

Illinois launches statewide plan to boost monarch butterfly population

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Monarch butterflies have flown south for the winter, but efforts to protect them in Illinois are sticking around.

As butterflies east of the Rocky Mountains migrated thousands of miles toward Mexico, a group of stakeholders representing farms, cities, roadsides and [natural areas](#) signed on to the Illinois Monarch Action Plan, the state's all-hands-on-deck effort to ensure the survival of that unmistakable orange-winged butterfly.

The plan is part of an effort to add regionally 1.3 billion stems of milkweed, which monarchs depend upon. Illinois aims to add 150 million stems of the state wildflower for its state insect by 2038.

"We have a plan, we have strategies, we have a goal—our 150 million milkweed stems," said Iris Caldwell, the project's coordinator and a program manager at the University of Illinois at Chicago's Energy Resources Center. "And now we really need to roll up our sleeves and really start doing the work of implementing the plan."

In the coming months, the group will work to get a better handle on how much milkweed there is, how far there is to go to reach the state goal and develop tracking mechanisms to mark progress, using 2014 as the counting baseline. Based on research so far, the 150 million number seemed "within the realm of possibility," Caldwell said.

In a 2014 petition to list the monarch butterfly under the Endangered Species Act, the number of monarchs was estimated at 35 million, down from 1 billion butterflies east of the Rockies less than 20 years earlier.

A decision on whether listing is warranted is expected in December.

Regardless of the decision, Kraig McPeck, a supervisor for the U.S. Fish and Wildlife Service, said, "I don't think it changes how people feel about the [monarch butterfly](#). Whether it's threatened or endangered or none of those things, people still have an emotional attachment to this black and orange butterfly, and that's not going to change."

Pam Karlson has grown milkweed in her Northwest Side garden for years. It has become easier to find common milkweed, said Karlson, a professional gardener. She's handed some off to friends for their own gardens.

"I'm fascinated with any tiny creature like that that can make this incredible journey every year and survive," Karlson said. "I grew up when there was an abundance of monarchs, and an abundance of milkweed growing all over the place. Down by the railroad tracks, in all the empty fields.

"And I really, truly believe if enough people get on board, we can turn this thing around and make a difference," Karlson added. "I've seen how it works in my own garden."

Last season's monarch population appeared to take a dive.

In recent years, monarchs have occupied a smaller area across their Mexico grounds than in previous decades but have still hovered above a low hit in the 2013-14 season.

"This is better than when they were down at their bottom," said Doug Stotz, a conservation ecologist at the Field Museum and a member of the monarch plan's steering committee. "But it's way below the long-term average. And right now they're not at a point where you would say they're safe."

The monarchs you saw in [early summer](#) lived for a few weeks, maybe, and then died. But after a few generations of metamorphoses, one generation of butterflies, built to make it all the way to the mountains of Mexico, will live for months after touching down south in early fall. They'll head north in the spring to start the cycle again on a milkweed plant.

The ability of the great- or great-great monarch grandchildren to find their way back to the same roosting spots continues to be a wonder. But the natural world's schedules have to match up. The butterflies need to arrive when milkweed has bloomed. Temperature extremes can affect milkweed and butterfly survival alike.

Weather conditions generally drive the annual variations, Stotz said. Drought is particularly hard on the insects, and even one bad storm can result in mass casualties. A single winter storm in 2002 was reported to have killed upward of 450 million monarchs.

But the long-term driver in the falloff is most likely loss of breeding habitat, Stotz said. Illinois has two dozen species of milkweed; five are threatened or endangered.

"So that's what the monarch plan is all about, is trying to increase the breeding habitat in Illinois, as part of a plan to do that across the country," Stotz said.

That includes the urban sector, which involves park districts and forest preserves—and your backyard.

"Monarchs are an organism where the city actually can matter," Stotz said. "We can make a huge difference by getting milkweeds and native flowering plants into city gardens, city parks, vacant lots, all sorts of places where we can grow habitat."

Questions remain about how much people will be willing to plant, and what percentage of people will actually follow through.

"But certainly we see more and more people doing native plantings," Stotz said. "Another big factor is the presence of any native wildflowers. Because the adults need nectar resources. And it does seem like the fall

migration south, those nectar resources are an important piece of the story."

The action plan, composed in recent years and part of ongoing conservation efforts, was recently signed off on by the Illinois Department of Natural Resources, Illinois Department of Transportation, Illinois Environmental Protection Agency and Illinois Department of Agriculture.

The plan is divided into sectors—rights of way, urban, agriculture and natural lands—and springs into action this month with virtual events.

