



# How Roadsides Can Support the Eastern Monarch Butterfly



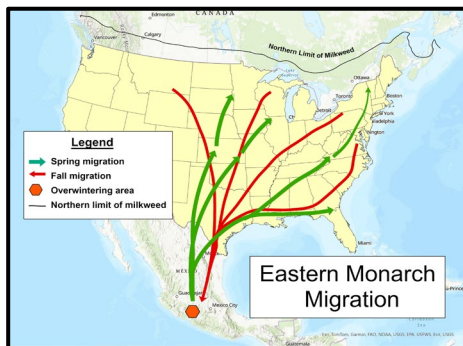
## Monarch Butterfly

The monarch (*Danaus plexippus*) is a milkweed butterfly with orange, black marking on its wings and is native to North, Central and South America.

The **Eastern monarch butterfly** population contains individuals whose breeding grounds are east of the Rocky Mountains, including regions in New England. Eastern monarchs undertake an impressive multigenerational migratory journey, traveling approximately 3,000 miles from central Mexico to Southern Canada through the Eastern United States during the summer, and then return to Mexico for the winter.

Monarchs can be anticipated in New England from June to September, with their peak presence occurring in August.

Monarch butterflies live for approximately 3-5 weeks during their migratory journey north, with multiple generations being born each summer. The final generation, born in late summer or early fall, extends its lifespan by ceasing to reproduce and channeling its energy to fly south to their overwintering grounds in central Mexico. There, they spend the winter clustered together with others in large colonies known as a “flutters.”



## Monarchs and Milkweed

Monarchs have a unique relationship with plants in the genus *Asclepias* commonly known as milkweed. Seventy-three species of milkweed grow native in the U.S, but only 7 are native to the Northeast. Monarch butterflies lay their eggs exclusively on milkweed because the caterpillar can only eat its leaves.

Milkweed latex contains specialized chemicals called cardiac glycosides, which are absorbed by the caterpillars as they consume the leaves. This latex makes them unpalatable and toxic to many predators, such as birds, safeguarding them during their vulnerable growth stages. This natural defense mechanism is a component in the monarch's survival.

Unfortunately, factors like suburban sprawl and current agriculture practices result in losses of habitats containing wild milkweed in the landscape, which significantly threaten monarch butterfly reproduction. Preserving milkweed habitats, while also providing diverse nectar-rich flowering plants, can assist in the survival of monarchs and their successful migration.

## Roadside Vegetation

As monarch butterflies migrate, they rely on wildflowers to restore their energy reserves. Highway roadsides can serve as corridors for monarch migration, providing long, linear expanses of habitat, feeding sources, and breeding grounds. These resources are abundant when roadsides are revegetated using native plants and managed as conservation zones through reduced mowing.

## Monarch's Importance

Monarchs play important roles in ecosystems. First, they are valuable pollinators, aiding in the reproduction of many plant species. Second, while the milky sap in milkweed stems and leaves make monarch caterpillars and butterflies toxic to some, for others, they serve as a food source. Finally, they provide an important service, as they are ecological indicators. The health and migratory patterns of populations can reflect broader environmental changes including the impacts of climate change, pollution, and habitat destruction while providing insights into the health of our ecosystems.



Roadsides populated with milkweed are important habitats for monarchs.



## Monarch Life Cycle

The monarch butterfly undergoes four stages in its life cycle: egg, larva (caterpillar), pupa (chrysalis), and adult (butterfly).

Adult female monarchs lay eggs on milkweed leaves and secrete a small amount of glue to attach the eggs directly to the plant.

The eggs, about the size of a pinhead and cream-colored in the beginning, turn black on top about 4 days before the caterpillar emerges.



Monarch egg on milkweed leaf

Over the next 2 weeks, the caterpillar goes through 5 life stages called instars, shedding its skin to accommodate growth. During the final instar, the caterpillar encloses itself within a chrysalis.



Monarch chrysalis

After approximately 9 days, the adult monarch butterfly becomes visible through the chrysalis which signals it is about to emerge.

Upon emergence, the monarch's wings are wrinkled and wet, so they flap them to pump in fluids and dry them in the sun. As an adult butterfly, the monarch engages in multiple mating sessions during its lifespan. A female can lay between 300-500 eggs in her lifetime.



Monarch caterpillar on milkweed seedpod



Rt. 6 roadside meadow in Mansfield, CT

## Threats to Monarchs

Several factors contribute to the drastic decline of monarch populations, but changes in land use is of primary concern. This includes logging and deforestation in Mexico that impact areas which are vital for their winter survival, as well as transformation of most breeding grounds into farmland, where herbicides are used to eradicate the monarch's host plant.

Furthermore, climate change is a key driver in monarch population decline, causing droughts, wildfires, and temperature fluctuations, which affect the monarch migration due to a lack of resources including nectar-rich plants like milkweed to lay eggs upon.



Female monarch butterfly depositing eggs on common milkweed

## Monarchs: Endangered Status

The monarch butterfly, renowned for its unique migration habits and attractive orange and black markings recently has faced significant challenges. The Eastern monarch butterfly population decreased by 85% from 2019 to 2024 (MonarchJointVenure.org, 2023).

## How the general public can support monarch health.

**Plant native milkweed species in home gardens.** Small patches can be used as stepping-stone habitats where monarchs feed, grow, reproduce, and then travel further.

Be sure to choose milkweed species carefully as some can spread aggressively, such as common milkweed (*Asclepias syriaca*).

**Create habitats rich in nectar-producing flowers,** which offer food resources for adult monarchs and other pollinators.

**Minimize the use of pesticides** to help protect monarchs and their habitats.

**Participate in citizen science programs,** such as monitoring monarch populations and migration patterns, to advance our understanding of these iconic insects and to assist conservation efforts.

**Raise awareness** and become actively involved in New England conservation initiatives tailored to the monarch butterfly's unique migration cycle.

For more information on monarch butterflies, visit:

<https://xerces.org/monarchs>

<https://monarchwatch.org/>

<https://journeynorth.org/>