

**Environment and Natural Resources Trust Fund
2015 Request for Proposals (RFP)**

Project Title:

ENRTF ID: 002-A

Minnesota Biological Survey [Continuation]

Category: A. Foundational Natural Resource Data and Information

Total Project Budget: \$ 3,500,000

Proposed Project Time Period for the Funding Requested: 2 years, July 2015 - June 2017

Summary:

Minnesota Biological Survey provides a foundation for conserving biodiversity by systematically collecting, interpreting, monitoring, and delivering data on plant and animal distribution and ecology, native plant communities and functional landscapes.

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Sponsoring Organization: MN DNR

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Location

Region: Statewide

County Name: Statewide

City / Township:

Alternate Text for Visual:

MBS progress displayed on statewide map showing proposed focus of baseline surveys in Lake of the Woods, Koochiching and northern St. Louis counties.

_____ Funding Priorities	_____ Multiple Benefits	_____ Outcomes	_____ Knowledge Base
_____ Extent of Impact	_____ Innovation	_____ Scientific/Tech Basis	_____ Urgency
_____ Capacity Readiness	_____ Leverage	_____ TOTAL	



Environment and Natural Resources Trust Fund (ENRTF)

2015 Main Proposal

Project Title: Minnesota Biological Survey

I. PROJECT STATEMENT The need to protect and manage functional ecological systems, including ecological processes and components is accelerating with increased demands for clean water, energy and arable land. Habitat fragmentation, loss of plant and animal species and genetic diversity, changing landscape patterns, contamination of water resources and invasive species expansion require data and analytical tools to optimize conservation of the most functional systems and provide guidance to maintain or restore declining systems. The Minnesota Biological Survey (MBS) systematically collects, interprets and delivers data on plant and animal distribution and the ecology of native plant communities and functional landscapes. These data help prioritize actions to conserve, manage and restore Minnesota's ecological systems and critical plant and animal habitats. MBS also monitors outcomes of selected conservation and management activities.

MBS data inform implementation of plans for landscape and watershed conservation and management. Data are used to prioritize sites selected for parks, natural areas, conservation easements and management of forest, peatland, prairie and riparian areas. Baseline surveys will continue in northern Minnesota. Surveys of groups of species with minimal previous survey effort will be expanded. Monitoring projects will continue in collaboration with others in response to needs identified in various plans and assessments such as the Minnesota Prairie Conservation Plan 2010, the State Wildlife Action Plan, and forest plans and certification. MBS sites identified as having high levels of biodiversity significance will be used for the establishment of long-term DNR vegetation monitoring sites. Improved access and delivery of MBS data continues to be a priority with delivery through web-based products and publications. Professional technical assistance will continue that includes data interpretation and technical training. MBS species and vegetation databases are part of national information system networks. Museums providing repositories for MBS plant and animal collections are important partners.

II. PROJECT ACTIVITIES AND OUTCOMES

Activity 1: Field Surveys

Budget: \$1,100,000

Data on the distribution and ecology of plants, animals, native plant communities and functional landscapes will be collected, providing a basis for the maintenance of elements of biodiversity and ecological systems through ecological management, planning, research, and critical habitat acquisition.

Outcome (see also attached map)	Completion Dates
1. Field survey Border Lakes subsection—St. Louis and Koochiching counties	Continuing
2. Field survey Littlefork-Vermilion Uplands subsection	2016
3. Field survey Agassiz Lowlands subsection—Beltrami and Koochiching counties	2016
4. Field survey Agassiz Lowlands subsection—Lake of the Woods County	Continuing
5. Field survey of selected groups with minimal previous survey (such as invertebrates, lichens) statewide	Continuing
6. Updated native plant community mapping—selected sites of biodiversity significance (SE MN, western MN prairie core areas)	Continuing

Activity 2: Monitoring

Budget: \$ 700,000

MBS will conduct selected monitoring activities in collaboration with others in response to needs identified in various plans and assessments. Examples include the Minnesota Prairie Conservation Plan 2010, the State Wildlife Action Plan, the State of Minnesota's forest certification, and national species vulnerability assessments.

Outcome	Completion Dates
1. Identification of permanent vegetation monitoring plots statewide	Continuing
2. Sample selected permanent vegetation monitoring plots	2017 (25 sites)
3. Sample at least 3 prairie sites to assess outcomes of management activities	Continuing
4. Continue monitoring of sensitive plant species	2015-2017
5. Sample selected sites related to sustainable forest management	2015-2017



Activity 3: Information System Expansion

Budget: \$ 900,000

MBS data will be stored in information systems and specimens will be deposited in museums. This results in long-term storage of collections and databases for analysis and distribution of information to individuals, organizations, and agencies with diverse natural resource goals.

