | 2023-218       | Old Growth Forest Monitoring  | 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 forest resources are properly protected.                                     | MN DNR, Ecological and<br>Water Resources Division      | Emily Peters       | \$441,000          | \$0                                  | \$441,000                         | Statewide |
| 03q      | 2023-222       | Integrating Remotely Sensed<br>Data with Traditional Forest<br>Inventory              | We will evaluate state-of-the-art LiDar technology's ability to provide<br>stand-level summary statistics of forest resource measurements and<br>how these data can be used to estimate ecosystem services.                     | U of MN, Duluth - NRRI                                  | John Du Plissis    | \$191,000          | \$0                                  | \$191,000                         | NE        |
| 03r      |                | Community Response<br>Monitoring for Adaptive<br>Management in Southeast<br>Minnesota | Project goal is to monitor species response at a community level, in<br>order to determine if management actions increase biodiversity and<br>build ecosystem resiliency as intended.   | The Nature Conservancy                                  | David Ruff         | \$483,000          | \$0                                  | \$483,000                         | SE        |
| 03s      |                | Minnesota Biodiversity Atlas -<br>Phase III   | We propose to expand the Minnesota Biodiversity Atlas, an online<br>natural resource management tool, to include 2.5 million records by<br>integrating expert observations and specimen records from multiple<br>organizations. | U of MN, Bell Museum of<br>Natural History              | George Weiblen     | \$797,000          | \$0                                  | \$797,000                         | Statewide |
|          |                |   |   |   | Subtotal =         | \$8,219,000        | \$0                                  | \$8,219,000                       |           |
| Subd. 04 |                | ources (13 Appropriations = \$  |   | 1   |                    |                    |                                      |                                   |           |
| 04a      |                |   | Can we maximize native wetland restoration while minimizing impact on<br>human land use? Evaluating the water-resources impact of targeted<br>agricultural ditch removal on ecosystem restoration.                              | U of MN, College of Science<br>and Engineering          | Andrew Wickert     | \$199,000          | \$0                                  | \$199,000                         | Statewide |
| 04b      |                | Assessment of Red River Basin<br>Project Outcomes                                     | Carry out multi-resource monitoring at flood damage reduction and<br>natural resource enhancement projects across the Red River Basin to<br>evaluate outcomes and improve design of future projects at regional<br>scale.       | Red River Basin Flood<br>Damage Reduction Work<br>Group | Andrew Graham      | \$920,000          | \$0                                  | \$920,000                         | NW        |
| 04c      | 2023-026       | Wind Wave and Boating Impacts<br>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<br>Laboratory                | Jeffrey Marr       | \$415,000          | \$0                                  | \$415,000                         | Statewide |
| 04d      | 2023-063       | Finding, Capturing, and<br>Destroying PFAS in Minnesota<br>Waters                     | Novel methods for the detection, sequestration, and degradation of poly<br>and perfluoroalkyl substances (PFAS) will be developed to address a<br>pressing contamination issue in Minnesota's lakes and rivers.                 | U of MN, College of Science<br>and Engineering          | William Arnold     | \$478,000          | \$0                                  | \$478,000                         | Statewide |
| 04e      |                | Sinking and Suspended<br>Microplastic Particles in Lake<br>Superior                   | Microplastics suspended in and sinking within Lake Superior waters will<br>be compared to help determine source and fate. The flux of<br>microplastics from water to sediment will be determined.                               | U of MN, Duluth - Large<br>Lakes Observatory            | Elizabeth Minor    | \$223,000          | \$189,000                            | \$412,000                         | NE        |
| 04f      | 2023-107       | Ecotoxicological Impacts of<br>Quinone Outside Inhibitor (QoI)<br>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                                | Kristine<br>Wammer | \$279,000          | \$0                                  | \$279,000                         | Statewide |

