

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

**Project Title:****ENRTF ID: 007-A**

Wild Bee Surveys in Minnesotas Forest Habitats

**Category:** A. Foundational Natural Resource Data and Information**Sub-Category:****Total Project Budget: \$** 636,044**Proposed Project Time Period for the Funding Requested:** June 30, 2022 (3 yrs)**Summary:**

Wild bee surveys will extend into the coniferous-deciduous forest region of Minnesota. Information will augment the state list of wild bees documented from the prairie and broadleaf forest regions.

**Name:** Gerda Nordquist**Sponsoring Organization:** MN DNR**Title:** MBS Animal Survey Supervisor**Department:** Ecological and Water Resources**Address:** 500 Lafayette Road, Box 25

St. Paul MN 5515-4025

**Telephone Number:** (651) 259-5124**Email** gerda.nordquist@state.mn.us**Web Address****Location****Region:** Central, Northwest, Northeast**County Name:** Aitkin, Becker, Beltrami, Benton, Carlton, Cass, Chisago, Clearwater, Cook, Crow Wing, Hubbard, Isanti, Itasca, Kanabec, Koochiching, Lake, Lake of the Woods, Mahnomen, Mille Lacs, Morrison, Pine, Roseau, St. Louis, Wadena**City / Township:****Alternate Text for Visual:**

Map shows the locations of previous surveys in the prairie and broadleaf forest regions, and shows the mixed coniferous forest region where new surveys are proposed, including sweat bee.

<input type="checkbox"/>	Funding Priorities	<input type="checkbox"/>	Multiple Benefits	<input type="checkbox"/>	Outcomes	<input type="checkbox"/>	Knowledge Base		
<input type="checkbox"/>	Extent of Impact	<input type="checkbox"/>	Innovation	<input type="checkbox"/>	Scientific/Tech Basis	<input type="checkbox"/>	Urgency		
<input type="checkbox"/>	Capacity	<input type="checkbox"/>	Readiness	<input type="checkbox"/>	Leverage	<input type="checkbox"/>	TOTAL	<input type="checkbox"/>	%
<input type="checkbox"/>	If under \$200,000, waive presentation?								



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

**PROJECT TITLE: Wild Bee Surveys in Minnesota's Forest Habitats - Continued**

**I. PROJECT STATEMENT**

Wild bees, such as bumble bees and leafcutter bees, are vital components of Minnesota's forest ecosystems. Bees, along with other animals, pollinate an estimated 78% of plants in the temperate ecosystems – thereby supporting native plant communities that store carbon, prevent soil erosion and provide food and shelter for wildlife. Relatively few wild bee studies have been conducted in northern Minnesota and counties in this region are under-sampled.

This proposal builds on previous grants in the prairie and broadleaf forest to expand wild bee surveys into Minnesota's northern forest. Targeting forest habitats found in the Laurentian Mixed Forest ecological province, interior forests, as well as forest openings will be sampled for wild bees. This survey will provide baseline data on wild bees for this region. Incorporated into data sets from previous surveys, this information will augment the state list of wild bee species and inform bee identification workshops.

The welfare of Minnesota's bee pollinators has inspired a passionate audience eager to learn more and to participate in bee conservation. We propose to build upon current information resources, such as the DNR's pollinator webpages and *Pollinator Resource Values for Upland and Wetland Prairies*. Expert-guided bee identification workshops and public outreach presentations will continue under this proposal.

**II. PROJECT ACTIVITIES AND OUTCOMES [Total request \$636,044]**

**Activity 1: Wild bee surveys in forested habitats**

Surveys will begin in forests and forest openings within the Laurentian Mixed Forest ecological province. Trap and hand-net field surveys will occur through the active foraging period to maximize the species diversity documented. Data will be evaluated in the context of phenology and landscape characteristics.

**ENRTF BUDGET: \$ 528,329**

Outcome	Completion Date
1. Field surveys of wild bees and associated plant species in up to 75 sites in the LBF	June 2022
2. Data entry, specimen preparation and delivery of specimens to museum repository	June 2022

**Activity 2: Wild bee education and outreach**

Continue to develop summary documents on wild bees, including updates to the state list of bee species and dedicated DNR webpages. Outreach activities include expert-led bee identification workshops to increase technical expertise and presentations to schools, non-profit organizations and other conservation groups.