Outcome	Completion Dates
1. Survey data entered and managed in DNR's information systems	Continuing
2. Preparation & delivery of plant & animal collections to museums	Continuing
3. Monitoring data entered and analyzed (DNR Info Systems)	Continuing
4. Programming to improve long-term data storage, analytical tools, and data transfer	Continuing

Activity 4: Guidance for Conservation and Management

Budget: \$800,000

MBS will provide interpretation of results through products and technical assistance to guide conservation and management of ecological systems, rare resources, and sites of biodiversity significance.

Outcome	Completion Dates
1. DNR's website provides updated and accurate survey & monitoring procedures, results and tools (Examples given at right--not an exhaustive list)	Additional MBS site & vegetation plot data available through GIS interface; Add GIS data for 2 subsections to DNR Data Deli; Collaborate to add lakes of biological significance to Data Deli
2. Ecological Evaluations (EE) are reports describing sites of biodiversity significance to guide conservation, management & monitoring	Add 15 EEs to website (5, winter 2016; 10, winter 2017)
3. Prairie & forest monitoring results delivered	See Activity 2
4. Technical assistance: e.g. Deliver and interpret data to inform conservation and management planning related to native plant communities, sites of biodiversity significance	Throughout project period
5. Aspen Parkland-Red River Valley guide book; begin publication on mammals of Minnesota	Guide book publication June 2016; Mammal publication draft 2017
6. Technical training such as field-based plant identification workshops, native plant community identification and evaluation, vegetation sampling	Throughout project period

III. PROJECT STRATEGY

A. Project Team/Partners: This request does not include funding for the following partners: the Bell Museum, the Science Museum of Minnesota, the Superior National Forest, TNC, NatureServe, Red Lake DNR, the Minnesota Zoo, and the Minnesota Landscape Arboretum.

B. Timeline Requirements: MBS is proposed to complete its first statewide survey in 2021. Selected survey and monitoring efforts as identified in state plans are addressed in this proposal but will be an ongoing need.

C. Long-Term Strategy and Future Funding Needs: Funds will be requested to address: Data gaps, including species groups or systems previously inadequately surveyed; Re-survey of landscapes altered due to habitat fragmentation, development, and invasive species, especially areas surveyed during 1980s–1990s; Additional monitoring of ecological impacts of policies and management on ecological systems and species populations; Use of new technology in remote sensing, data collection, analysis, modeling, and information delivery.

