

MONARCH NECTAR PLANTS

Great Lakes



Left to right: Monarch on eastern purple coneflower, smooth oxeye, and whorled milkweed.

The Great Lakes region encompasses eastern Minnesota, Wisconsin, Michigan, Ohio, northern Pennsylvania, and most of western and central New York. Within this area lies vast tallgrass prairies, sprawling wetlands, and mixed broadleaf forests. These communities are home to an impressive diversity of butterflies, including the northern migratory population of the monarch butterfly, which depends on the floral resources available within these habitats for its survival.

Each spring, monarchs leave overwintering sites in coastal California and the mountains of central Mexico and fan out across North America to breed and lay eggs on milkweed, the monarch's host plant. Several generations are produced over the course of the spring and summer. In late summer and early fall, adults migrate back to the overwintering sites, where they generally remain in reproductive diapause until the spring, when the cycle begins again.

Monarchs at overwintering sites in Mexico and California have declined dramatically since monitoring began in the late 1990s. Across their range in North America, monarchs are threatened by a variety of factors. Loss of milkweed from extensive herbicide use has been a major contributing factor, and habitat loss and degradation from other causes, natural disease and predation, climate change, and widespread insecticide use are probably also contributing to monarch declines. Because of the monarch's migratory life cycle, it is important to protect and restore habitat across their

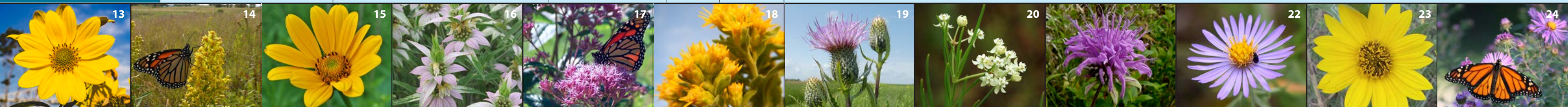
entire range. Adult monarchs depend on diverse nectar sources for food during all stages of the year, from spring and summer breeding to fall migration and overwintering. Caterpillars, on the other hand, are completely dependent on their milkweed host plants. Inadequate milkweed and nectar plant food sources at any point may impact the number of monarchs that successfully arrive at overwintering sites in the fall.

Providing milkweeds and other nectar-rich flowers that bloom where and when monarchs need them is one of the most significant actions you can take to support monarch butterfly populations. This guide features Great Lakes native plants that have documented monarch visitation, bloom during the times of year when monarchs are present, are commercially available, and are known to be hardy. These species are well-suited for wildflower gardens, urban greenspaces, and farm field borders. Beyond supporting monarchs, many of these plants attract other nectar- and/or pollen-seeking butterflies, bees, moths, and hummingbirds, and some are host plants for other butterfly and moth caterpillars. For a list of native plants that host butterflies and moths specific to your zip code see www.nwf.org/nativeplantfinder. The species in this guide are adaptable to growing conditions found across the state. Please consult regional floras, the Biota of North America's North American Plant Atlas (<http://bonap.net/napa>), or the USDA's PLANTS database (<http://plants.usda.gov>) for details on species' distributions in your area.



