

# Extremely low monarch numbers latest downturn in 20-year decline



Kay MacNeil speaks about her efforts to grow the number of Monarch butterflies in Illinois. She currently chairs the Garden Clubs of Illinois' President Project called Milkweed for Monarchs.

By **Ted Gregory**  
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**D**uring his slogs through Cuba Marsh Forest Preserve in northwest suburban Deer Park, designated butterfly observer Jim Peterson documented what many keen outdoors enthusiasts may have been noticing all summer.

"This year was not a real good one for monarchs," said Peterson, a volunteer with the Illinois Butterfly Monitoring Network. He took nine expeditions on the same route through dense, chest-high brush at the Lake County forest preserve this summer. Along his path, he identified and counted the butterflies he saw.

This year he spotted four monarchs. Last summer, 15.

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er migration from Canada to Mexico this month,  
nomenon that is playing out nationally: Monarch

numbers are extremely low this year. It is the latest downturn in a 20-year decline for the striking orange and black flier that is Illinois' state insect.

"The problem is real," Karen Oberhauser, co-chairwoman of Monarch Joint Venture, a national collaboration of 50 conservation, education and research groups, said of this year's severe drop. "We're seeing much, much lower than the long-term averages."

Oberhauser, a University of Minnesota professor of fisheries, wildlife and conservation biology who has been studying monarchs since 1984, said the monarch population appears to be less than half of last year's level. She based her conclusion on a preliminary review of data from the Monarch Larva Monitoring Project, a network of observers throughout the country that she coordinates.

Preliminary reports from the Illinois Butterfly Monitoring Network, a volunteer group of about 100 observers such as Peterson who track butterflies from central Illinois to the Wisconsin state line, support Oberhauser's perspective.

The monarch generally is "the second or third most common species" of butterfly that observers record, said Doug Taron, director of the network and chief curator of the Chicago Academy of Sciences. "This year, it's seventh."

Of the 68 sites where data have been collected, monarchs have been recorded at 45, Taron said.

He declined to draw a definitive conclusion from those numbers, but Taron did say this summer has been "pretty dismal" for butterflies in general in Illinois. Observers typically record 85 species a year. Current reports show 68 this summer.

Kay MacNeil has been drawing monarchs and other butterflies to her one acre in south suburban Frankfort for 40 years by planting dozens of milkweed — vital food for monarch caterpillars — and "tons of nectar plants," which attract the adult butterflies. Last year, she raised 64 monarchs from eggs or caterpillars.

This year, she has been able to raise one.

"It's a worry," added MacNeil, chairwoman of Garden Clubs of Illinois' Milkweed for Monarchs, which is promoting the planting of milkweed across the state. "That's why I'm doing what I do."

Beyond their role as ecosystem barometers, monarchs' environmental value is a little unclear. They pollinate many wildflower species. And, some wasps, spiders, ants and birds eat monarch eggs and larvae, although the butterfly carries a toxin that limits its appeal as prey for creatures up the food chain.

But fans say the monarch also is much beloved as an attention-grabbing ambassador for nature's beauty.

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, depending largely on weather, experts say. A  
ced this spring, fortifies fungi and bacteria that

attack butterflies in the caterpillar stage, Taron said. That weather also tends to extend the time butterflies are in the vulnerable caterpillar stage, he added.

Oberhauser said monarchs' particularly difficult summer began March 9 in forested mountains west of Mexico City, where tens of millions of monarchs from much of North America spend the winters. An intense storm struck the area, lashing it with rain, hail, snow and subfreezing temperatures, killing large numbers of monarchs and inflicting severe damage on trees, the butterflies' habitat.

A Monarch Joint Venture update in July reported that the storm caused "immense destruction." In addition, data from Monarch Larva Monitoring Project indicated that the number of butterfly larva this year rivaled the level seen in 2013. That year yielded "the lowest number of monarchs ever seen in Mexico," the joint venture update stated.

The species could bounce back, as it did after 2013. That year, World Wildlife Fund data showed that the butterflies occupied 1.6 acres in the overwintering region of central Mexico. By last year, the monarchs covered nearly 10 acres, WWF reported.

But solving the longer-term decrease may be more challenging.

Since about 1996, the monarchs' acreage in their Mexico wintering region has been on a general decline — from almost 45 acres to last year's coverage of 9.9 acres, according to WWF figures. Oberhauser said the primary reason is the increasing use of herbicide-tolerant soybean and corn crops in the U.S. during that time.

U.S. Department of Agriculture figures show that about 1 percent of agricultural acreage in 1996 was herbicide-tolerant soybeans and corn. Today, that level is near 90 percent.

Wider use of herbicide-tolerant crops enables farmers to apply more herbicide, killing milkweed that had been prevalent in farm fields for years, Oberhauser said.

She bases her theory on "correlative evidence" — data that show most monarchs had emanated from corn and soybean fields, and that milkweed is nearly absent from those fields in recent years.

Others have argued that the monarchs' decline could be related to some as-yet-undetected change that occurs in their migration, Oberhauser said. But she added that the disappearance of milkweed in farm fields has been the only major, enduring change in monarch butterflies' lives in the last 20 years.

Local and state efforts are underway to try to turn around the decline. In February, Chicago Wilderness announced a priority species project that focuses on improving the health of 12 species that represent rare  
... ture Museum, where Taron works, is a partner

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And, in early August, Gov. Bruce Rauner signed into law a bill that creates a special monarch license plate that would raise money to develop habitat.

On a national scale, Taron and Oberhauser noted the efforts of Monarch Watch and Journey North, which generate a great deal of information and education about the monarch; and federal agencies, including the U.S. Fish and Wildlife Service and the Natural Resources Conservation Service, which work to increase monarch habitat.

World Wildlife Fund classifies monarchs as near threatened. At the same time, two nonprofit organizations are petitioning the federal government to declare the species endangered, which would give the butterfly more comprehensive protection.

On a lower level, experts say individuals can make a difference merely by planting more milkweed and native nectar plants, including blazing star, aster, ironweed and black-eyed Susan, to help the butterfly's habitat.

If monarchs became extinct, our ecosystems would not collapse, Oberhauser said, adding that they are not a "keystone species."

Still, in Oberhauser's opinion, monarchs' beauty and the way they draw people to appreciate nature are akin to the value and universal appeal of fine art.

"From an ecosystem standpoint, they aren't holding things together," she said. "Monarchs are kind of like the 'Mona Lisa.' They're valuable just because they are."

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