

## **Mass Audubon, News and Notes**

**August 2013**

You may have seen the story in the Boston Globe (*see next page*) on August 13 about how monarch butterflies have been hard to find at Mass Audubon's Boston Nature Center. Monarchs may be our most popular and well-known insects, and this is the time of year when we should be seeing their familiar orange and black wings over gardens. But observers all across the state say they're spotting very few of them.

Is this a sign that monarchs everywhere are in trouble? And if so, why? The answers to these questions aren't as simple as you may think.



### **A Closer Look at Monarch Numbers**

The number of monarch butterflies in Massachusetts fluctuates from year to year, and when the insects are scant here, they may be numerous elsewhere. We have to be careful about using our local sightings to talk about the overall health of the species.

However, we do know that observers in nearby areas, such as eastern Canada, Vermont, and New Jersey, are also reporting low monarch numbers this year—what we're observing here may be part of a larger pattern.

Perhaps most alarmingly, the monarch population hit a record low at its overwintering sites in Mexico, down 59 percent from the previous year's December count—and researchers have documented declines there in six out of the past seven years.

### **Threats to Monarchs**

There are many reasons why monarch numbers may be dropping. Because they travel over such a wide area and spend time in different habitats, they're vulnerable to environmental change all along their route. Here are some issues:

1. Habitat destruction in Mexico, where monarchs winter, has historically represented a major threat.
2. They're sensitive to extreme weather; they don't do well if it's too hot or too cold, too dry or too wet.
3. Monarchs are very specialized—they only lay eggs on milkweed. These plants have declined in the central and mid-western states' expansive corn and soybean fields due to changes in farming practices, such as new developments in herbicides.

### **Learn More**

Consider participating in one of our upcoming programs about monarchs and other butterflies. We've got butterfly walks for both kids and adults, where you'll learn about their life histories and favorite plants, and hopefully glimpse some monarchs.

You can also participate in research programs at Ipswich River Wildlife Sanctuary in Topsfield, Allens Pond Wildlife Sanctuary in South Dartmouth, and Wachusett Meadow Wildlife Sanctuary in Princeton. You'll learn how to "tag" monarch butterflies, applying tiny stickers to their wings as part of a continent-wide research effort to track their travels.

Have you seen any monarch butterflies this year? If so, tell us where and when in the comments.

# Monarch butterfly population is dwindling

## Something's amiss with regal insect missing

**Boston Globe**

August 13, 2013

By Sanjena Sathian

Walking through the Boston Nature Center's butterfly garden, 11-year-old Elijah Moran can identify an eastern tiger swallowtail, a viceroy, and all of the plants the insects flit among. What's missing is Elijah's favorite butterfly: the monarch. "I like them because of their cool designs on their wings, and its name — like it's regal, king of the butterflies," the Dorchester boy said.

Naturalists across the continent are noticing, and worrying about, the same phenomenon. The monarch butterfly, with its orange patterned wings, a design even non-insect enthusiasts can recognize, is dwindling. Scientists say the exact cause for the monarch's decline is hard to pin down, but it probably stems from unfriendly weather patterns caused by climate change, as well as overdevelopment of the butterfly's natural habitat, including the destruction of milkweed, the only plant on which females lay their eggs.

"Monarch butterflies are symbolic of what's happening on a larger scale," said Chip Taylor, an insect ecologist at the University of Kansas who runs the butterfly conservation and monitoring organization Monarch Watch. He said butterflies are part of a complicated ecosystem, and a ripple in their world affects everything around them: birds, other insects, flowers. "We have to keep the connections going, and monarch butterflies tell us we're not doing a good job of that," he said.

The annual count of butterflies in their winter habitat in Mexico showed a 59 percent decline in the population from between December 2011 and December 2012.

It is normal for insect populations to fluctuate because of weather and other conditions, Taylor said. Monarchs depend on a "Goldilocks-type of ecology," he said, and a too-hot summer or too-cold winter can affect their migration. But the monarch's decline has continued since the late 1990s. The population peaked in 1996-97, at nearly 18 times what it is today.

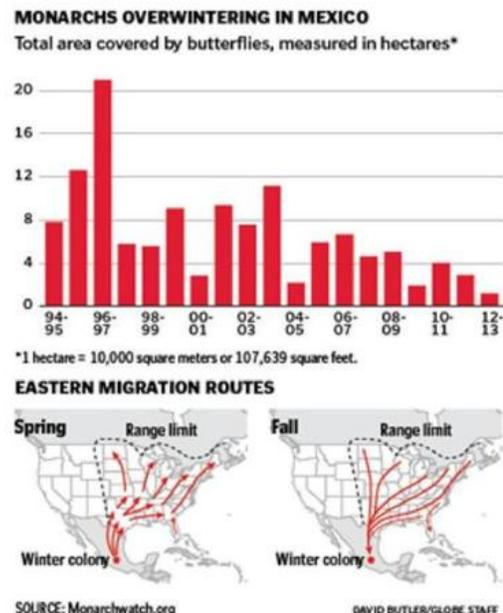
Monarch butterflies are unique because of their migration. Each fall, hundreds of millions make their way from the Eastern United States and Canada to the mountains of central Mexico, where they pass the winter. New generations of monarchs return north between April and June. But along the way, naturalists say, it is increasingly difficult for the insects to find milkweed.

"They literally are putting all their eggs in one basket," said Wayne Petersen, an ornithologist and bug specialist with the Massachusetts Audubon Society, which owns the Boston Nature Center. Petersen said species that historically survive are those that can develop a Plan B for survival. Monarchs do not have that yet, he said. They count on their migration to survive cold winters.

Even in the nature center's small, 1,680-square-foot butterfly garden in Mattapan, where there is plenty of milkweed, the monarchs are nowhere to be found.

Naturalist Andrew MacBlaine says he has seen just one monarch in the garden all summer. Last summer they were "all over the place," he said.

For the population to recover, Taylor says monarchs need their habitat back.



Gardens can grow anywhere, even in the middle of the city, says Julie Brandlen, the sanctuary director at the Boston Nature Center. She recommends planting Joe Pye flower to provide monarchs with nectar, butterfly bush and marigolds to attract the insects with lively colors, and the all-important milkweed to create an environment for butterflies to stop and breed.

Preschool teacher Karen First is a volunteer gardener at the nature center and has created her own butterfly garden at home in Roslindale to breed monarchs. Last year, about 50 hatched. This summer she found only two eggs. For her, losing monarchs means losing “this amazing story of migration that connects three countries.”

“It’s one of the world’s most magnificent phenomenons,” Taylor said of the migration. Witnesses to it can stand in areas of 20 acres with millions of monarch butterflies surrounding them, brushing through their hair and past their cheeks. “It can be a mystical experience, a spiritual experience,” he said. “It represents the struggle for life.”

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