Bloom	Common Name	Scientific Name	Flower Color	Max. Height	Water Needs	Notes
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	Forbs			(Feet)	Low, Medium, or High	All species perennials, unless otherwise noted. Monarchs are present June through October in the Great Lakes Region.
Summer	1 Butterfly milkweed	<i>Asclepias tuberosa</i>	Orange	2	L	Host plant for monarch caterpillars and excellent nectar plant for adults. Very showy flowers. Prefers dry soils and full sun.
	2 Common milkweed	<i>Asclepias syriaca</i>	Pink	5	L/M/H	Host plant for monarch caterpillars and excellent nectar plant for adults. Fragrant flowers. Thrives in a wide range of soils.
	3 Culver's root	<i>Veronicastrum virginicum</i>	White	6	M	Excellent landscaping plant. Beautiful flowers attract butterflies, bumble bees, and other insects.
	4 Swamp milkweed	<i>Asclepias incarnata</i>	Pink	4	M/H	Excellent monarch caterpillar host plant and nectar plant. A great option for shorelines, rain gardens, and riparian buffers.
	5 Black-eyed Susan	<i>Rudbeckia hirta</i>	Yellow	2	L	Biennial but can self-seed. Butterfly attractant. Also visited by longhorn bees, green sweat bees, and other pollinators.
Summer to Fall	6 Common boneset	<i>Eupatorium perfoliatum</i>	White	6	M/H	Tolerates sandy or clay soils but needs constant moisture. Also attracts bees and an amazing assortment of beneficial wasps.
	7 Eastern purple coneflower	<i>Echinacea purpurea</i>	Pink/purple	5	L/M	Attracts a number of butterflies, native bees, and hummingbirds. Native range includes most of the region apart from MN.
	8 Field thistle	<i>Cirsium discolor</i>	Pink/purple	7	L	Not to be confused with exotic thistles, this non-aggressive native thistle is exceptional for pollinators and songbirds. Biennial.
	9 Marsh blazing star	<i>Liatris spicata</i>	Purple	5	M/H	Highly adaptable and easy to grow. Attracts many butterflies, bees, and hummingbirds. A great <i>Liatris</i> for wet soils.
	10 Meadow blazing star	<i>Liatris ligulistylis</i>	Purple	5	M	The ultimate monarch magnet, even compared to other <i>Liatris</i> . Native range stretches east only as far as WI. Medium soils.
	11 Ontario blazing star	<i>Liatris cylindracea</i>	Purple	2	L	Shorter than other <i>Liatris</i> species and tends to bloom later in the year. Requires dry soils.
	12 Rough blazing star	<i>Liatris aspera</i>	Purple	4	L	Another incredibly attractive <i>Liatris</i> for monarchs as well as many other insects. Drought tolerant.
	13 Sawtooth sunflower	<i>Helianthus grosseserratus</i>	Yellow	10	M	Tolerates many soil types. Can be quite large in the garden. Continues blooming late into the fall. Rhizomatous.
	14 Showy goldenrod	<i>Solidago speciosa</i>	Yellow	5	L	An excellent monarch nectar plant; also visited by beneficial solitary wasps, pollen-eating soldier beetles, and more.
	15 Smooth oxeye	<i>Heliopsis helianthoides</i>	Yellow	5	L/M	Also known as early sunflower, this plant has a long bloom period from July to October. Tolerates clay and moist soils.
	16 Spotted beebalm	<i>Monarda punctata</i>	White/pink/yellow	3	L	Prolific blooms are highly attractive to beneficial wasps and bees. Prefers dry, sandy soils. A beautiful, unique flower.
	17 Spotted joe pye weed	<i>Eutrochium maculatum</i>	Pink	6	H	Prefers moist soils. Attracts numerous butterflies and bees, including the very rare rusty patched bumble bee.
	18 Stiff goldenrod	<i>Oligoneuron rigidum</i>	Yellow	5	L/M	This plant offers abundant and accessible pollen and nectar—a utopia for insects! Flat-top flower is unusual for a goldenrod.
	19 Swamp thistle	<i>Cirsium muticum</i>	Pink/purple	7	H	This lovely native thistle attracts numerous butterflies and bees. Host plant for the swamp metalmark butterfly. Wet soils. Biennial.
	20 Whorled milkweed	<i>Asclepias verticillata</i>	White	3	L	Monarch caterpillar host plant and exceptional nectar plant. This small milkweed plant is great for landscaping. Dry soils.
21 Wild bergamot	<i>Monarda fistulosa</i>	Purple	5	L/M	A superb bumble bee plant, also known as bee balm. Also attracts hawk moths and hummingbirds. Aromatic foliage.	
Fall	22 Aromatic aster	<i>Symphotrichum oblongifolium</i>	Purple	2	L	Very late blooming aster with fragrant foliage. Stiff stems branch out to create a bush-like appearance. Full sun and dry soils.
	23 Maximilian sunflower	<i>Helianthus maximiliani</i>	Yellow	8	L	Very showy and vigorous plant. Caterpillar host plant for the silvery checkerspot and bordered patch butterflies.
	24 New England aster	<i>Symphotrichum novae-angliae</i>	Pink/purple	6	M	One of the latest fall-blooming plants. Butterfly magnet and important food resource for pre-hibernation bumble bee queens.



Planting for Success

Monarch nectar plants often do best in open, sunny sites. You can attract more monarchs to your area by planting flowers in single species clumps and choosing a variety of plants that have overlapping and sequential bloom periods. Monarchs are present June through October in the Great Lakes region. Providing nectar plants that bloom from early summer through fall will be important for breeding and migrating monarchs in the region.

Why Plant Native?

Although monarchs use a variety of nectar plant species, including exotic invasives such as butterfly bush and English ivy, we recommend planting native species. Native plants are often more beneficial to ecosystems, are adapted to local soils and climates, and help promote biological diversity. They can also be easier to maintain in the landscape, once established.

