



What you can do to help the monarch

by Eva Lewandowski, PhD

Once a common sight throughout Wisconsin, monarch butterflies have been few and far between in recent years. This situation isn't unique to Wisconsin; unfortunately, it's been the case across North America. In fact, the population of monarchs that inhabits land east of the Rocky Mountains and is well known for its spectacular 2,000- to 3,000-mile yearly migration to Mexico has declined drastically in the last decade.

In 2013 the monarch population reached an all-time low, with a 90 to 95 percent decrease from its once grandiose size; 2014 and 2015 saw slight increases in monarch numbers, but the numbers dropped again in 2016 and 2017, and the population is still well below the goals set by monarch scientists (see Figure 1). A smaller population is less able to absorb the effects of events like severe storms or large-scale habitat loss. A recent study[1] found that given its current size, there is a high probability that the population of migratory monarchs will vanish altogether.

Create habitat for monarchs

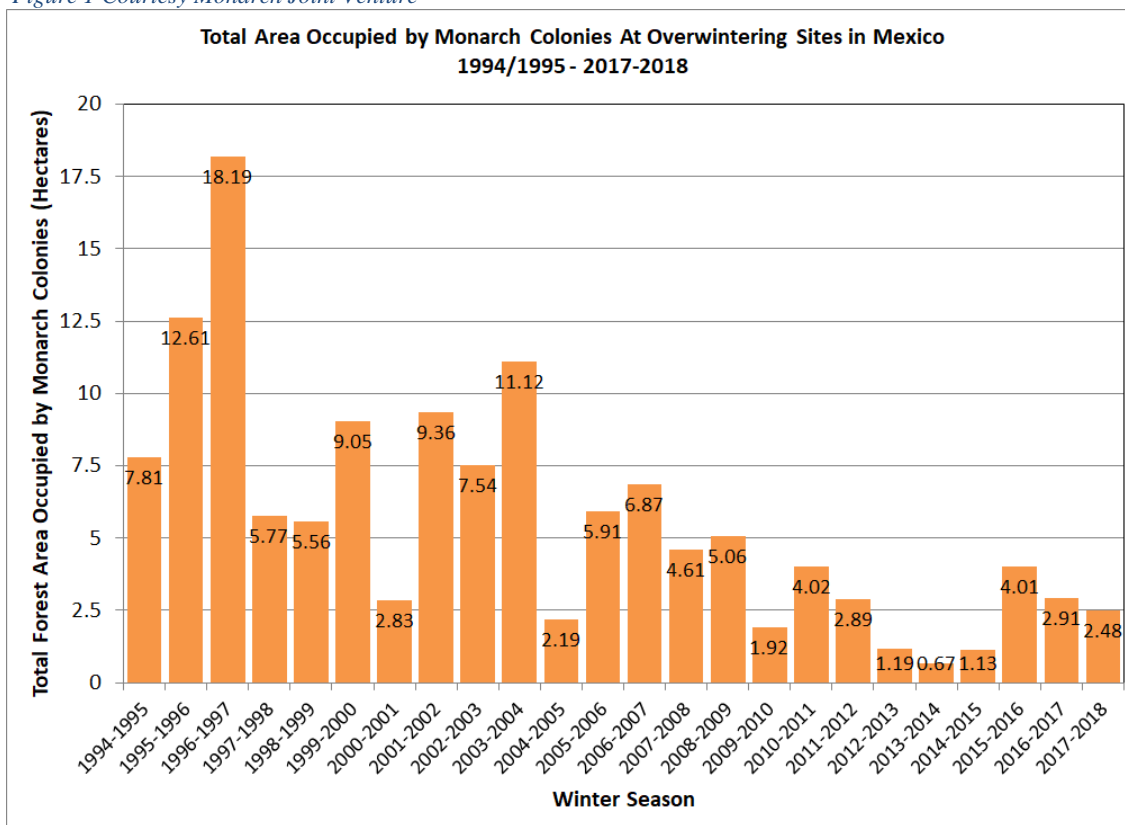
Habitat loss through the monarch's summer breeding and migratory range, which includes Wisconsin, is considered to be the primary cause of the monarch population's crash. Other factors like disease, changing environmental conditions and illegal logging where monarchs spend their winters in Mexico are also thought to be harming the population, but habitat loss throughout the summer range has been most clearly linked to the decline. As a result, one of the best things we can do for monarchs is to create new habitat for them.

Plant native milkweed

Monarchs breed in Wisconsin throughout the spring and summer and the presence of milkweed (*Asclepias*) is crucial to their ability to do so. Milkweeds are the only plants on which monarchs will lay their eggs, so milkweed is required to produce new generations of monarchs.

In the wake of the monarch's startling decline, many organizations and individuals have taken steps to protect the butterfly. Here are some ways you can help.

