

Environment and Natural Resources Trust Fund 2019 Request for Proposals (RFP)

Project Title:**ENRTF ID: 001-A**

Minnesota Biological Survey – Continuation

Category: A. Foundational Natural Resource Data and Information**Sub-Category:****Total Project Budget: \$** 2,987,000**Proposed Project Time Period for the Funding Requested:** June 30, 2021 (2 yrs)**Summary:**

MBS proposes baseline biological field surveys in three northern counties; targeted field surveys of sensitive plant species, pollinators, and plant communities; digital maps; book drafts; technical guidance; and data management.

Name: Bruce Carlson**Sponsoring Organization:** MN DNR**Title:** Supervisor, Minnesota Biological Survey**Department:****Address:** 500 Lafayette Road

St. Paul MN 55155

Telephone Number: (651) 259-5083**Email** bruce.carlson@state.mn.us**Web Address** <http://www.dnr.state.mn.us/mbs/index.html>**Location****Region:** Statewide**County Name:** Aitkin, Anoka, Becker, Big Stone, Brown, Carlton, Chippewa, Chisago, Clay, Cottonwood, Crow Wing, Dakota, Dodge, Douglas, Fillmore, Grant, Houston, Isanti, Itasca, Kittson, Koochiching, Lac qui Parle, Lake of the Woods, Mahnommen, Marshall, Mille Lacs, Mow**City / Township:****Alternate Text for Visual:**

A map of Minnesota counties underlying general locations field surveys and outcomes proposed in Activities 1 and 2.

_____ Funding Priorities	_____ Multiple Benefits	_____ Outcomes	_____ Knowledge Base
_____ Extent of Impact	_____ Innovation	_____ Scientific/Tech Basis	_____ Urgency
_____ Capacity	_____ Readiness	_____ Leverage	_____ TOTAL _____%
_____ If under \$200,000, waive presentation?			



Environment and Natural Resources Trust Fund (ENRTF)
2019 Main Proposal Template

PROJECT TITLE: Minnesota Biological Survey - Continuation

I. PROJECT STATEMENT

The Minnesota Biological Survey (MBS) proposes to collect and deliver foundational natural resource data and information on native and rare species, pollinators, and native plant communities. This work will deliver new data and products that help guide and prioritize biodiversity and water conservation and management throughout Minnesota.

This proposal will 1) bring to completion field surveys in all of Lake of the Woods County, St. Louis County, and Koochiching County thereby completing the statewide, baseline county-by-county survey started in 1987 for native terrestrial plants, plant communities, birds, amphibians, reptiles, and small mammals; 2) continue towards statewide completion of aquatic (lake) plant surveys; 3) update and enhance 1980s–90s field surveys and monitoring data in select native prairies, wetlands, and forests that are important to current collaborative planning and management initiatives or of imminent conservation attention; 4) lead citizen volunteers in monitoring of rare prairie plant species in collaboration with USFWS; and 5) provide new biological reports, book drafts, technical guidance, and outreach resulting from 1-4 above.

Recent examples of delivery and interpretation of MBS data include identification, restoration and management of Scientific and Natural Areas; updates and revisions to Minnesota’s list of endangered, threatened and special concern species; development of pollinator best-management practices; site selection and seed mix development for cover crop, buffer and clean water initiatives; delivery of biological specimens for the Minnesota Biodiversity Atlas (ENRTF ML18 004-A); and technical support tools for stream and watershed management. MBS has particular ENRTF-invested expertise and capacity to efficiently and effectively deliver the stated outcomes.

II. PROJECT ACTIVITIES AND OUTCOMES

Activity 1: County Biological Surveys – complete Lake of the Woods, St. Louis, and Koochiching Counties

MBS will bring to completion county-by-county baseline field surveys begun in 1987 on the distribution and ecology of native terrestrial plants, plant communities, birds, amphibians, reptiles, and small mammals.