2015 Detailed Project Budget

Project Title: Minnesota Biological Survey

IV. TOTAL ENRTF REQUEST BUDGET 2 years

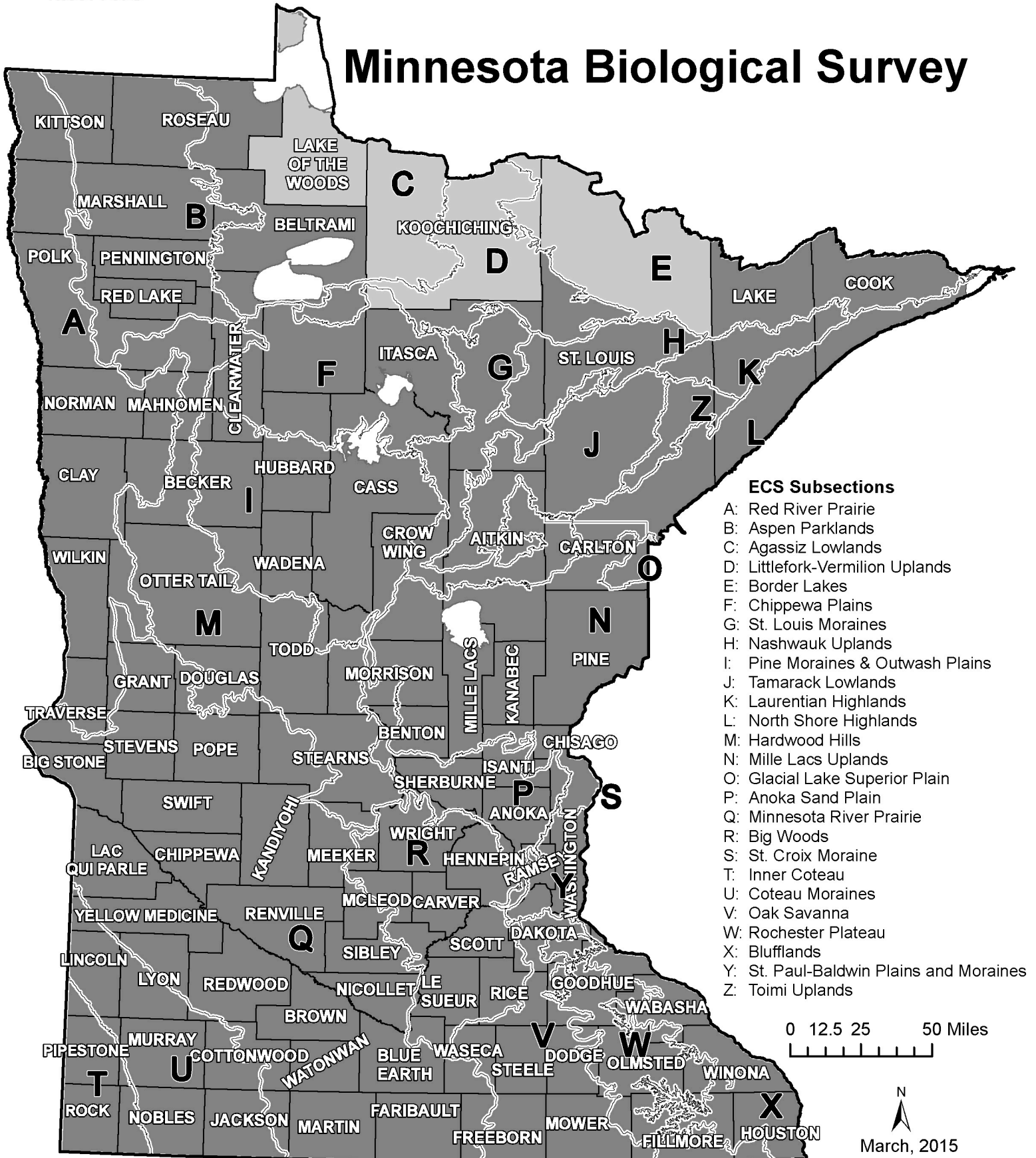
<u>BUDGET ITEM</u>	<u>AMOUNT</u>
<p>Personnel: (18 positions) Personnel are State of Minnesota employees. Salary and fringe are included in this budget item. Most positions require specialized professional skills in ecological surveys (plant and animal taxonomy, behavior, field survey techniques, statistics, sampling design, specimen preparation and documentation/data management). In addition use of remote-sensing equipment, interpretation of aerial imagery, understanding of soils, geology, hydrology and landscape processes are critical to accomplishing many required tasks. There is the additional need to effectively enter and manage data and analyze especially monitoring data to assess outcomes. Staff must also be capable of providing interpretation of results and training to users. Communication of results is especially crucial to meet deadlines of web products and publications. The proposed staff is as follows: 9 ecologists (unclassified @100% time); 2 ecologists (classified @100% time), 2 botanists (unclassified@ 100% time), 2 botanists (classified @ 100% time), 1 information officer (unclassified 90% time), 1 student worker/data manager (classified @ 50% time), 1 Natural Resource supervisor (classified 100% time).</p>	\$ 2,668,000
<p>Contracts: Monitoring and surveys requires the additional assistance of contract biologists and ecologists.</p>	\$ 40,000
<p>Equipment/Tools/Supplies: Field supplies to conduct biological surveys, including GPS units, data recorders/laptop computers, cameras, communication safety equipment (especially in Border Lakes and remote peatlands), plant and animal specimen collecting and preservation supplies, water chemistry sampling supplies, batteries, air photos, maps, etc.</p>	\$ 20,000
<p>Travel: In-state travel, including food and lodging expenses when in travel status. Especially used by field staff where vehicle mileage is paid for temporary use of DNR vehicles during the summer field surveys. Vehicles are often trucks due to need for access to remote locations and the need to transport canoes and kayaks (especially for aquatic plant surveys and surveys in Border Lakes, including the Boundary Waters Canoe Area Wilderness). Aerial flights also used (especially in large peatlands). Out of state travel is rarely required except to adjacent states for coordination of survey and monitoring (e.g. prairie monitoring) and for one national meeting to present outcomes/coordinate with similar efforts (such as NatureServe, Ecological Society of America).</p>	\$ 140,000
<p>Direct and necessary expenses:DNR's direct and necessary costs pay for activities that are directly related to and necessary for accomplishing appropriated programs/projects. In addition to itemized costs captured in our proposal budget, direct and necessary costs cover HR Support (~\$46,145), Safety Support (~\$11,414), Financial Support (~\$37,284), Communication Support (~\$1,141), IT Support (~\$79,100), Planning Support (~\$704), Procurement Support (~\$235), and division and regional program management (~\$132,788) that are necessary to accomplishing funded programs/projects.</p>	\$ 308,812
<p>Additional Budget Item: MNIT service level agreements and embedded staff.</p>	\$ 320,000
TOTAL ENVIRONMENT AND NATURAL RESOURCES TRUST FUND \$ REQUEST =	\$ 3,496,812