Some steps have already had substantial impact, Caldwell said, like the state's Department of Transportation changing mowing practices, allowing milkweed to return to roadsides. Additionally, 850,000 acres of the state's farmland are included in a federal program that incentivizes habitat creation. Since 2014, nearly 20,000 acres have been added to the state's protected lands network, with an estimated 1.5 million milkweed stems.

Mark Johnston, who developed a national geodatabase system for rights of way organizations like energy companies and transportation agencies to track pollinator habitat, will be jumping in to help assess how stems might be divided across sectors. Rights of way lands include roadsides and land near railroads, electric lines or pipelines.

"The plan is to do some scenarios where we kind of estimate how much could we fit in agriculture, how much could we fit in urban? What looks realistic?" Johnston said.

Johnston, a conservation ecologist at the Field Museum, previously led a study estimating milkweed in urban areas and the potential for more. Chicago was estimated to have about 15 million stems.

"There were some neighborhoods that were kind of hot spots, where you'd see a lot. And other neighborhoods where it hasn't caught on yet," Johnston said. "So that's another part of our future research is, we want to see, is there a way to see what causes that monarch fever?"

Like efforts to save other threatened or [endangered species](#), the benefits of helping monarchs can extend beyond one insect.

Monarchs are a "gateway bug," said Stotz, of the Field Museum.

"Because it's not just about monarchs," Stotz said. "It's about all sorts of pollinators."

And unlike with some other species, helping monarchs isn't a great mystery. Monarchs need milkweed, and milkweed needs green space and natural areas to flourish. Planting milkweed, or native plants, can help, as well as avoiding insecticides in your garden.

"You can be in an apartment complex or you can own 2 acres or you can own 2,000 acres—that entire spectrum can do something," said McPeck, of the Fish and Wildlife Service. "You can put a milkweed plant in a pot on your deck."

Monarchs also elicit emotional responses, McPeck said, whether through memories of tracking their transformation in grade school or learning of their multigeneration migration journey. "So it's tangible, it's emotional and I think that's why people are so behind it."

The petition to list the monarch outlines some of what the species is up against: herbicide and pesticide use, development and climate change.

The state's conservation efforts have ramped up since 2014, said Ann Holtrop, chief for the division of natural heritage with the Illinois

Department of Natural Resources. "So we've been on an upward trend," Holtrop said.

But stakeholders are waiting to see if the monarch is listed.

"It has the potential to essentially require landowners to do things for monarchs that they'd rather have it be voluntary that they do," Stotz said.

Ahead of the decision, some rights of way landowners are signing on to voluntary agreements approved by the Fish and Wildlife Service in which they commit to a certain percentage of conservation actions to support monarchs on their lands in exchange for not having to implement other conservation actions. For organizations that sign on, the agreements offer certainty that no more will be asked of them even if a species is formally listed.

Offering the agreements at this earlier point in the listing process is unusual. But monarchs are unique in that they cover a remarkable range of land and cross over into many sectors—from city parks to sprawling farms. So early conservation measures can serve as a blueprint.

Still, the 2014 petition noted that other species have been protected under the act that cover large ranges, like piping plovers—although the birds are not exactly analogous, living longer and not requiring multiple generations to make migration happen.

The decision also comes after the Trump administration's changes to the Endangered Species Act, which could have an effect on the monarch.

The Center for Biological Diversity, an advocacy nonprofit organization and petitioner to have the monarch listed under the Endangered Species Act, is hoping to see the monarch federally protected, said Tara Cornelisse, a senior scientist with the organization's Endangered Species

Program. There have been good-faith efforts to increase [milkweed](#) and protect monarch habitat, Cornelisse said, but some efforts can be piecemeal or are stronger than others. "But with the listing, what it will do is it will really formalize the protection for the species."

The center petitioned for the monarch because of the clear declines in populations and widespread habitat loss, she said. "So the story just keeps getting worse, and then of course there's [climate change](#) on top of it all," Cornelisse said.

For a wide-range species to be listed, you have to ask whether you can make the case that the species is imperiled in a significant portion of its range, she said. "And for the monarch, it's no question." Listing will give monarchs "a bigger seat at the table."

Regardless of the listing decision, some think the [monarch's](#) momentum will remain.

"I don't think it will change much in terms of what the Illinois Monarch Project does," Holtrop said. "Our goal has been to get out in front of a listing decision as much as we can. And rally all the troops to put conservation on the ground and minimize risk."

Because of their familiarity and knack to fascinate, they could be the "poster species" for inspiring conservation efforts, Holtrop said. "So if we can do that now with this species, then hopefully we won't have to work so hard with so many other species."

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