



## Habitat Enhancement Landscape Pilot (HELP)

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### Action Plan Template for Pollinator Habitat Projects

This template provides a framework for [HELP](#) and other projects focused on improving habitat for pollinators and other beneficial insects. The template is designed to help with project planning, tracking, and identifying key decisions & resources. **The use of this template is required for recipients of HELP funding.**

**TO USE THIS TEMPLATE IN GOOGLE:** Click on File > Make a copy. You will be directed to a new file called "Copy of Action Plan Template for Pollinator Habitat Projects." Rename the file with your Project Name (e.g., "Lester Park Pollinator Habitat Planning Template." Under the "Share" button on the upper right, adjust sharing settings if desired, get the new link for the document, and **share with others involved in the project**. Populate each section, as applicable. Using the pencil tool in the upper right, users can choose to either "edit" or "suggest" changes when adding text (the former is incorporated directly, the latter shows up in a highlight). Users can also comment on the document using the comment feature in the toolbar (speech bubble with + sign).

Once you have created your own copy of the template, feel free to customize (e.g., you could remove questions that don't apply, and add additional content as needed). Since the form is in color, you may wish to have your answers **in black**, to easily distinguish between the text of the form and your own text. For easy access: Here is a check box that can be copied and pasted to check boxes: ☒

The template contains 5 sections:

Part 1. SITE DETAILS & CONDITIONS

Part 2. PROJECT GOALS & OUTCOMES

Part 3. DESIGN & IMPLEMENTATION

Part 4. MAINTENANCE & MONITORING

Part 5. RESOURCES

### Part 1. SITE DETAILS & CONDITIONS

Date:

Project Planner/s:

Landowner/Manager:

Location (county, address):

Aerial photo/map (attach):

Site Size (in acres):

Project Size/s (in acres or square feet):

Project Type/s

- ☐ Establish small (<5 acre) pollinator plots, including upland, wetland, riparian, or shoreline plantings
- ☐ Establish larger parcels of pollinator habitat (5 acres or greater)
- ☐ Enhance *existing* habitat, including prairie, savanna, woodland, wetland, riparian, or shoreline communities
- ☐ Other (describe):

#### Land Category

- ☐ State land   ☐ Federal land   ☐ City park   ☐ County park   ☐ Other protected natural area (describe):
- ☐ Existing RIM easement   ☐ Existing CRP with a long-term commitment   ☐ Newly enrolled CRP
- ☐ Land with other type of conservation easement (describe):
- ☐ Private lands not currently in long-term protection (describe):
- ☐ Other (describe):

**Programs/Standards.** This template focuses on the BWSR HELP Program. Is your project enrolled in any other program/s (e.g., CRP, EQIP, CREP)? If so, what standards do you need to comply with? (Please list):

**Pre-Project Conditions** (describe former and current land use, plant community composition, weed issues, crop history, pesticide use history, soil disturbance, presence of at-risk wildlife, etc.):

**Pre-Project Plant Community** (provide a list of existing native plants & weed species that are present on-site and an estimate of their abundance (e.g., N- not present, R - rare, C - common, A - abundant). Include as attachment if necessary). Use Xerces plant community monitoring form if desired: POLLINATOR HABITAT MONITORING FORM. *For enhancement projects, please also attach any initial seed mixes that were planted.*

**Soil Characteristics (drainage, texture, classification, etc.)** *Attach a map as needed:*

#### Risk of Pesticide Drift or Contamination on Site

- ☐ Very Low to None   ☐ Low to Medium   ☐ Medium to High

#### Reasons for Selecting this Site (check as many boxes as apply):

- ☐ Overall likelihood of project success/ability to meet goals and objectives (explain):
- ☐ Partner engagement (explain):
- ☐ Protection from pesticides (explain):
- ☐ Habitat connectivity, e.g., adjacent to another permanently protected piece of land; # of acres permanently protected within a 1 mile radius; etc. (explain):
- ☐ Potential to benefit at-risk species (explain):
- ☐ Equity considerations (explain):
- ☐ Potential for public outreach (explain):
- ☐ Other (explain):

## Part 2. PROJECT GOALS & OUTCOMES

**Pollinator Habitat Goals and Objectives.** Meeting the needs of target species can involve attention to host plants, nectar plants, nesting/overwintering resources, protection from pesticides, and thoughtful planning of any management that may impact the species (e.g., soil disturbance or fire).