| Subd.    | Proposal<br>ID | Title  | Summary  | Organization   | Project<br>Manager | FY2024<br>ENRTF \$ | Great Lakes<br>Protection<br>Account | Total<br>ENRTF \$<br>Appropriated | Region*   |
|----------|----------------|--|--|--|--------------------|--------------------|--------------------------------------|-----------------------------------|-----------|
| 04g      | 2023-129       | Brightsdale Dam Channel<br>Restoration   | Restore the channel of the North Branch Root River at the site of a former hydropower dam that failed and was removed in 2003.   | Fillmore County Soil and Water Conservation District                       | Riley Buley        | \$1,004,000        | \$0                                  | \$1,004,000                       | SE        |
| 04h      | 2023-134       | Mapping Aquifer Recharge<br>Potential  | We develop a practical tool for mapping aquifer recharge potential;<br>demonstrate it with laboratory and field tests; and use it to evaluate the<br>recharge potential of several aquifers in Minnesota.  | U of MN, St. Anthony Falls<br>Laboratory                                   | Peter Kang         | \$391,000          | \$0                                  | \$391,000                         | Statewide |
| 04i      | 2023-137       | ALASD's Chloride Source<br>Reduction Pilot Program                                     | The project reduces salt pollution in three impaired lakes in the<br>Alexandria area via an innovative source reduction strategy that<br>protects water quality and could serve as a replicable model.   | Alexandria Lake Area<br>Sanitary District (ALASD)                          | Scott Gilbertson   | \$764,000          | \$0                                  | \$764,000                         | Central   |
| 04j      | 2023-215       | Removing CECs from<br>Stormwater with Biofiltration                                    | This project will optimize a treatment practice design for removing contaminants of emerging concern (CECs) from stormwater runoff using biofiltration media. Guidance will be developed for stormwater managers statewide.  | U of MN, St. Anthony Falls<br>Laboratory                                   | Andy Erickson      | \$641,000          | \$0                                  | \$641,000                         | Metro     |
| 04k      | 2023-237       | Didymo II The North Shore<br>Threat Continues  | Didymo or rock snot has invaded our North Shore streams. We must<br>prevent its further spread and adapt our management approaches to<br>this new invader.   | Science Museum of<br>Minnesota, St. Croix<br>Watershed Research<br>Station | Mark Edlund        | \$394,000          | \$0                                  | \$394,000                         | NE        |
| 041      | 2023-238       | Leveraging Data Analytics<br>Innovations for Watershed<br>District Planning            | Integrating local and statewide datasets into a 21st-century planning<br>tool, widely called for by our communities, that forecasts the impacts of<br>changing precipitation patterns and quantitatively compares cost-<br>effective solutions.  | Minnehaha Creek<br>Watershed District                                      | Brian Beck         | \$738,000          | \$0                                  | \$738,000                         | Statewide |
| 04m      | 2023-247       | Protecting Water in the Central<br>Sands Region of the Mississippi<br>River Headwaters | Enormous growth in irrigated agriculture in Minnesota's Mississippi<br>Headwaters/Central Sands has occurred without assessment of water<br>resource impacts. This project will assess aggregate irrigation water<br>quality and quantity impacts.                                     | White Earth Band of<br>Minnesota Chippewa<br>Indians                       | Jamie<br>Konopacky | \$1,693,000        | \$0                                  | \$1,693,000                       | Central   |
|          |                |  |  |  | Subtotal =         | \$8,139,000        | \$189,000                            | \$8,328,000                       |           |
| Subd. 05 | 5 Environme    | ental Education (8 Appropriati   | ions = \$3,905,000)  |  | · · ·              |                    |                                      |                                   |           |
| 05a      | 2023-008       | , s  | Friends of the Boundary Water Wilderness will connect over 10,000<br>Minnesota youth to the Boundary Waters through state standards-<br>aligned environmental education, experiential learning, and multi-day<br>wilderness canoe trips.   | Friends of the Boundary<br>Waters Wilderness                               | Alison Nyenhuis    | \$1,080,000        | \$0                                  | \$1,080,000                       | Statewide |