Tropical milkweed is a non-native plant that is widely available in nurseries. This milkweed can persist year-round in mild climates, allowing monarchs to breed throughout the winter rather than going into diapause. Tropical milkweed may foster higher loads of a monarch parasite called *Oe* (*Ophryocystis elektroscirrha*), which negatively impacts monarch health. Because of these implications, we recommend planting native species of milkweeds in areas where they historically occurred. You can read more about *Oe* in a fact sheet by the Monarch Joint Venture: http://monarchjointventure.org/images/uploads/documents/Oe_fact_sheet.pdf.

Protect Monarchs from Pesticides

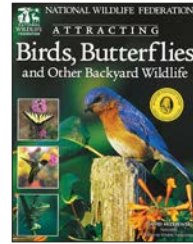
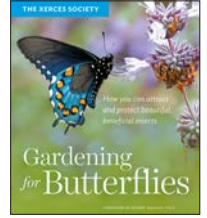
Both insecticides and herbicides can be harmful to monarchs. Herbicides can reduce floral resources and host plants. Although dependent on timing, rate, and method of application, most insecticides have the potential to poison or kill monarchs and other pollinators. Systemic insecticides, including neonicotinoids, have received significant attention for their potential role in pollinator declines (imidacloprid, dinotefuran, clothianidin, and thiamethoxam are examples of systemic insecticides now found in various farm and garden products). Because plants absorb systemic insecticides as they grow, the chemicals become distributed throughout all plant tissues, including the leaves and nectar. New research has demonstrated that some neonicotinoids are toxic to monarch caterpillars that are poisoned as they feed on leaf tissue of treated plants. You can help protect monarchs by avoiding the use of these and other insecticides. Before purchasing plants from nurseries and garden centers, be sure to ask whether they have been treated with systemic insecticides. To read more about threats to pollinators from pesticides, please visit: www.xerces.org/pesticides.

Additional Resources

Publications & Resources

Gardening for Butterflies

The Xerces Society's newest book introduces you to a variety of butterflies who need our help, and provides suggestions for native plants to attract them, habitat designs to help them thrive, and garden practices to accommodate all stages of their life. Available through www.xerces.org/books.



Attracting Birds, Butterflies, and Other Backyard Wildlife

This award-winning book by the National Wildlife Federation's naturalist David Mizejewski is full of information on gardening for birds, pollinators and other wildlife, including illustrated how-to projects, recommended plant lists, and gorgeous color photos. You'll learn everything you need to know to create a Certified Wildlife Habitat. Available through <http://bit.ly/1Xhxfgu>.

Conservation Status and Ecology of the Monarch Butterfly in the U.S. Report

www.xerces.org/us-monarch-consv-report

Milkweed Seed Finder

www.xerces.org/milkweed-seed-finder

Websites

The Xerces Society www.xerces.org/monarchs

Monarch Joint Venture www.monarchjointventure.org/resources

Natural Resources Conservation Service

www.nrcs.usda.gov/monarchs

National Wildlife Federation www.nwf.org/butterflies

Citizen Science Efforts in the Great Lakes Region

Journey North www.learner.org/jnorth/monarch

Monarch Larva Monitoring Project www.mlmp.org

Project Monarch Health www.monarchparasites.org

Peninsula Point Monitoring Project

www.nab-net.org/program/peninsula-point-monitoring-project

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Written by Candace Fallon, Nancy Lee Adamson, Sarina Jepsen, Sarah Foltz Jordan, and Mace Vaughan. Designed by Kaitlyn Rich. Formatted by Michele Blackburn. PHOTO CREDITS: Peter Gorman*: 1, 6, 22. Uli Lorimer*: 2. James Steamer****: 3. Frank Mayfield*: 4. Barbara Powers: 5. Joshua Mayer*: 7 (cover), 10, 11. athryn****: 8. Lotus Johnson*: 9. Deb Nitka: 12. Michel Rathwell*: 13. Sarah Foltz Jordan, Xerces Society: 14, 19. Aaron Gunnar****: 15 (cover). Jennifer Hopwood, Xerces Society: 16. Swallowtail Garden Seeds*: 17. Matt Lavin*: 18. squamatologist*: 20 (cover). Jean Pawek***: 21. Judith Lopez Sikora****: 23. Candy Sarikonda: 24. *Courtesy of flickr.com/**Wikimedia Commons/****CalPhotos/*****iNaturalist. Photographs remain under the copyright of the photographer.

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