- ☐ Diverse, high quality pollen and nectar resources
- ☐ *Specific* nectar/pollen plants (explain):
- ☐ *Specific* host plants (explain):
- ☐ Diverse nesting resources (bunch grasses, dead wood, stems, branches, undisturbed soil, bare ground, leaf litter)
- ☐ Protection from pesticides
- ☐ Habitat connectivity
- ☐ Other (describe):

**At-Risk Insect Objectives:** Depending on your geography and goals, there may be priority pollinator species or groups to consider in your planning. Specific guidance & resources for **a few select taxa** are provided below. Please feel free to add additional priority taxa as you see fit.

#### **BUTTERFLIES & MOTHS:**

- ☐ **Monarch (*Danaus plexippus*):** Caterpillars feed exclusively on milkweed (*Asclepias*). Nearly all sites in MN have at least one milkweed species suitable for the geography and soils; see: [Xerces-MJV Milkweed guide](#). Adults have nectar plant preferences; see: [Xerces Great Lakes monarch nectar plant guide](#). Use [MN Wildflowers](#) to check soil requirements and native range at the county level. See Monarch Joint Venture for mowing & other management guidelines.
- ☐ **Regal Fritillary and other fritillaries (*Speyeria*):** Larvae in this group can only feed on violet host plants. Violets generally establish more successfully from plugs compared to seed. Different species are adapted to open vs. wooded sites. Use [MN Wildflowers](#) to find appropriate violets for your county and conditions. Regal is distributed from NW MN to SE MN, see [MN DNR species assessment](#) for more details.
- ☐ **Baltimore Checkerspot (*Euphydryas phaeton*):** Larvae feed primarily on White Turtlehead (*Chelone glabra*) in moist meadows habitat. Adults nectar on milkweed, *Viburnum*, and wild rose. Range in MN: statewide except southwest. Larvae overwinter, which is unusual. More info: [BAMONA](#), and Maryland Conservation Plan.
- ☐ **American Painted Lady (*Vanessa virginiensis*):** Larvae feed primarily on pearly everlasting (*Anaphalis*) and pussy toes (*Antennaria*). Adults nectar on a wide range of native plants including dogbane, milkweed, self-heal, and aster. Adults overwinter. Statewide occurrence in MN. More info: [BAMONA](#)
- ☐ **Black Swallowtail (*Papilio polyxenes*):** Larvae feed on golden Alexanders (*Zizia*) and other carrot-family members. Adults nectar on numerous native plants. Statewide in MN. Globally secure but can be rare at range periphery, including MN. More info: [BAMONA](#)
- ☐ Other (explain):

#### **BEES:**

- ☐ **Rusty Patched Bumble Bee (*Bombus affinis*):** This bee has preferred food plants (see [Known Food Plants](#)) as well as specific nesting, overwintering, and management needs (see: [Xerces Habitat](#)

[Assessment Guide](#) and [USFWS habitat management guide](#)). Recent occurrences, including high potential zones, can be found here [USFWS Distribution Map](#).) Report sightings to [Bumble Bee Watch](#).

☐ **Yellow-banded Bumble Bee (*Bombus terricola*)**: This bee has preferred food plants (e.g., *Vaccinium*, *Rosa*, *Spirea*), and also has specific nesting and overwintering needs. See [Xerces Conserving Bumble Bees](#).

☐ **Small carpenter bees (*Ceratina*)**: These small cavity-nesting bees require dead stems/branches/canes for nesting and overwintering. Preferred nesting plants include: *Agastache*, *Monarda*, *Solidago*, *Sumac*, *Rubus*, *Viburnum*, and more. Additional resources: [Save the Stems fact sheet](#).