**ENRTF BUDGET: \$ 107,715**

Outcome	Completion Date
1. Compile data and develop summary products on wild bees	January 2022
2. Coordinate expert-led bee identification workshops	March 2022
3. Conduct public outreach activities	June 2022

**III. PROJECT PARTNERS:**

**A. Partners receiving ENRTF funding**

Name	Title	Affiliation	Role
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**Environment and Natural Resources Trust Fund (ENRTF)  
2019 Main Proposal**

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**B. Partners NOT receiving ENRTF funding**

<b>Name</b>	<b>Title</b>	<b>Affiliation</b>	<b>Role</b>
Dr. Ralph Holzenthal Dr. Robin Thomson	Director of the Collection Curator of Insects	University of Minnesota Insect Collection	Permanent repository and curation of specimens

**IV. LONG-TERM- IMPLEMENTATION AND FUNDING:**

This timeframe will produce results that can stand alone or act as the beginning phase of a long-term monitoring program. Alone, this project's duration is insufficient to account for yearly fluctuations of insect populations, but can serve as a foundation on which to build such a data set. Expansion of surveys into the Laurentian Mixed Forest will add to our knowledge of wild bee fauna in a new ecological setting.

**V. TIME LINE REQUIREMENTS:**

This proposal intends to obtain information on the bee fauna of Minnesota's forest habitats within a 3-year timeframe. By the end of the grant period, we expect to have collected baseline data on the diversity and distribution of wild bee species in this region and to further our understanding of bees associated with forest habitats.

**VI. SEE ADDITIONAL PROPOSAL COMPONENTS:**

**A. Proposal Budget Spreadsheet**

**B. Visual Component or Map**

C. Parcel List Spreadsheet – N/A

D. Acquisition, Easements, and Restoration Requirements – N/A

E. Research Addendum (not required at proposal stage) – N/A

**F. Project Manager Qualifications and Organization Description**

G. Letter or Resolution – N/A

H. Certified Audit or 990 Tax Information – N/A

## 2019 Proposal Budget Spreadsheet

**Project Title: Wild Bee Surveys in Minnesota's Forest Habitats**

### IV. TOTAL ENRTF REQUEST BUDGET 3 years

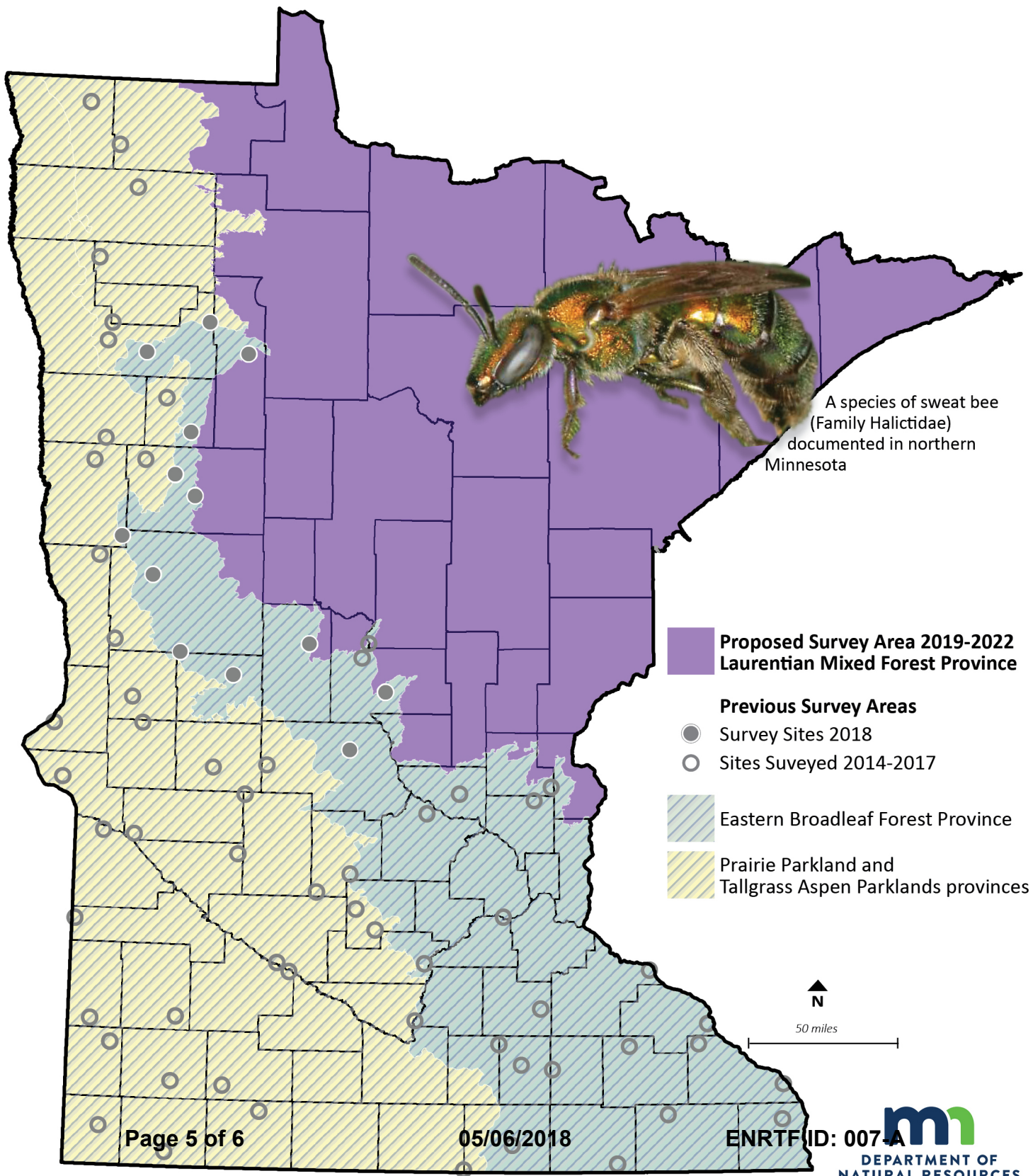
BUDGET ITEM	AMOUNT
<b>Personnel:</b> Entomologist/Project Lead - 1.0 FTE for 3 years (70% salary/30% benefits) Bee Survey Assistants (2) - 0.6 FTE each for 3 years (72% salary/28% benefits) Zoology Data Manager - 0.05 FTE for 3 years (73% salary/27% benefits) Graphics/Web Design Specialist - 0.05 FTE for 3 years (64% salary/36% benefits)	\$ 455,763
<b>Professional/Technical/Service Contracts:</b> TBD (competitive bid): Classroom instructors to lead bee identification workshops	\$ 20,000
<b>Equipment/Tools/Supplies:</b> Field equipment and supplies to conduct bee surveys (GPS units, maps, data recorders, cameras, traps, nets, collecting containers, first-aid equipment) Specimen preparation and storage supplies (pins, pinning boards, specimen drier, drawers, boxes, unit trays) Outreach supplies to conduct workshops and presentations	\$ 15,000
<b>Acquisition (Fee Title or Permanent Easements):</b>	N/A
<b>Travel:</b> Mileage and seasonal lease of MNDNR vehicles (estimate 40,000 miles total) Lodging (estimate 21 months total) Meals while in travel status (estimate 260 field days total)	\$ 100,000
<b>Additional Budget Items:</b> MNDNR Direct and Necessary Costs (\$45,281) pay for activities that are directly related to and necessary for accomplishing appropriated programs/projects. Direct and necessary costs cover HR support (~\$10,195), Safety Support (~\$2,112), Financial Support (~\$7,576), Communication Support (~\$1,251), IT Support (~\$23,089), and Planning Support (~\$1,059).	\$ 45,281
<b>TOTAL ENVIRONMENT AND NATURAL RESOURCES TRUST FUND \$ REQUEST =</b>	\$ 636,044