| 05b      | 2023-051       | Statewide Environmental<br>Education via PBS Outdoor<br>Series                         | Pioneer PBS will produce 26 new episodes of a statewide television<br>series designed to inspire Minnesotans to connect with the outdoors<br>and to restore and protect our valuable natural resources.  | Pioneer PBS  | Cindy Dorn         | \$391,000          | \$0                                  | \$391,000                         | Statewide |
| 05c      | 2023-062       | Increasing Diversity in<br>Environmental Careers                                       | This collaborative project creates a college to workforce pathway for<br>underrepresented students interested in pursuing natural resources<br>careers by reducing barriers that inhibit successful educational<br>attainment.   | MN DNR, Operational<br>Services Division (OSD)                             | Mimi Daniel        | \$763,000          | \$0                                  | \$763,000                         | Statewide |
| 05d      | 2023-167       | Environmental Stewardship in   | The Raptor Center proposes to foster long-lasting environmental<br>stewardship and literacy in Minnesota youth in underserved schools<br>through providing engaging, multi-unit, standards-based environmental<br>curriculum programming featuring positive interactions with raptors. | U of MN, Raptor Center   | Victoria Hall      | \$180,000          | \$0                                  | \$180,000                         | Statewide |
| 05e      | 2023-185       | Sharing Minnesota's Biggest<br>Environmental Investment                                | The Science Museum of Minnesota will relay the results of LCCMR-<br>funded research to public audiences; dissemination will include a free<br>online interactive map, in-depth videos, and public events.  | Science Museum of<br>Minnesota   | Joy Hobbs          | \$628,000          | \$0                                  | \$628,000                         | Statewide |

| Subd.      | Proposal<br>ID       | Title  | Summary  | Organization  | Project<br>Manager                         | FY2024<br>ENRTF \$       | Great Lakes<br>Protection<br>Account | Total<br>ENRTF \$<br>Appropriated | Region*              |
|------------|----------------------|--|--|---|--|--------------------------|--------------------------------------|-----------------------------------|----------------------|
| 05f        | 2023-201             | North Shore Private Forestry<br>Outreach and Implementation  | The North Shore Forest Collaborative (via Sugarloaf) seeks to contract foresters to perform a concerted private land forestry outreach to restore ecological health to Minnesota's North Shore forest landscape.   | Sugarloaf: The North Shore<br>Stewardship Association   | -  | \$375,000                | \$0                                  | \$375,000                         | NE                   |
| 05g        | 2023-223             | Teaching Students about<br>Watersheds through Outdoor<br>Science   | Hands-on learning outdoors will focus on water quality, groundwater,<br>aquatic life and students' role as watershed stewards. Angling and<br>volunteer opportunities for students and families will foster a<br>conservation ethic.   | Minnesota Trout Unlimited   | John Lenczewski                            | \$290,000                | \$0                                  | \$290,000                         | Statewide            |
| 05h        | 2023-229             | Bioblitz Urban Parks: Engaging<br>Communities in Scientific Efforts  | MPRB will work strategically with allies and volunteers to collect<br>baseline biodiversity data for urban parks to inspire stewardship and<br>inform habitat restoration work.  | Minneapolis Park and<br>Recreation Board  | MaryLynn<br>Pulscher                       | \$198,000                | \$0                                  | \$198,000                         | Metro                |
|            |                      |  |  |   | Subtotal =                                 | \$3,905,000              | \$0                                  | \$3,905,000                       |                      |
|            |                      | -  | (2 Appropriations = \$5,104,000)   |   | Г  | · .                      | · 1                                  |                                   | Γ                    |
| 06a        |                      | Northward Expansion of<br>Ecologically Damaging<br>Amphibians and Reptiles   | American bullfrogs and Red-eared sliders are non-native predators and<br>competitors in Minnesota's native fish communities. This research will<br>assess the distribution and potential for expansion of these species in<br>Minnesota.   | U of MN, College of Food,<br>Agricultural and Natural<br>Resource Sciences                            | Kenneth Kozak                              | \$163,000                | \$0                                  | \$163,000                         | Statewide            |