☐ **Leaf-cutter bees (*Megachile*)**: These bees snip leaf-tissue from specific plants to make their nests. Preferred plants for cutting include: *Desmodium*, *Fragaria*, *Amelanchier*, *Rosa*, *Fraxinus*, *Acer*, and *Tilia*.

☐ **Long-horned bees (*Mellisodes*)**: These bees frequently visit sunflowers and other open flowers with abundant pollen. Nest in ground where protection from pesticides and cultivation is important.

☐ **Cellophane bees (*Colletes*)**: Some of these bees are “specialists,” only collecting pollen from specific plant taxa, such as ground cherries. Nesting is in soil, often in aggregations.

☐ **Mining bees (*Andrena*)**: Many of these bees are “specialists,” only collecting pollen from specific plant taxa, such as willow, spring beauty, geranium, and goldenrod. Nesting is in the soil.

#### **Other Wildlife, Restoration and Water Quality Objectives (explain):**

Examples include habitat for select fish, reptiles, amphibians, invertebrates, birds, mammals, etc.; restorations to accomplish goals in the MN Prairie Conservation Plan or other federal, state or local plans; lakeshore or stream stabilization, restoration of urban habitat corridors, etc.

#### **Anticipated Outcomes (for each box checked, please explain outcome in further detail as specified):**

☐ Increase in native plant community cover (e.g., transition from 5% native vegetation to over 95% cover of native grasses, sedges, forbs). Explain:

☐ Increase in native wildflowers (e.g., estimate increase between existing wildflower % cover and projected % cover -the latter could come from % wildflowers by seed count in seed mix). Explain:

☐ Increase in specific high-value plants for pollinators (e.g., estimated increase in milkweed from ~5 stems per acre to ~50 stems per acre; introduction/establishment of X plant species required by target pollinators, etc.). Explain:

☐ Decrease in invasive species (e.g., decreased buckthorn from ~20% cover to ~5% cover; decreased kentucky bluegrass from 80% cover to 5% cover). Explain:

☐ Increase in education and awareness (e.g., installation of interpretive signage; hosting of a field day on site, etc.) Explain:

☐ Increase in equity (e.g., habitat placement in underserved community; volunteer event designed to meet the needs of a specific underserved demographic, etc.). Explain:

☐ Other (explain):

## **PART 3. DESIGN & IMPLEMENTATION**

### **Pesticide Risk Mitigation Measures**

☐ Spatial buffer (describe):

☐ Coniferous or other drift protection buffer (describe):

☐ Other (describe):

Learn more: [BWSR-Xerces guidance to protecting plantings from pesticides](#)

**Proposed Seed Mix** (list species and quantities per unit area, provide link/s, or paste at end of document):

**Note on Seed Mixes:** custom mixes should be designed to meet the following requirements: all species included are native to region and appropriate to soils; seeding rates are high enough to be successful; several species are blooming in each season; plant diversity is as high as possible (while still appropriate for site conditions & budget). The following pre-developed BWSR mixes may be appropriate for your project, or could be used as a starting point for a custom mix:

BWSR Pollinator Plot Mixes: [Seed Mixes | MN Board of Water, Soil Resources \(state.mn.us\)](#)

BWSR Wetland Mixes: [Seed Mixes | MN Board of Water, Soil Resources \(state.mn.us\)](#)

BWSR Prairie Mixes: [Seed Mixes | MN Board of Water, Soil Resources \(state.mn.us\)](#)

BWSR Woodland: [Seed Mixes | MN Board of Water, Soil Resources \(state.mn.us\)](#)

**Proposed Plant List** (if project includes plugs, bare roots, or container plants) (list species and quantities per unit area, provide link/s, or paste at end of document):

**Site preparation methods for NEW site:**

- ☐ Smother cropping with cover crops such as buckwheat or sorghum sudangrass (describe crop, timing, termination, and other details):
- ☐ Planting into annual row crop or cover crop that has been harvested (care must be taken to ensure crop was not treated with herbicides/insecticides that could carry over into the planting)
- ☐ Solarization with clear UV-stable plastic (describe timing and other details)
- ☐ Smothering with black plastic (describe timing and other details)
- ☐ Herbicide treatments (describe chemical, timing, and other details):
- ☐ Sod removal
- ☐ Other (describe):

