

Project Wingspan: Landscape Enhancement for Imperiled Pollinators of the Midwest

As you may know, the iconic monarch butterfly (*Danaus plexippus*) and its spectacular migration are in jeopardy.

Their North American numbers have suffered a steep decline of approximately 90% over the past two decades, and in 2014 the U.S. Fish and Wildlife Service was petitioned to protect the monarch butterfly under the

Endangered Species Act (with a listing decision expected for summer 2019). Like the monarch, the rusty patched bumble bee

(RPBB) was a common species 20 years ago, with a range across 28

states and two Canadian provinces. RPBB (*Bombus affinis*) populations have

also seen a swift decline since the 1990s, which earned it placement on the endangered species list in 2017 – with a distinction of becoming the first bee in the contiguous 48 states to be declared

endangered. The species has now only been observed as a few small patches of populations across what is estimated to be only 0.1% of its historical range.



Project Wingspan (PW) is a two-year project sponsored by a grant from the National Fish and Wildlife Foundation to the non-profit Pollinator Partnership (P2), which is leading a coalition of partners in an effort to enhance land across the Midwest to support our imperiled pollinators. The grant provides \$149,000 to be matched by \$385,500 of matching and in-kind contributions from the partners.



PW will increase monarch and RPBB habitat by building off the success of P2's, 2017-2019 Monarch Wings Across the Eastern Broadleaf Forest Program, (MWAEBF), and by engaging public land managers and private land stewards throughout the 8-state target region of Arkansas, Illinois, Indiana, Michigan, Missouri, Ohio, Pennsylvania, and Wisconsin through a series of monarch habitat enhancement activities, with the goal of establishing 10,000 acres of monarch and RPBB habitat.

A core group of partners including P2, U.S. Fish and Wildlife Service's Partners for Fish and Wildlife Program, Illinois Department of Natural Resources (DNR) – Mason State Nursery, U.S. Forest Service, Ohio Pollinator Habitat Initiative, Michigan DNR, Indiana DNR, Holden Forests & Gardens, the University of Arkansas Center for Advanced Spatial Technologies, Michigan State University, Kettle Moraine Land Trust, Pennsylvania Natural Heritage Program, and Pheasants Forever will work together to ensure the activities below are well-executed to achieve a comprehensive and effective outcome. Additional satellite partners (a growing list that includes, but is not limited to, those noted at the end of this document) have been secured to maximize the efforts of the core partners.

Project Wingspan is a 2-year project designed to address the habitat needs of monarchs, RPBBs, and other rare pollinators by increasing quality habitat that will provide resources for imperiled pollinators while increasing citizen scientist's interest, skills in, and knowledge of appropriate native seed collection protocols and provide resources for in-state seed services. To successfully achieve the 10,000 habitat acre goal the following tasks will be performed:

Facilitate a regional seed collecting program for IL, IN, MI, OH, PA, and WI to help meet the increased and immediate needs for regionally adapted monarch and RPBB resources.

Regionally-appropriate milkweed and forage plant seed is generally commercially unavailable in large quantities within the areas Project Wingspan is targeting for plant materials development. In order to successfully enhance monarch and RPBB habitat across the targeted 10,000 acres, a coordinated regional milkweed and forage plant seed collection and distribution network will be established.



- Seed collecting protocols across the region for this project will be standardized. Seed collectors will be recruited and trained according to the protocol. All collectors will work off a single target list, (See Appendix A). Seed will be processed out of a single cleaning center and then used for seedling propagation or reseeded efforts at project sites for monarch and RPBB habitat establishment.
- A total of 1,000 seed collections (approximately 167 per state) will be completed and used in combination with other monarch and RPBB habitat enhancement techniques. The seed used for seedling propagation will generate 10,000 seedlings for use within the region. All native plant materials generated from the seed collecting efforts will be redistributed to reach the goal of 10,000 acres within the region of origin, maintaining genetic integrity and resilience across milkweed and forage plant populations.
- The interest in native seed and trained volunteers will hopefully create new demand and business for native seed throughout the focus region, and, as is described above, a more robust and diverse native seed market for the region will be established.

Establish and enhance long-term monarch and RPBB habitat.