| 06b        | 2023-176             | Developing Research-Based<br>Solutions to Minnesota's AIS<br>Problems  | MAISRC will launch 18-24 high-priority projects aimed at solving<br>Minnesota's AIS problems using a rigorous, prioritized, and collaborative<br>process. Results will be delivered to end-users through strategic<br>communication and outreach.  | U of MN, MAISRC   | Cori Mattke                                | \$4,941,000              | \$0                                  | \$4,941,000                       | Statewide            |
|            |                      |  |  |   | Subtotal =                                 | \$5,104,000              | \$0                                  | \$5,104,000                       |                      |
|            | 7                    |  | able Energy (6 Appropriations = \$3,913,000)   | 1   | 1  | · · ·                    | · 1                                  |                                   | <b>F</b>             |
| 07a        | 2023-013             | Community Forestry AmeriCorps  | Over three years, we will train, deploy, and support 150 members to<br>build more resilient ecosystems in communities statewide. Members<br>will focus on planting trees and conducting tree inventories.  | ServeMinnesota  | Sharon<br>Delcambre                        | \$1,500,000              | \$0                                  | \$1,500,000                       | Statewide            |
| 07b        | 2023-043             | Biochar Implementation in<br>Habitat Restoration: A Pilot  | Great River Greening will pilot the Implementation of portable biochar<br>kilns in natural resource management and restoration as a reduced<br>carbon-emitting, biologically beneficial alternative to open pile burning<br>when managing invasive tree and shrub species.   | Great River Greening  | Todd Rexine                                | \$185,000                | \$0                                  | \$185,000                         | Central, Metro<br>SE |
|            |                      |  |  |   |  |                          |                                      |                                   |                      |
| 07c        | 2023-101             | Completing Installment of the<br>Minnesota Ecological<br>Monitoring Network  | 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.  | MN DNR, Ecological and<br>Water Resources Division  | Holly Bernardo                             | \$1,094,000              | \$0                                  | \$1,094,000                       | Statewide            |
| 07c<br>07d |                      | Minnesota Ecological   | are needed to understand how climate change is impacting Minnesota   | , ,   | Holly Bernardo<br>Natalia<br>Mossmann Koch | \$1,094,000<br>\$341,000 | \$0<br>\$0                           | \$1,094,000<br>\$341,000          | Statewide            |
|            | 2023-152             | Minnesota Ecological<br>Monitoring Network<br>Lichens as Low-Cost Air Quality  | are needed to understand how climate change is impacting Minnesota<br>and identify resilient natural lands for conservation or enhancement.<br>The proposed project aims to develop protocols for using lichens as<br>indicators of air quality data across Minnesota and through time.  | Water Resources Division<br>U of MN, College of   | Natalia<br>Mossmann Koch                   |                          |                                      |                                   |                      |
| 07d        | 2023-152<br>2023-171 | Minnesota Ecological<br>Monitoring Network<br>Lichens as Low-Cost Air Quality<br>Monitors in Minnesota<br>Environment-Friendly<br>Decarbonizing of Steel<br>Production with Hydrogen | are needed to understand how climate change is impacting Minnesota<br>and identify resilient natural lands for conservation or enhancement.<br>The proposed project aims to develop protocols for using lichens as<br>indicators of air quality data across Minnesota and through time.<br>Conventional iron-making requires massive amounts of fossil fuels and<br>generates significant waste and CO2 emissions. Our microwave<br>hydrogen plasma iron-making eliminates fossil fuel use and CO2 | Water Resources Division<br>U of MN, College of<br>Biological Sciences<br>U of MN, College of Science | Natalia<br>Mossmann Koch                   | \$341,000                | \$0                                  | \$341,000                         | Statewide            |

| Subd. | Proposal<br>ID | Title   | Summary   | Organization   | Project<br>Manager       | FY2024<br>ENRTF \$ | Great Lakes<br>Protection<br>Account | Total<br>ENRTF \$<br>Appropriated | Region*   |
|-------|----------------|---|---|--|--------------------------|--------------------|--------------------------------------|-----------------------------------|-----------|