### V. OTHER FUNDS *(This entire section must be filled out. Do not delete rows. Indicate "N/A" if row is not applicable.)*

SOURCE OF FUNDS	AMOUNT	Status
<b>Other Non-State \$ To Be Applied To Project During Project Period:</b>	N/A	
<b>Other State \$ To Be Applied To Project During Project Period:</b>		
<b>General Fund</b>	\$ 37,671	<i>pending</i>
<b>In-kind Services To Be Applied To Project During Project Period:</b>	N/A	
<b>Past and Current ENRTF Appropriation:</b>		
ML2014 Wild Bee Pollinator Surveys in Prairie-Grassland Habitats	\$ 370,000	<i>secured</i>
ML2016 Native Bee Surveys in Minnesota Prairie and Forest Habitats	\$ 600,000	<i>secured</i>
<b>Other Funding History:</b>	N/A	

# PROJECT TITLE: Wild Bee Surveys in Minnesota's Forest Habitats – Continued

*Wild bee surveys will expand into the mixed coniferous-deciduous forest region*



## **F. Project Manager Qualification and Organization Description**

Project Manager: Gerda Nordquist, Animal Survey Supervisor  
Affiliation: Department of Natural Resources, Minnesota Biological Survey  
Mailing Address: 500 Lafayette Road, Box 25, St. Paul, MN 55155-4025  
Work Phone: 651-259-5124  
Email: [gerda.nordquist@state.mn.us](mailto:gerda.nordquist@state.mn.us)

### Qualifications:

Gerda Nordquist has supervised animal surveys for the DNR's Minnesota Biological Survey since 1990 and has overseen the wild bee surveys since the beginning in 2013. The past and proposed bee surveys are the first statewide surveys to document bee species and their associated habitats in Minnesota. In her capacity as the Animal Survey Supervisor for the Minnesota Biological Survey, she has demonstrated her ability to manage budgets, direct staff, coordinate with partners and prepare project work plans, updates and final reports.

### Project Responsibilities:

Gerda Nordquist will provide overall project direction.

### Organization Description:

The Minnesota Biological Survey collects, interprets and provides biological data on native plants, native animals, native plant communities, and landscapes. The Minnesota Department of Natural Resources works 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.