**PROJECT TITLE: Tools for Supporting Healthy Ecosystems and Pollinators**

**I. PROJECT STATEMENT**

**This project will create a pollination companion guide to MNDNR’s *Field Guides to Native Plant Communities* for conservation practitioners to better integrate plant-pollinator interactions into natural resource planning and decision-making.**

**Need**. In light of recent concern over pollinator declines, Minnesotans are eager to support pollinators in the best ways possible. There is no off-the-shelf reference in Minnesota that provides information on the interdependent relationships between native plant species and pollinator communities.

Just like the Monarch butterfly needs milkweed to survive, many other pollinators need specific plants to complete their lifecycle. Similarly, many plants need specific pollinators to survive because without them the plants cannot reproduce. The details of the relationships between plants and pollinators are known only by a few subject matter experts, or the information is buried in the scientific literature and biological collections. Providing resources for Minnesotans about what plant species pollinators need to complete their lifecycle, and what plants need from pollinators to reproduce will allow conservation practitioners to make more informed decisions about how to protect pollinators and plant communities.

Existing efforts to protect, enhance, and restore pollinator habitat rely on ad hoc review of the literature and consulting experts. Information gaps in plant-pollinator interdependence result in challenges with decision-making across a variety of sectors including sourcing diverse seed for prairie restorations, understanding plant community fragility in the face of pollinator declines, and the ability of plant communities to support and enhance pollinator communities.

**Goal**. The *Field Guides to Native Plant Communities* were established by the MNDNR and used widely in the conservation community as a standard for describing plant communities. These guides will form the foundation upon which we will build informational tools to support pollinators. The tools will provide insight into the degree to which plant communities may become fragile in the face of pollinator declines. Data will be compiled from the literature, plant specimens housed at the Bell Museum and other collections, and experts.

The compiled data will be translated into two user-friendly tools:

1. A companion pollination handbook for the native plant community field guides (*Pollination Field Guide*). This resource is targeted at better understanding the plant community reliance on pollinators for reproduction.
2. A plant selection tool for building and enhancing more resilient restorations and native plant communities that support pollinators. This resource will allow practitioners to more efficiently conserve rare pollinator species by providing the plant resources they depend on to complete their lifecycle.

Through this project, the conservation community can better support both rare and declining pollinators and plant communities in Minnesota. By highlighting the plant and pollinator communities that may be vulnerable to loss of ecosystem function, we can focus conservation efforts of these fragile relationships more efficiently.

**II. PROJECT ACTIVITIES AND OUTCOMES**

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| **Activity 1 Title:** Pollinator and plant community tools and outreach  **Description:**  *We propose to add pollinator and pollination related attributes to an existing Minnesota Department of Natural Resources plant database. These data will then be compiled into products that will help Minnesotans make more informed decisions about how best to support pollinators and build healthy plant communities. The pollination handbook and plant selection tool for restorations and enhancements will be rolled out via outreach events for practitioners*.  **ENRTF BUDGET: $ 198,397** | |  |
| **Outcome** | **Completion Date** |
| *1. Enhance the DNR’s plant database to include with plant attributes related to pollinators and pollination.* | *June, 2021* |
| *2. Produce the two tools described above for Minnesotans to better support pollinators and plant communities.* | *June, 2022* |
| *3. Develop and deploy outreach events to roll out the pollinator resources for the product end users.* | *June, 2022* |

**III. PROJECT PARTNERS AND COLLABORATORS:**

We will partner with the University of Minnesota Bee Lab including Dr. Dan Cariveau to help guide the creation of the database. We will collaborate with the Bell Museum to harvest data from plant specimens. We will work with partners such as NRCS, BWSR, TNC, and USFWS to build tools that land managers will utilize.

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

This timeframe will produce a product that will stand alone. Ongoing improvements to the products and ongoing dissemination of the products will be achieved through standard DNR operating budgets and staffing.

**V. SEE ADDITIONAL PROPOSAL COMPONENTS:**

**A. Proposal Budget Spreadsheet**

**B. Visual Component or Map**

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