| 08a   | 2023-006       | Minnesota Bee and Beneficial<br>Species Habitat Enhancement II              | This proposal seeks to enhance grassland habitats to benefit pollinators<br>and other species on permanently protected lands. Research on<br>enhanced sites will be conducted by the U of MN.   | Pheasants Forever Inc.   | Sabin Adams              | \$876,000          | \$0                                  | \$876,000                         | Statewide |
| 08b   | 2023-010       | Karner Blue Butterfly Insurance<br>Population Establishment in<br>Minnesota | To establish a breeding insurance population of Karner Blue Butterflies<br>for climate mitigation in a restored prairie/savanna at Crow-Hassan Park<br>and assess the quality of habitat on butterfly populations.                                    | Three Rivers Park District   | John Moriarty            | \$405,000          | \$0                                  | \$405,000                         | Metro     |
| 08c   | 2023-025       | Root River Habitat Restoration<br>at Eagle Bluff                            | The Root River Restoration project is 3,300 linear feet of stream bank<br>and instream habitat restoration located within Eagle Bluff and state<br>owned land north of Lanesboro, Minnesota.  | Eagle Bluff Environmental<br>Learning Center                               | Colleen<br>Foehrenbacher | \$866,000          | \$0                                  | \$866,000                         | SE        |
| 08d   | 2023-060       | Restoring Mussels in Streams<br>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 <i>E. coli</i> bacteria.                        | MN DNR, Ecological and<br>Water Resources Division                         | Madeline Pletta          | \$825,000          | \$0                                  | \$825,000                         | Statewide |
| 08e   | 2023-061       | Minnesota Million: Seedlings for<br>Reforestation and CO2<br>Sequestration  | A grower network will raise tree seedlings so that we have enough to<br>conduct widespread reforestation in Minnesota to improve carbon<br>sequestration, wildlife habitat, watershed resilience, and create<br>economic opportunity.                 | U of MN, Duluth  | Julie Etterson           | \$906,000          | \$0                                  | \$906,000                         | Statewide |
| 08f   | 2023-080       | Panoway on Wayzata Bay<br>Shoreline Restoration Project                     | This project will feature an underwater wave break to create a buffer<br>that will restore, enhance and protect Lake Minnetonka shoreline, using<br>innovative and replicable technologies to improve the ecosystem.                                  | City of Wayzata  | Nick Kieser              | \$200,000          | \$0                                  | \$200,000                         | Metro     |
| 08g   | 2023-105       | Pollinator Central III: Habitat<br>Improvement with Community<br>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   | Rebecca Tucker           | \$190,000          | \$0                                  | \$190,000                         | Metro     |
| 08h   | 2023-117       | Restoring Forests and Savannas<br>Using Silvopasture - Phase II             | 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   | Brad Gordon              | \$674,000          | \$0                                  | \$674,000                         | Statewide |
| 08i   |                | Minnesota Community<br>Schoolyards  | Minnesota Community Schoolyards will create at least 24 nature-<br>focused habitat improvement projects at schoolyards across the state;<br>engage students and the community in environmental stewardship; and<br>encourage outdoor learning.        | The Trust for Public Land  | Eric Weiss               | \$1,433,000        | \$0                                  | \$1,433,000                       | Statewide |
| 08j   | 2023-136       |   | This restoration project will restore native prairie, support pollinator plantings, and stabilize a large section of streambank along the Mississippi River.  | Department of Military<br>Affairs  | Josh Pennington          | \$187,000          | \$0                                  | \$187,000                         | Central   |
| 08k   | 2023-142       | Conservation Cooperative for<br>Working Lands                               | Increasing federal conservation dollars coming to Minnesota by<br>expanding technical expertise for working lands programs available to<br>landowners. This project enhances our natural resources providing<br>public benefits for every Minnesotan. | Pheasants Forever Inc.   | Tanner Bruse             | \$2,611,000        | \$0                                  | \$2,611,000                       | Statewide |
