**PROJECT TITLE:** Developing a Rare Plant Salvage Program for Minnesota

**I. PROJECT STATEMENT**

This project will conserve Minnesota’s rare plant diversity by:

1. **Establishing a network** of technical experts and **developing species-specific conservation and salvage plans** for rare plant species within our focus area – the Anoka Sand Plain;
2. **Identifying and implementing salvage opportunities** by coordinating with private land developers, DNR staff, and partner organizations;
3. **Monitoring and evaluating transplants** to measure plant salvage efficacy; and
4. **Conducting outreach and sharing program materials** to allow for on-going implementation and to expand the program’s impact in other parts of the state.

Rare plant salvage (also referred to as “rescue” or “translocation”) is a conservation practice used when populations are under imminent threat of local extinction, most often the result of development. These situations present an important opportunity to explore salvage options and to collect critical information about these uncommon plants. While salvage of rare plant species occurs in many states (e.g., Massachusetts, Georgia, California, Nevada, and Washington), there is no established process for doing so in Minnesota. This project, developed in collaboration with the MN Department of Natural Resources (DNR), creates the foundation for a scalable salvage program by developing sample protocols to guide decision making and on-the-ground conservation measures, and field-testing those protocols with species-specific case studies. The results of this work will advance the science of rare plant conservation in Minnesota and provide important information to the DNR, where staff are currently developing guidance and permit language for rare plant propagation.

The focal area for this project is the Anoka Sand Plain (ASP), selected for of its floristic diversity (Figure 1) and location relative to the metro area where development pressure is highest. In the ASP, rare plants frequently occur within the footprint of proposed construction projects and can be permitted to be destroyed through the existing regulatory process – thus presenting an important opportunity for salvage. This location is also ideal because of its proximity to committed conservation partners and established volunteer networks.

Timely development of this program is essential, as state-wide growth and development is projected to increase and will continue to impact rare plants. It is critical to take advantage of this opportunity to establish a protocol for salvaging and conserving rare plants in order to protect Minnesota’s biodiversity and landscape resilience.

**II. PROJECT ACTIVITIES AND OUTCOMES**

|  |  |
| --- | --- |
| **Activity 1**: **Develop rare plant salvage network and protocols** | **Budget: $97,684** |
| The core group of collaborators will identify additional experts and key partners for the program. This group will identify rare plant salvage opportunities and develop detailed conservation and salvage plans for species on the MN Endangered, Threatened, and Special Concern list. Plans will include species biology, habitat availability, threats, and an overall conservation strategy. Resulting documents are intended to serve as guidance and templates for future efforts, including conservation and salvage of additional imperiled species in the ASP and throughout Minnesota. Field-based habitat assessments and spatial modeling will be used to identify ecologically-appropriate and permanently protected recipient sites for transplants. These recipient sites will be approved by the DNR.  |
| **Outcome** | **Completion Date** |
| 1. 10-20 recipient sites identified using habitat assessments and modeling
 | June 2022 |
| 1. Field inventories completed for 10-20 recipient sites
 | October 2022 |
| 1. 10 critically imperiled populations identified for salvage
 | April 2023 |
| 1. Conservation and salvage plans drafted for 10 priority species and approved by DNR
 | June 2023 |
| **Activity 2: Implement salvage and translocation of rare plants**  | **Budget: $143,920** |
| We will salvage rare plants from identified, permitted development sites with a goal of recovering plants and/or seed from up to 100,000 individuals. Material will be transplanted to compatible, DNR approved recipient sites and the MLA. Off-site conservation (i.e., seed banking, propagation research, and growing plants for reintroduction) will take place at MLA. *Numbers of available plants are based on past years permits.* |
| **Outcome** | **Completion Date** |
| 1. Rare plant salvage and off-site conservation achieved for 10 critically imperiled populations
 | June 2023 |
| **Activity 3: Develop and implement monitoring protocol for relocated rare plants** | **Budget: $71,988** |
| Working closely with DNR staff, scientifically-repeatable monitoring methods will be developed and implemented to track success of transplanted materials. Monitoring will be conducted at recipient sites and also at MLA. A new database will be created to track experimental translocated populations separate from the existing Natural Heritage Information System. |
| **Outcome** | **Completion Date** |
| 1. New, program specific database developed
 | June 2022 |
| 1. Monitoring protocol developed and implemented for 10 transplanted populations
 | June 2023 |
| **Activity 4: Public engagement and information dissemination**  | **Budget: $31,036** |
| To develop a knowledgeable and skilled volunteer force, we will host two hands-on training sessions to outline the program and demonstrate how to maintain and monitor transplants. Target audience includes MN Master Naturalists, MN Master Gardeners, MN Native Plant Society, local school environmental teachers, and environmental staff of local governments. Program methods and results will be made public and disseminated through speaking events and scientific publications. |
| **Outcome** | **Completion Date** |
| 1. Two volunteer training events hosted, reaching 30-100 individuals
 | October 2022 |
| 1. Four presentations delivered at conferences and symposia
 | June 2023 |
| 1. Program materials, methods and results published
 |

**III. PROJECT PARTNERS AND COLLABORATORS:**

The Anoka Conservation District\* will serve as the primary project coordinator and work in partnership with skilled botanists and ecologists from the MLA\*, MN DNR, Critical Connections Ecological Services\*, and ASP Partnership. We have received written support from Anoka County Parks, Sherburne County Parks, USFWS Sherburne National Wildlife Refuge, and the City of Blaine who will partner with us to identify salvage opportunities and provide access to protected sites for translocated rare plant populations.

*\* Funded organizations*

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

This project aims to address loss of rare plant populations and develop achievable conservation strategies to overcome real and urgent threats to MN's rare plants. The resulting program will include an easily mobilized network of stakeholders equipped with vetted protocols to initiate plant salvage and conservation efforts. This program will be deployable within the ASP beyond the project time period and potentially form the foundation for a future state-wide effort. Due to the critical nature of this work, project partners are committed to pursuing private and public funding opportunities.

**V. SEE ADDITIONAL PROPOSAL COMPONENTS:** A. Proposal Budget Spreadsheet, B. Visual Component or Map, C. Project Manager Qualifications and Organization Description, D. Letter of Resolution.