V. OTHER FUNDS

<u>SOURCE OF FUNDS</u>	<u>AMOUNT</u>	<u>Status</u>
<p>Other Non-State \$ Being Applied to Project During Project Period: State Wildlife Grants (Federal funding related to the State Wildlife Action Plan), Federal Endangered species funds.</p>	\$ 450,000	<i>Pending</i>
<p>Other State \$ Being Applied to Project During Project Period: General Fund \$520,000; Heritage Enhancement \$1,232,000, Game and Fish \$120,000,</p>	\$ 1,872,000	<i>Pending</i>
<p>In-kind Services To Be Applied To Project During Project Period:</p>	NA	NA
<p>Recent Funding History of overall MBS project: ENTRF 2013 = \$2,650,000 (2 years); FY2013 and FY14: General Fund = \$ 520,000; Heritage Enhancement/RIM = \$1,230,000; State Wildlife Grant = \$500,000, Game and Fish \$60,000.</p>	\$ 4,960,000	
<p>Remaining \$ From Current ENRTF Appropriation: Amount is the balance as of the MBS work program update January 2014 . The ENTRF 2013 appropriation for MBS ends June 30, 2015.</p>	\$ 2,046,059	<i>in progress</i>



Minnesota Biological Survey



ECS Subsections

- A: Red River Prairie
- B: Aspen Parklands
- C: Agassiz Lowlands
- D: Littlefork-Vermilion Uplands
- E: Border Lakes
- F: Chippewa Plains
- G: St. Louis Moraines
- H: Nashauk Uplands
- I: Pine Moraines & Outwash Plains
- J: Tamarack Lowlands
- K: Laurentian Highlands
- L: North Shore Highlands
- M: Hardwood Hills
- N: Mille Lacs Uplands
- O: Glacial Lake Superior Plain
- P: Anoka Sand Plain
- Q: Minnesota River Prairie
- R: Big Woods
- S: St. Croix Moraine
- T: Inner Coteau
- U: Coteau Moraines
- V: Oak Savanna
- W: Rochester Plateau
- X: Blufflands
- Y: St. Paul-Baldwin Plains and Moraines
- Z: Toimi Uplands

0 12.5 25 50 Miles

March, 2015

LCCMR Proposal 2015 Minnesota Biological Survey

Project Manager: Carmen Converse

Affiliation: Minnesota Biological Survey, Division of Ecological & Water Resources
Minnesota Department of Natural Resources

The project manager has coordinated MBS since 1987. The Minnesota Biological Survey (MBS) systematically collects, interprets and delivers data on plant and animal distribution and the ecology of native plant communities and functional landscapes. She prepares work plans, funding proposals, manages the budget, develops procedures and work plans, hires and supervises staff, provides direction for information management, and has oversight on technical assistance, publications, and other products related to the delivery of MBS results. Her past work experience also includes botanical and ecological field surveys and natural area research and management.

Employment

Aug. 1993-present Natural Resources Supervisor Senior
Minnesota Department of Natural Resources (MN DNR) Supervisor of the Minnesota Biological Survey (MBS). Coordination involves the planning and implementation of MBS to include hiring and supervision of employees, and preparation of schedules, budgets, contracts and reports

Nov. 1991-Oct. 1992 Natural Resources Supervisor Senior
MN DNR. Acting Supervisor of the Natural Heritage Program. Overall coordination of the program including the Research and Policy Unit and MBS.

Mar.-Oct. 1991 Natural Resources Supervisor
MN DNR. Coordinator of MBS. New classification July 1993 due to MBS expansion.

1987 -1990 Natural Resources Specialist Senior Plant Ecologist/Botanist
MN DNR Natural Heritage Program Coordinator of MBS.

1987 Natural Resource Specialist Plant Ecologist/Botanist
MN DNR. Natural Heritage Program. Evaluated natural areas, identified rare plant locations, assisted with data management and environmental review.

Education

1970-75 UNIVERSITY OF WISCONSIN-MADISON
Bachelor of Science
Natural Resources. Majored in horticulture with emphasis in botany.

1981-82 UNIVERSITY OF MINNESOTA
Course work in library science, Spanish, statistics and management information systems.

Organizational Description: MN DNR's mission is to work with citizens to conserve and manage the state's natural resources, to provide outdoor recreation opportunities, and to provide for commercial uses of natural resources in a way that creates a sustainable quality of life. The department consists of several divisions based on the state's natural resources, such as Fish and Wildlife, Forestry, Lands and Minerals, Parks and Trails, and Ecological Resources and Waters, as well as four regions and four support bureaus.