ENRTF BUDGET: \$1,431,285

Outcome	Completion Date
1. Baseline field survey completed for Northwest Angle, Lake of the Woods County	June 2021
2. Baseline field survey completed for St. Louis County	June 2021
3. Baseline field survey completed for Koochiching County	June 2021
4. Field data entered into DNR databases; specimens delivered to MN repositories.	Ongoing

Activity 2: Enhance Surveys and Monitoring in High Priority Sites and Ecological Systems

Collect and deliver field survey data and provide analysis on targeted lakes, high-quality native plant communities, sensitive species, and pollinators that either 1) expand upon existing or previous ENRTF investments in data collection and analysis or 2) address foundational needs in Minnesota science and collaborative plans and projects.

ENRTF BUDGET: \$775,398

Outcome	Completion Date
1. Statewide lake surveys continued for native and rare aquatic plants. ~125 lakes in 8 counties.	June 2021



Environment and Natural Resources Trust Fund (ENRTF)
2019 Main Proposal Template

2. Field surveys completed of newly documented prairie vegetation and rare species in northwestern Minnesota. ~200 sites in 10 counties.	June 2021
3. Coordinate monitoring of rare prairie plants by citizen volunteers. ~90 sites, 24 counties, >500 volunteer hours.	June 2021
4. 1980s–90s field surveys updated and enhanced for rare species, pollinators, and native vegetation in eastern Minnesota. ≥15 sites, ~10 counties.	June 2021
5. Field data entered into DNR databases; specimens delivered to MN repositories.	Ongoing

Activity 3: Deliver survey results

Provide interpretation of results of Activities 1, 2 and 3 through products and technical assistance to guide conservation and management of native plant communities, rare species, and ecological systems (e.g., watersheds, sites of biodiversity significance).

ENRTF BUDGET: \$781,317

Outcome	Completion Date
1. Second draft completed of new book on mammals of Minnesota.	June 30, 2021
2. Final draft delivered for publication of new book on ferns and fern allies of Minnesota.	June 30, 2021
3. Digital maps (GIS polygon data) created for native plant communities and sites.	Ongoing
4. DNR's website and social media updated with current survey results; biological reports, technical guidance, presentations, and trainings delivered.	Ongoing

III. PROJECT PARTNERS:

A. Partners receiving ENRTF funding NA

B. Partners NOT receiving ENRTF funding

Name	Title	Affiliation	Role
George Weiblen	Professor and Science Director	UMN Bell Museum	Biological specimen curation; MN Biodiversity Atlas
Ralph Holzenthal	Professor	UMN Dpt. Of Entomology	Biological specimen curation.
Phil Delphy	Endangered Species Coordinator.	US Fish & Wildlife Service	Listed species coordination and collaboration.

IV. LONG-TERM IMPLEMENTATION AND FUNDING:

MBS data, analysis, products, and technical guidance have proven critical and foundational to countless societal and scientific applications. MBS is funded by ENRTF, State General Fund, State Fish & Game Fund, State Heritage Enhancement Fund, and Federal State Wildlife Action Plan dollars. DNR is developing new strategies to sustainably fund MBS. MBS has developed a 10-year strategic plan to guide work and funding priorities through 2018. MBS will continue to offer LCCMR proposals that address relevant needs and add value to existing ENRTF investments, including completion of statewide baseline biological surveys; species and ecosystem monitoring; product development (e.g., books, maps); targeted field surveys to inform conservation and management planning and decisions; and field surveys for under-surveyed taxa and ecological systems.

V. TIME LINE REQUIREMENTS:

MBS will complete statewide baseline surveys for native terrestrial plants, plant communities, birds, amphibians, reptiles, and small mammals (Activity 1, Outcomes 1-3) in 2021. Other statewide baseline surveys in progress (Activity 2, Outcome 1), targeted field surveys and monitoring (Activity 2), and products and outreach (Activity 3) as identified in this proposal represent ongoing priorities and foundational data needs.