| 081   | 2023-177       |   | We will quantify the capacity of restored peatlands to store and<br>accumulate atmospheric carbon and their capacity to prevent release of<br>accumulated mercury into streams, rivers, and lakes.  | U of MN, College of Food,<br>Agricultural and Natural<br>Resource Sciences | Christian<br>Lenhart     | \$754,000          | \$0                                  | \$754,000                         | NE, NW    |
| 08m   | 2023-181       | Renewing Access to an Iconic<br>North Shore Vista                           | We seek to renew access to one of Minnesota's most iconic vistas, the<br>Bean and Bear Lakes section of the Superior Hiking Trail, using national<br>trail design best practices.   | Superior Hiking Trail<br>Association                                       | Lisa Luokkala            | \$197,000          | \$0                                  | \$197,000                         | NE        |

| Subd.    | Proposal<br>ID | Title  | Summary  | Organization                                       | Project<br>Manager  | FY2024<br>ENRTF \$ | Great Lakes<br>Protection<br>Account | Total<br>ENRTF \$<br>Appropriated | Region*            |
|----------|----------------|--|--|--|---------------------|--------------------|--------------------------------------|-----------------------------------|--------------------|
| 08n      |                | Addressing Erosion Along High<br>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<br>Association               | Lisa Luokkala       | \$368,000          | \$0                                  | \$368,000                         | NE                 |
| 080      |                | Pollinator Habitat Creation at<br>Minnesota Closed Landfills             | Create the maximum acres of pollinator habitat at five Closed Landfill<br>Program sites. These sites will act as pilot projects to inform future<br>pollinator habitat reconstruction projects in the program.                                     | Minnesota Pollution<br>Control Agency              | Eric Pederson       | \$1,508,000        | \$0                                  | \$1,508,000                       | Statewide          |
| 08p      |                | Enhancing Habitat Connectivity<br>within the Urban Mississippi<br>Flyway | A pilot project that will enhance connectivity within the Mississippi<br>Flyway by linking urban neighborhood parks to the Mississippi River<br>through restoration and implementation of identified habitat corridors.                            | Minneapolis Park and<br>Recreation Board           | Adam Arvidson       | \$190,000          | \$0                                  | \$190,000                         | Metro              |
| 08q      |                | Statewide Diversion of Furniture<br>and Mattress Waste Pilots            | Divert the growing problem of furniture disposal and implement test<br>methods in collaboration with local governments to expand mattress<br>and furniture recycling efforts. Reduce demand for new landfills. Create<br>jobs.                     | EMERGE Community<br>Development                    | Shawn Dolan         | \$2,833,000        | \$0                                  | \$2,833,000                       | Statewide          |
| 08r      | 2023-250       | Phelps Mill Wetland and Prairie<br>Restoration                           | Restoration of 28 acres of prairie and 20 acres of wetland along 3/4 miles of the Otter Tail River.  | Otter Tail County                                  | Nicholas<br>Leonard | \$974,000          | \$0                                  | \$974,000                         | Central            |
|          |                |  |  |  | Subtotal =          | \$15,997,000       | \$0                                  | \$15,997,000                      |                    |
| Subd. 09 | Jand Acqu      | isition, Habitat, and Recreation   | n (15 Appropriations = \$31,241,000)   |  |                     |                    |                                      |                                   |                    |
| 09a      |                | SNA Stewardship, Outreach, and Biodiversity Protection                   | Scientific and Natural Area (SNA) habitat restoration/enhancement<br>(500+ acres), increased public involvement, and strategic acquisition<br>(50+ acres) will conserve Minnesota's most unique places and rare<br>species for everyone's benefit. | MN DNR, Ecological and<br>Water Resources Division | Judy Schulte        | \$1,919,000        | \$0                                  | \$1,919,000                       | Statewide          |
| 09b      |                | Wannigan Regional Park Land<br>Acquisition                               | Acquire 174.55 acres for river corridor conservation and future<br>development of Wannigan Regional Park, where the Heartland State,<br>North Country National, and Otter Tail River Water Trails will meet.                                       | City of Frazee                                     | Stephanie<br>Poegel | \$727,000          | \$0                                  | \$727,000                         | NW                 |