**Site preparation methods for ENHANCEMENT site:**

Set back existing vegetation using the following method/s (check all that apply):

- ☐ Herbicide treatments
- ☐ Prescribed burn
- ☐ Tree/Shrub removal
- ☐ Invasive removal
- ☐ Other (explain):

**Interseeding/plugging plan (list species and rates):**

Learn more: [Xerces Interseeding guide](#), [PrairiePodcast](#) on interseeding (season 2, episode 14)

**Plant materials used**

- ☐ Seed   ☐ Plugs/Small Transplants   ☐ Bare roots   ☐ Potted Plants

### Seeding methods

☐ Native Seed Drill   ☐ Hand Broadcast   ☐ Machine Broadcast (e.g., PTO-fertilizer spreader)

Learn More: NRCS Pollinator Plot:

[https://www.nrcs.usda.gov/Internet/FSE\\_PLANTMATERIALS/publications/ndpmctn10293.pdf](https://www.nrcs.usda.gov/Internet/FSE_PLANTMATERIALS/publications/ndpmctn10293.pdf)

Note: seeding rate must be increased when broadcast seeding to ensure establishment.

### Seeding/planting timing: (see [BWSR Native Vegetation Establishment guide](#))

Explain:

**Is irrigation needed?** If yes, explain frequency and type (e.g. drip, sprinkler, etc.):

### Plant protection, if relevant:

☐ Tubes / cages:

☐ Fencing:

## PART 4. HABITAT MANAGEMENT & MONITORING

### Habitat Management Activities

☐ Mowing (describe height, timing, frequency):

☐ Grazing (describe frequency, intensity, rotation, etc.):

☐ Haying (describe height, timing, frequency):

☐ Hand-weeding, spot-spraying, etc. (describe method, timing, product, etc.):

☐ Other (describe):

Learn more: [Maintaining Diverse Stands of Wildflowers Planted for Pollinators | Xerces Society](#).

### Monitoring Data Collection and Adaptive Management:

We recommend the following Evaluation & Monitoring Logs:

<https://xerces.org/publications/habitat-assessment-guides/pollinator-habitat-monitoring-form>

### Considerations for at-risk species in management:

In addition to the management considerations mentioned above, natural lands where rare or endangered pollinators may be present require additional consideration of the specific life history traits of these species. For instance, some species of butterflies do not respond well to fire while other practices like mowing can destroy nest sites of rare bumble bees (e.g., see <https://www.fws.gov/media/conservation-guidance-rusty-patched-bumble-bee>). **Explain any approaches you are taking to protect at-risk species, if this applies:**

## PART 5. RESOURCES

*Note: Many resources are linked in the appropriate sections, above. Key general resources are listed here.*

BWSR [Native Vegetation Establishment](#)

BWSR [MN Wetland Restoration Guide](#)

Xerces-BWSR [Protecting Pollinator Habitat from Pesticides fact sheet](#)

Xerces [Habitat Assessment Guides](#) for Natural Areas, Farms, *Bombus affinis*, and Beneficial Insects

Xerces [Pollinator Habitat Installation Guide](#)

Xerces [Organic Site Prep for Wildflower Establishment Guide](#)

Xerces [Interseeding Guide](#)

Xerces [Nesting Guide](#) & [Stem Nesting Bookmark](#)

Xerces [Maintaining Diverse Stands of Wildflowers Planted for Pollinators](#)

Tallgrass Prairie Center of Iowa [Habitat Restoration Series Technical Guides](#)

MN DNR [PrairiePod](#) podcast

USFWS [Conservation Management Guidelines for the Rusty Patched Bumble Bee](#)

Acknowledgements: Form developed in April 2022 by Sarah Foltz Jordan (Xerces Society) and Dan Shaw (BWSR). Reviewed by Kevin Roth (BWSR), Karin Jokela (Xerces Society), Tara Kelly (Washington County Conservation District), and Alyssa Bloss (Carlton County Conservation District).