2019 Proposal Budget Spreadsheet

Project Title: Minnesota Biological Survey - Continuation

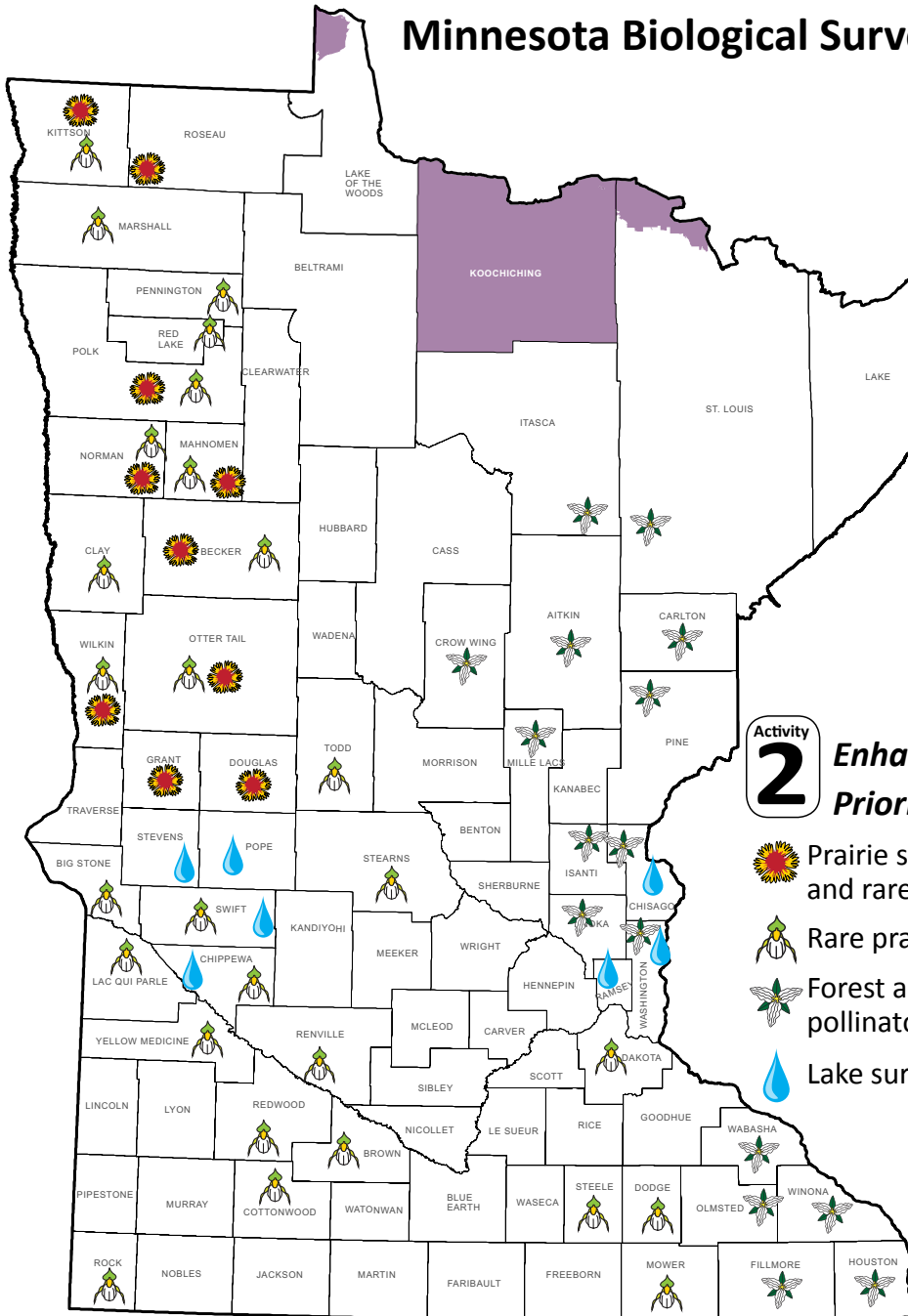
IV. TOTAL ENRTF REQUEST BUDGET 2 years

BUDGET ITEM	AMOUNT
Personnel:	
Botanists (2 classified 1.4 FTE, 1 unclassified 0.5 FTE for two years) position# 1 75% salary, 25% benefits; position #2 76% salary 24% benefits; position #3 82% salary, 18% benefits	\$ 355,733
Plant Ecologists (8 unclassified 6.6 FTE for two years) position #1 72% salary, 28% benefits; positions #2 and #3 66% salary, 34% benefits; position # 4 76% salary, 24% benefits; positions #5, #6, #7 71% salary, 29% benefits; positions #8 64% salary, 36% benefits.	\$ 1,186,947
Mammalogist (1 classified 0.5 FTE for two years) position #1 77% salary, 23% benefits.	\$ 117,431
Entomologists - Pollinator Specialists (2 unclassified 1.6 FTE for two years) position #1 71% salary,	\$ 295,459
Zoologist (1 unclassified 1.0 FTE for two years) position #1 73% salary, 27% benefits.	\$ 148,482
Data/Specimen Assistant (1 classified 0.2 FTE for two years) 63% salary, 37% benefits.	\$ 38,070
Project/Data Coordinator (1 unclassified 1.0 FTE for two years) 59% salary, 41% benefits.	\$ 151,876
Information officer (1 unclassified 0.95 FTE for two years) 64% salary 36% benefits.	\$ 185,836
Professional/Technical/Service Contracts:	
MN.IT for embedded GIS services (equivalent to 0.4FTE for each of 2 years)	\$ 100,000
Biologists for field and technical services TBD	\$ 35,000
MN.IT service level agreements TBD	\$ 10,000
Joint Powers Agreement with University of Minnesota Press for book publication	\$ 25,000
Work Order with Conservation Corps Minnesota per DNR-CCM Master Contract Agreement.	\$ 40,000
Equipment/Tools/Supplies: Equipment is used from previous survey periods when at all possible (e.g. GPS units, cameras, canoes, communication equipment, etc.) but replaced, repaired, or updated as necessary. Items such as batteries, specimen collecting materials, aerial photography need to be replaced or updated each field season.	\$ 20,000