| 09c      |                | Local Parks, Trails, and Natural<br>Areas Grant Programs                 | Provide approximately 19 matching grants for local parks, trails, and acquisition of natural areas and trails to connect people safety to desirable community locations and regional or state facilities.  | MN DNR, State Parks and<br>Trails Division         | Audrey Mularie      | \$3,802,000        | \$0                                  | \$3,802,000                       | Statewide          |
| 09d      | 2023-064       | Outreach and Stewardship<br>Through the Native Prairie Bank<br>Program   | Prairie outreach and technical assistance will be provided to<br>landowners, practitioners, and the public. Native prairie enhancement<br>and monitoring activities will be implemented on existing Native Prairie<br>Bank Easements.              | MN DNR, Ecological and<br>Water Resources Division | Judy Schulte        | \$620,000          | \$0                                  | \$620,000                         | Central, NW,<br>SW |
| 09e      |                | Minnesota State Trails<br>Development                                    | This project proposes to expand recreational opportunities on<br>Minnesota State Trails through the rehabilitation and enhancement of<br>existing state trails and replacement or repair of existing state trail<br>bridges.                       | MN DNR, State Parks and<br>Trails Division         | Kent Skaar          | \$4,952,000        | \$0                                  | \$4,952,000                       | Statewide          |
| 09f      | 2023-091       | Construction of 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                                 | Nate Keller         | \$700,000          | \$0                                  | \$700,000                         | Central            |
| 09g      |                | Scandia Gateway Trail to William<br>O'Brien State Park                   | Complete construction-ready Gateway State Trail segment between<br>Scandia Village Center and William O'Brien State Park with highway<br>tunnel and trailhead parking lot on ROW already acquired by DNR.  | City of Scandia                                    | Kyle Morell         | \$2,689,000        | \$0                                  | \$2,689,000                       | Metro              |

|       |          | Title   | Summary   | Organization  | Project                    | FY2024<br>ENRTF \$ | Protection<br>Account | ENRTF \$                  | Region*   |
|-------|----------|---|---|---|----------------------------|--------------------|-----------------------|---------------------------|-----------|
| 09i 2 |          | Grand Marais Mountain Bike<br>Trail Rehabilitation - Phase II                           | Rehabilitate existing mountain bike trail to increase environmental<br>sustainability through best trail building practices and to provide better<br>user access through modifications allowing adaptive cycling<br>opportunities.              | Superior Cycling Association                                | Manager<br>Paul Nordlund   | \$200,000          | \$0                   | Appropriated<br>\$200,000 | NE        |
|       |          | Acquisition of State Parks and<br>Trails Inholdings                                     | Acquire top priority in-holdings within legislatively established<br>boundaries of Minnesota's 75 State Parks and State Recreation Areas<br>and 26 State Trails from willing sellers.   | MN DNR, State Parks and<br>Trails Division                  | Shelby Kok                 | \$5,425,000        | \$0                   | \$5,425,000               | Statewide |
| 09j 2 |          | St. Louis River Re-Connect -<br>Phase II  | Acquire, preserve, and enhance strategic quality natural resources and<br>expand outdoor recreational access to the St. Louis River through<br>additions and connections to state, regional, and local parks and trails.                        | City of Duluth  | Cliff Knettel              | \$1,375,000        | \$0                   | \$1,375,000               | NE        |
| 09k 2 | 2023-207 | City of Biwabik Recreation  | Reconstruction & renovation of amenities and multi-modal pathways to,<br>and within, the Biwabik Recreation Area which consists of the city<br>campground, beach, boat access, fishing pier, and walking/biking trails.                         | City of Biwabik   | Jeff Jacobson              | \$1,306,000        | \$0                   | \$1,306,000               | NE        |