Habitat acres, which include existing habitat areas along with areas that are seeking further enhancement and those with near future planned establishment will be identified through a preliminary online habitat survey. The acres included and reported in the program will be secured through a letter of long-term commitment, (minimum of 5-years) signed by the land manager or landowner. The letter will include enhancement and/or management actions that qualify habitat areas for inclusion in the program. The agreements will be made through Pollinator Partnership as well as the U.S. Fish and Wildlife Service - Partners for Fish and Wildlife Program.

- Pollinator Partnership will track all the acres counted towards the 10,000 acre goal.
- The agreements will ensure that monarch and RPBB habitat activities take place on lands that have a landowner or manager committed to monarch and RPBB conservation and long-term habitat management and maintenance.
- The combined total of acres secured through letters of commitment for monarch and RPBB habitat will meet or exceed 10,000 acres across the 8-state focus region in the Midwest.

Provide technical assistance to public and private land managers in the Midwest.

Technical assistance will be provided through promotion of a webinar series addressing monarch and pollinator habitat management and enhancement techniques across various land use types as well as 6 in-person seed collection training workshops and the availability of PW's online seed collection training module.



Satellite Partners

The following organizations throughout the Midwest have been confirmed and secured as satellite partners to help support the activities of the proposed project; Tyson Foods, Inc., Chicago Botanic Garden, Patoka River NWR, Big Oaks Muscatatuck NWR Complex, Ottawa National Wildlife Refuge, Energy Resource Center of University of Illinois at Chicago, Southwest Michigan Land Conservancy, Pleasant Hill Acres, Ohio Prairie Nursery, Ernst Conservation Seeds, Applied Ecological Services, and Ohio State University.

Support for Project Wingspan has been provided in part by Commonwealth Edison as part of their commitment to environmental stewardship and conservation.

For further information or to join the partnership creating Project Wingspan, please contact Amber Barnes *and* Elizabeth Kaufman with Pollinator Partnership at ab@pollinator.org and ek@pollinator.org.

Appendix A. FINAL TARGET NATIVE PLANT SPECIES LIST

Listed below are 29 native plant species which serve as a mixture of valuable forage and host plants for monarchs, RPBBs, and other pollinators. These species are commonly found throughout Project Wingspan’s seed collection region and have been included on the Final Target Native Plant Species List. The list will be used to focus the seed collection efforts on a catalogue of specific target plants, which volunteer seed collectors will be trained to identify and from which they will collect seed. This final list was developed after several rounds of feedback and vetting from project partners and advisors.

Botanical Name	Common Name
<i>Asclepias exaltata</i>	poke milkweed
<i>Asclepias incarnata</i>	swamp milkweed
<i>Asclepias syriaca</i>	common milkweed
<i>Asclepias tuberosa</i>	butterfly milkweed
<i>Asclepias verticillata</i>	whorled milkweed
<i>Cephalanthus occidentalis</i>	buttonbush
<i>Chamaecrista fasciculata</i>	partridge pea
<i>Cirsium discolor</i>	field thistle
<i>Coreopsis tripteris</i>	tall coreopsis
<i>Echinacea purpurea</i>	eastern purple coneflower
<i>Eupatorium perfoliatum</i>	common boneset
<i>Eutrochium purpureum</i>	sweet joe pye weed
<i>Euthamia graminifolia</i>	grass-leaved goldenrod
<i>Geranium maculatum</i>	wild geranium
<i>Heliopsis helianthoides</i>	ox eye sunflower
<i>Liatris aspera</i>	tall blazing star
<i>Liatris spicata</i>	dense blazing star
<i>Monarda fistulosa</i>	wild bergamot
<i>Penstemon digitalis</i>	foxglove beardtongue
<i>Pycnanthemum tenuifolium</i>	narrowleaf mountainmint
<i>Pycnanthemum virginianum</i>	Virginia mountainmint
<i>Ratibida pinnata</i>	yellow coneflower
<i>Rudbeckia hirta</i>	black eyed Susan
<i>Symphyotrichum laeve</i>	smooth blue aster
<i>Symphyotrichum novae-angliae</i>	New England aster
<i>Tradescantia ohiensis</i>	Ohio spiderwort
<i>Vernonia gigantea</i>	Giant ironweed
<i>Veronicastrum virginicum</i>	Culver's root
<i>Zizia aurea</i>	golden Alexanders