Travel: Travel expenses for MN travel related to field survey in Activities 1 & 2. Travel expenses are subject to State of MN labor agreements and DNR policy. Most travel expenses are related to the 4-6 months of time when staff are conducting field work that requires food, transportation in seasonal DNR fleet vehicles, and lodging.	\$ 100,000
Direct and Necessary: DNR's direct and necessary costs pay for activities that are directly related to and necessary for accomplishing appropriated projects. HR Support (~\$40,631), Safety Support (~\$8,417), Financial Support (~\$33,787), Communication Support (~\$1,251), IT Support (~\$92,021), and Planning Support (~\$1,059).	\$ 177,166
TOTAL ENVIRONMENT AND NATURAL RESOURCES TRUST FUND \$ REQUEST =	\$ 2,987,000

V. OTHER FUNDS

SOURCE OF FUNDS	AMOUNT	Status
Other Non-State \$ To Be Applied To Project During Project Period:		
Federal - State Wildlife Grants	~\$750,000	Pending
Federal - Endangered & Threatened Species	~\$50,000	Pending
Other State \$ To Be Applied To Project During Project Period:		
General Fund FY20 and FY21	~\$750,000	Pending
Heritage Enhancement FY20 and FY21	~\$1,200,000	Pending
In-kind Services To Be Applied To Project During Project Period: N/A		
Past and Current ENRTF Appropriation:		
ML2017 - MN Biological Survey	\$ 2,900,000	in-progress
ML2015 - MN Biological Survey	\$ 2,450,000	Spent
ML2013 - MN County Biological Survey	\$ 2,650,000	Spent
ML2011 - MN County Biological Survey	\$ 2,250,000	Spent
ML2009 - MN County Biological Survey	\$ 2,100,000	Spent
ML2007 - MN County Biological Survey	\$ 1,500,000	Spent
ML2005 - MN County Biological Survey	\$ 1,000,000	Spent
ML2003 - MN County Biological Survey	\$ 900,000	Spent
ML2001 - MN County Biological Survey	\$ 800,000	Spent
ML1999 - MN County Biological Survey	\$ 1,600,000	Spent
ML1997 - MN County Biological Survey	\$ 1,200,000	Spent
ML1995 - MN County Biological Survey	\$ 900,000	Spent
ML1993 - MN County Biological Survey	\$ 900,000	Spent
ML1991 - MN County Biological Survey	\$ 1,000,000	Spent
Other Funding History:		
General Fund FY18 secured and FY19 pending	\$ 350,000.00	Pending
Heritage Enhancement FY18 secured and FY19 pending	\$ 600,000.00	Pending