| 091 2 |          | Silver Bay Multimodal Trailhead<br>Project  | Development of a Multi-Modal Trailhead Center that provides ample<br>parking, safe access to non-motorized and motorized trails, a multi-use<br>building with lavatories/showers, picnic/playgrounds, and conveniently<br>located.              | City of Silver Bay  | Lana Fralich               | \$1,970,000        | \$0                   | \$1,970,000               | NE        |
| 09m 2 |          | Above the Falls Regional Park<br>Restoration Planning and<br>Acquisition                | This project would acquire industrial acreage from willing sellers along the Mississippi River within the Above the Falls Regional Park.  | Minneapolis Park and<br>Recreation Board                    | Adam Arvidson              | \$1,376,000        | \$0                   | \$1,376,000               | Metro     |
| 09n 2 | 2023-231 | Redhead Mountain Bike Park  | The Redhead Mountain Bike Park will add an additional 14 miles of trail<br>and accommodations to Redhead Mountain Bike Trail System at the<br>Minnesota Discovery Center in Chisholm, Minnesota.  | Minnesota Discovery<br>Center                               | Donna Johnson              | \$1,666,000        | \$0                   | \$1,666,000               | NE        |
| 090 2 |          | Maplewood State Park Trail<br>Segment of the Perham to<br>Pelican Rapids Regional Trail | Construction of the Maplewood State Park Segment (4.2 miles) of the 32-<br>mile Perham to Pelican Rapids Regional Trail that will connect the City of<br>Pelican Rapids to Maplewood State.   |   | Nicholas<br>Leonard        | \$2,514,000        | \$0                   | \$2,514,000               | Central   |
|       |          |   |   |   | Subtotal =                 | \$31,241,000       | \$0                   | \$31,241,000              |           |
|       |          | tion, Emerging Issues, and Cor<br>LCCMR Administrative Budget                           | ntract Agreement Reimbursement (4 Appropriations = \$3,126,000) LCCMR Administrative Budget   | Legislative-Citizen<br>Commission on Minnesota<br>Resources | Becca Nash                 | \$2,133,000        | \$0                   | \$2,133,000               | Statewide |
| 10b 2 | 2023-002 | Emerging Issues   | 2023 Emerging Issues  | Legislative-Citizen<br>Commission on Minnesota<br>Resources | Becca Nash                 | \$767,000          | \$0                   | \$767,000                 | Statewide |
| 10c 7 |          | Contract Agreement<br>Reimbursement   | Provide contract management to ENRTF pass-through appropriation<br>recipients for approximately 115 open grants. Ensure funds are<br>expended in compliance with appropriation law, state statute, grants<br>policies, and approved work plans. | MN DNR, Grants Unit   | Katherine<br>Sherman-Hoehn | \$224,000          | \$0                   | \$224,000                 | Statewide |
| 10d 2 |          | Legislative Coordinating<br>Commission Legacy Website                                   | For the website required in Minnesota Statutes, section 3.303, subdivision 10   | Legislative Coordinating<br>Commission                      | Sally Olson                | \$2,000            | \$0                   | \$2,000                   | Statewide |
|       |          |   |   |   | Subtotal =                 | \$3,126,000        | \$0                   | \$3,126,000               |           |

|       | Proposal |  |         |                                       | Project                | FY2024       | Great Lakes<br>Protection | Total<br>ENRTF \$ |           |
|-------|----------|--|---------|---------------------------------------|------------------------|--------------|---------------------------|-------------------|-----------|
| Subd. | ID       | Title  | Summary | Organization                          | Manager                | ENRTF \$     | Account                   | Appropriated      | Region*   |
|       |          | FROM - Restoring Upland<br>Forests for Birds M.L. 2021, First<br>Special Session, Chp.6, Art.6,<br>Sec. 2, Subd. 08f |         |                                       |                        | (\$176,000)  | \$0                       | (\$176,000)       | Statewide |
| 19    |          | TO - Neonicotinoid Impacts on<br>Minnesota Deer and Prairie<br>Chickens  |         | MN DNR, Fish and Wildlife<br>Division | Michelle<br>Carstensen | \$176,000    | \$0                       | \$176,000         | Statewide |
|       |          |  |         |                                       | Subtotal =             | \$0          | \$0                       | \$0               |           |
|       |          |  |         |                                       | Total =                | \$79,644,000 | \$189,000                 | \$79,833,000      |           |

\* Metro region includes the 11 counties of Anoka, Carver, Chisago, Dakota, Hennepin, Isanti, Ramsey, Scott, Sherburne, Washington, and Wright.