**PROJECT TITLE: Pollinator Central: Habitat improvement with citizen monitoring from Hastings to St. Cloud.**

**I. PROJECT STATEMENT**

We will restore and enhance 500 acres of pollinator habitat on 20 traditional and nontraditional sites, from Hastings to St. Cloud, to benefit pollinators and build knowledge of impact through citizen monitoring.

Following recommendations from the Governor's Committee on Pollinator Protection and other habitat assessment guides, we will restore habitats in urban, suburban, and rural landscapes to support a 'hopscotch' corridor for pollinators, as well as improve core habitat areas. Turf conversion and small, high quality patches will join grassland, edge, wetland, shoreline, and limited amounts of forest and woodland all within flight distance of year-round habitat. These improvements will increase floral resources and improve nesting and over-wintering habitat for pollinators. A total of 400 habitat volunteers will be engaged in field activities.

Site selection will follow ranking by the Habitat Assessment Guide for Rusty Patched Bumble Bee (Xerces) and other guides, field surveys and expert review. Emphasis will be placed on adjacency within a landscape mosaic to provide forage habitat throughout the year, as determined by using state-of-the-art pollinator habitat ‘core-and-patches’ adjacency mapping analysis. Restoration and enhancement activities will be guided by ecological plans, and implemented by a variety of labor forces including subcontractors, field crews, landowner in-kind, and volunteers.

In addition, we will monitor every site through a number of direct pollinator monitoring techniques, guided by Xerces Society and U of M Bee Lab, in order to collect useful data on pollinator response to habitat improvements, effectively engaging 50 citizen scientists in monitoring efforts by requiring reasonable time, skill, and expense, making the approach scaleable. A final report will be generated and disseminated that will help guide the implementation in future phases of this program.

**II. PROJECT ACTIVITIES AND OUTCOMES**

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| **Activity 1 Title: Pollinator Habitat Restoration and Enhancement**  **Description:**  Habitat restoration and enhancement steps will typically follow: Site selection and ranking; habitat improvement plan including goals timelines, labor forces such as volunteers, landowners, Greening crew, subcontractors and partners, and long term management; site preparation, installation, establishment; and monitoring throughout.  We will restore pollinator habitat with a focus on SGCN bumble bee species on public and protected private locations through a pollinator corridor following the Mississippi River anchored by Twin Cities and St. Cloud. Following recommendations from the Governor’s Committee and others, we will include non-traditional habitat areas, including turf conversions and roadsides in addition to traditional habitat cores. Typical restoration activities will include prairie and savanna restoration; wetland and shoreline restoration and enhancement; judicious use of woodland and forest restoration, restricted in size and to locations that are adjacent to season-long habitat emphasizing forbs, select flowering shrubs and trees, and habitat needs for overwintering and nesting. Restoration and enhancement activities will be implemented guided by ecological plans, and implemented by a variety of labor forces including subcontractors, field crews, landowner in-kind, and volunteers.  **ENRTF BUDGET: $861,000** | | |  |
| **Outcome** | **Completion Date** |
| *1. Site selection, management planning* | *June 30 2021* |
| *2. Restoration and Enhancement implementation* | *June 30, 2023* |

**Activity 2 Title: Citizen Science Pollinator Monitoring**

**Description:**

Monitoring will include timed vegetation meanders, and pollinator assessment using guides such as Rusty Patched Bumble Bee Habitat Assessment guide (Xerces Society). Direct pollinator monitoring guided and developed by Xerces Society and U of M Bee Lab will encompass a suite of approaches including citizen science techniques of timed meander counts on 16 sites, with training; non-lethal bumble bee capture with expert identification 3 times per year for 3 years on one site, non-lethal photography with expert identification at 3 sites.

Monitoring will occur pre and post restoration/enhancement to determine the pollinator habitat value of the site and the response to the improvements. This monitoring will potentially take several forms and at escalating levels of rigor: the simplest monitoring will include a timed count of 3 categories of pollinators (honey bees vs. native bees vs. other floral visitors); catch and release surveys of bumble bees with expert identification following MN Native Bee Survey and Midwest Guide to Bumble Bee Monitoring (Xerces Society) methods; and camera ‘trapping’ using skilled photographers and expert identification using guidelines established by the USFWS for monitoring bumble bee communities and new approaches being developed by Xerces Society and the Bee Lab for other groups.

**ENRTF BUDGET: $120,000**

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| **Outcome** | **Completion Date** |
| *1. Baseline surveys for each of the 20 sites....* | *June 30 2021* |
| *2. Site by site monitoring plan* | *June 30, 2021* |
| *3. Data collection and final report* | *June 30, 2023* |

**III. PROJECT PARTNERS AND COLLABORATORS:**

Xerces Society

U of M Bee Lab

Landowners (see parcel list)

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

We anticipate that there will be additional need and opportunity for future multiple phases in this Pollinator Central corridor.

Landowners will commit to long term maintenance of the restoration sites.