Minnesota Biological Survey-Continuation







Activity
1

County Biological Surveys

Baseline survey completed by 2021

Activity
2

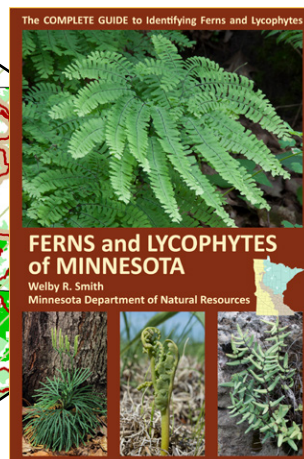
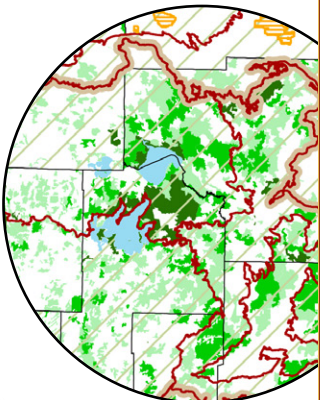
Enhance Surveys and Monitoring in High-Priority Sites and Ecological Systems

-  Prairie surveys of undocumented native vegetation and rare species
-  Rare prairie plant monitoring by citizen volunteers
-  Forest and wetland surveys for rare species, pollinators, vegetation
-  Lake surveys for native and rare aquatic plants



Activity
3

Interpret and Deliver Survey Results



Project Manager Qualifications

Project Manager: Bruce Carlson, Program Supervisor, MN Biological Survey
Affiliation: Department of Natural Resources, Minnesota Biological Survey
Mailing Address: 500 Lafayette Road, Box 25, St. Paul, MN 55155-4025
Telephone: 651-259-5083
Email: bruce.carlson@state.mn.us

Bruce Carlson has been Supervisor of the MN Biological Survey (MBS) since 2015. He manages MBS budgets, priorities, and staff to survey, monitor, analyze, and disseminate information on Minnesota native biodiversity and ecological systems. Background and professional experience includes extensive work in native plant community and native species field survey and mapping, ecological land management, project management, and collaborative natural resource and conservation planning.

Work Experience

2015 – present	Program Supervisor, MBS, DNR Division of Ecological & Water Resources
2007 – 2015	NE Regional Plant Ecologist, DNR Division of EWR
1997 – 2007	Plant Ecologist/Botanist, MBS, DNR Division of EWR
1996 – 1997	Project Specialist, Wetlands Program, MN office, National Audubon Society
1995 – 1996	Field Research Assistant, University of MN, Dept. of Horticulture Science
1992 – 1995	Herbarium Curatorial Specialist, Bell Museum of Natural History, U of MN

Education

1995	Bachelor of Science, Biology, University of Minnesota
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Project Manager Responsibilities

Bruce Carlson will provide overall project direction, budget management, staff supervision, work plans, and activity updates. In his capacity as MBS Program Supervisor and previous work experience, Bruce has demonstrated his ability to manage budgets, direct staff, coordinate with partners, and efficiently and effectively deliver project outcomes.

Organization Description

MBS systematically collects, interprets, and delivers baseline data on the distribution and ecology of native animals, plants, plant communities, and native landscapes. Delivery of these data helps guide management, conservation, and monitoring of critical habitat and ecological functions.