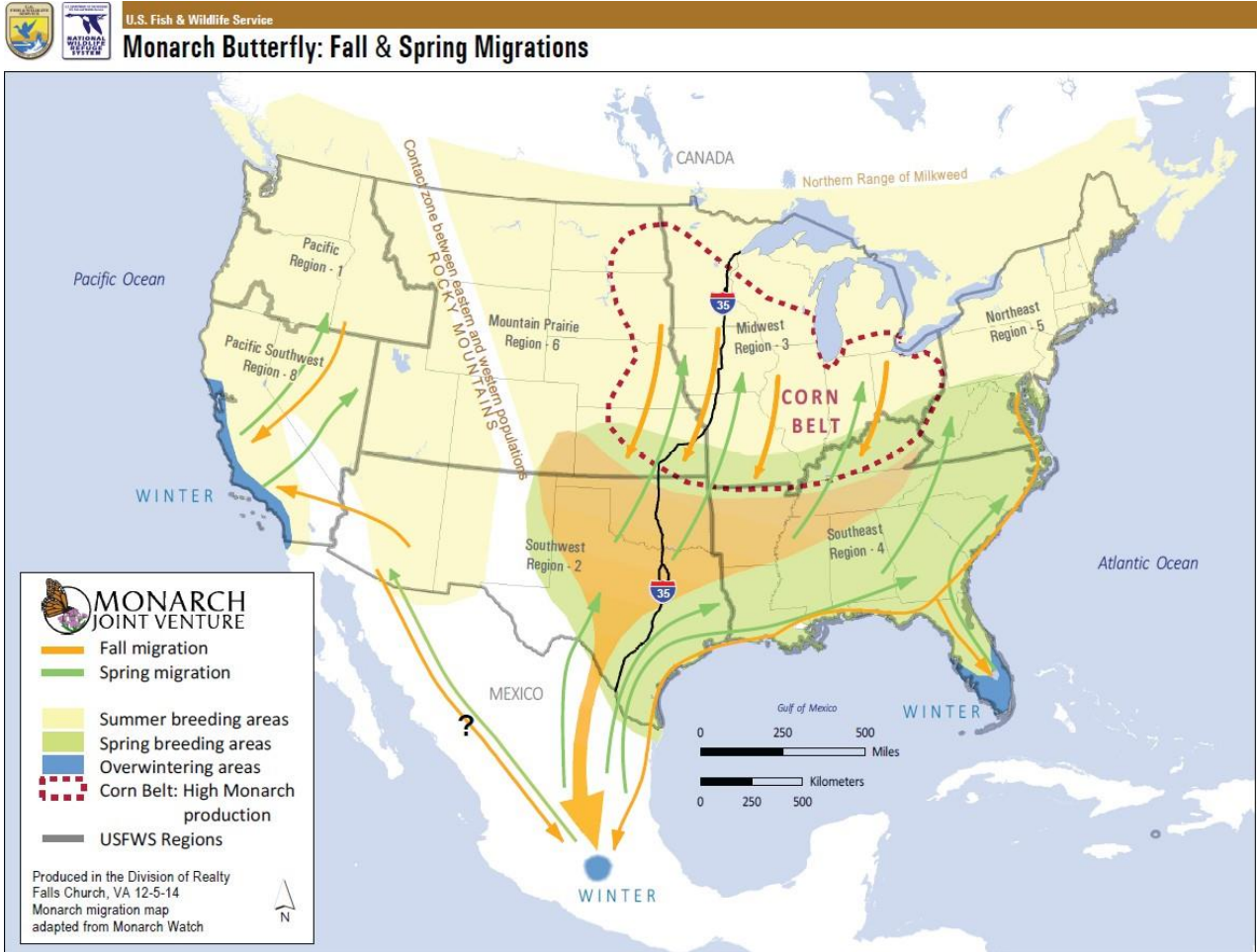
Figure 1 Courtesy Monarch Joint Venture



Data from 1994-2003 were collected by personnel of the Monarch Butterfly Biosphere Reserve (MBBR) of the National Commission of Protected Natural Areas (CONANP) in Mexico. Data from 2004-2018 were collected by the WWF-Telcel Alliance, in coordination with the Directorate of the MBBR. 2000-01 population number as reported by Garcia-Serrano et. al (The Monarch Butterfly : Biology and Conservation, 2004)

¹Semmens, B.X., Semmens, D.J., Thogmartin, W.E., Wiederholt, R., López-Hoffman, L., Diffendorfer, J.E., Pleasants, J.M., Oberhauser, K.S. and Taylor, O.R., 2016. Quasi-extinction risk and population targets for the Eastern, migratory population of monarch butterflies (*Danaus plexippus*). *Scientific Reports*, 6.

Enhancing summer breeding habitat for monarchs in Wisconsin and other parts of North Central U.S. is one of the priorities of the Monarch Joint Venture, a multi-state, multi-agency and organization effort to conserve monarch butterflies.



Many people think of milkweed as just one plant, but in fact, there are more than 100 different types in North America, of which 14 are native to our state. It's important to plant only milkweed species native to Wisconsin. Nonnative species don't always mesh well with our local ecosystems, and research has shown that planting certain types of nonnative milkweed can actually hurt monarchs by spreading disease and upsetting their annual migration. When purchasing seeds or seedlings, check the scientific names instead of common names; this will help ensure you are choosing plants that are native to your area.

Plant native nectar plants

While monarch caterpillars can survive and feed only on milkweed plants, adult monarchs rely on a variety of nectar sources for food. Plants like blazing star (*Liatris*), coneflowers (*Echinacea*), Joe Pye weed (*Eutrochium*), asters (*Aster*), and

goldenrod (*Solidago*) are all good options for feeding hungry monarchs and other pollinators. When choosing nectar plants, remember that monarchs will need nectar the entire time they are in the state; monarchs typically arrive in Wisconsin in late April and depart in mid-late September. Plant a combination of nectar sources that bloom at different times to ensure that your land is always providing food for adult monarchs.

Other habitat considerations

Milkweed and nectar plants are the key components of good monarch habitat, but other issues are important as well. Create monarch habitat in sunny locations with windbreaks, if possible. Don't use herbicides or insecticides, as these can be harmful to monarchs. Avoid mowing your entire habitat at once and try not to mow when native plants are flowering or about to seed or when monarch activity is at peak.

Mexico. Texas. Wisconsin. Understanding monarch migration

Most monarch butterflies live only a few weeks, but the last generation, born at the end of summer, migrates to Mexico. The changes in day length, decreasing quality of milkweed, and temperature all impact whether a monarch will migrate or not. The ones that do migrate can live up to nine months – long enough to fly south for the winter and then make it as far north as Texas again in the spring, where they lay eggs. The butterflies emerging from these eggs may fly to Wisconsin this spring and produce the next generation of monarchs.

Contribute to monarch citizen science

Much of our knowledge about monarchs and their population trends comes from data collected by citizen scientists – members of the public who contribute to real scientific research. Monarch citizen scientists number in the thousands and can be found throughout the country. From schoolchildren to retirees, people are observing and monitoring monarchs and the data they collect are used to inform monarch conservation. Consider joining their ranks – there are several great projects you can do right on your own property or at a school or local park.

Journey North

Journey North tracks the monarch migration each spring and fall. It relies on sightings from the public to follow monarchs as they travel to and from Mexico. If you see a monarch, you can use their simple online sighting form to report it. Reporting sightings is a fun and easy way to become a citizen scientist.

Monarch Larva Monitoring Project The Monarch Larva Monitoring Project monitors monarchs in their breeding range. Volunteers are needed to monitor milkweed plants for the presence of monarch eggs and larvae (caterpillars) from week to week. This is a great project for folks who want to spend some time outside, either alone or in groups.

Monarch Health

If you want to get some hands-on interactions with monarchs, then Monarch Health is the project for you! It tracks the presence and severity of a disease called OE, which can be deadly for monarchs but doesn't infect people or any other animals. Volunteers with Monarch Health take samples of monarch scales; the samples are submitted for testing and the monarchs are released unharmed.



Photo by Katie Steiger-Meister, USFWS.

Resources

- Find out what milkweeds are native to your area: [North American Plant Atlas](#), [USDA Plants Database](#)
- Order milkweed seeds and seedlings: [Xerces Milkweed Seed Finder](#), [Monarch Watch Milkweed Market](#)
- Learn more about monarch life cycle, conservation, habitat creation, and citizen science: [Monarch Joint Venture](#)
- Register your monarch habitat: [Monarch Waystations](#), [Monarch Conservation Efforts Map](#)

Wisconsin Monarch Collaborative

The Wisconsin DNR is part of the Wisconsin Monarch Collaborative, a statewide consortium of organizations working together on monarch conservation efforts. The new group is an outcome of the 2017 Wisconsin Monarch Summit, and it includes more than 70 stakeholders representing agriculture, transportation, utilities, public and private land management, research and education sectors and local, state and federal government.

The Wisconsin Monarch Collaborative will draft and implement a Wisconsin Monarch Conservation Strategy, in alignment with the Mid-America Monarch Conservation Strategy and the Monarch Joint Venture's Monarch Conservation Implementation Plan, and collaborate on monarch conservation efforts across Wisconsin. The Wisconsin Monarch Collaborative consists of a Coordination Team and six Working Groups: Agriculture; Education & Outreach; Protected Lands; Research & Monitoring; Rights-of-Way; and Urban & Green Space.

"This is an all hands-on-deck effort," says Owen Boyle, DNR nongame species management section chief and DNR's lead representative for the Wisconsin Monarch Collaborative. "Many people and organizations are already doing great work for monarchs. This new coalition will build on those efforts and help leverage resources to accelerate efforts to restore monarchs in Wisconsin."

Craig Ficenech, co-chair of the coalition's agriculture working group, says the effort can help proactively recover monarch populations before they might need to be listed as an endangered species, something that the U.S. Fish & Wildlife Service has been petitioned to do. "Farmers and rural landowners are key to proactively and voluntarily recovering monarchs," says Ficenech, program director for the Sand County Foundation, a national non-profit based in Wisconsin that promotes voluntary conservation on private land.

