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U.S. Fish & Wildlife Service

Pollinators

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Monarch butterfly on showy milkweed (*Asclepias speciosa*) (photo: Tom Koerner/USFWS CC BY 2.0)

The **monarch butterfly** (*Danaus plexippus plexippus*) is a large butterfly that lives in a variety of habitats throughout North America and various additional locations across the globe. They need milkweed (*Asclepias* spp.) for breeding.

The monarch butterfly has declined by 80 percent in the last 20 years. It is currently being considered for federal listing under the Endangered Species Act. There are many potential reasons for the butterfly's decline, including habitat loss at breeding and overwintering sites, disease, pesticides, logging at overwintering sites and climate change. Through simple conservation actions like planting native milkweed and nectar sources,

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[everyone can help to provide a future filled with monarchs](#). Your actions will also help a host of other pollinators including bees and birds that share resources with the monarch butterfly.

The life cycle of the monarch butterfly is similar to other butterflies, except for their phenomenal migration. An adult female monarch butterfly lays eggs on milkweed plants. The egg hatches as a larva (caterpillar) in approximately four days. The larva feeds on the milkweed plant. The larva matures in 9 to 14 days while going through five instars (or periods between molts), then seeks a sheltered spot and turns into a pupa (chrysalis). After 9 to 15 days an adult butterfly emerges from the pupal case. Monarchs have four to five reproductive generations per year. Adults in the summer generations live two to five weeks, mating when three to eight days old. Adults in the migratory (overwintering) generation may live up to nine months, but do not mate and lay eggs until the following spring. Adults may mate multiple times.

In North America the eastern population (east of the Rocky Mountains) migrate north to the United States and Canada in March from the mature oyamel fir forests in the mountains of central Mexico. The fall migration back to overwintering sites in Mexico is from August to November. The western population (west of the Rocky Mountains) travels inland to breeding areas throughout the west from February to March. They migrate to overwintering sites within 2.4 km of the California coast between Mendocino County and Baja, from September to November. They overwinter on eucalyptus trees (*Eucalyptus globulus*), Monterey pines (*Pinus radiata*), and/or Monterey cypress (*Cupressus macrocarpa*) at sites that are cool (but above freezing), sheltered from wind, with a moisture source and exposure to filtered sunlight. The lower slopes of valleys, bays and inlets support the largest numbers. Monarchs are typically found in open grass areas during the breeding season.

Monarchs need nighttime roosting sites during migration. In the western population, roosting generally occurs in both native and nonnative deciduous and evergreen trees. Monarchs have been observed using narrow-leaved tree species such as willows, Russian olives, locusts, pines, and eucalyptus as roosting sites.

Adults use a wide variety of flowering plants throughout migration and breeding. Important

Fun Fact:

As monarch caterpillar grows they shed (molt) their skin five times and often eat it before eating more milkweed!

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nectar sources during the spring migration typically include Coreopsis spp., Viburnum spp., Phlox spp., and, early blooming milkweeds. Important nectar sources during fall migration include: goldenrods (Solidago spp.), asters (Symphyotrichum spp. and Eurybia spp.), gayfeathers (Liatris spp.), and coneflowers (Echinacea spp.) in the north and frostweed (Verbesina virginica) in Texas. Cultivated alfalfa, clover, and sunflower also are important resources in Texas. Other important nectar sources include: willow (Salix sp.), sunflower (Helianthus spp.), thistle (Cirsium spp.) and sage (Salvia spp.). Lists of preferred nectar plants by region specific to monarchs can be found at <http://www.xerces.org/monarch-nectar-plants/>



Monarchs at overnight roosting site during migration (Jessica Boiser/USFWS CC BY 2.0)

How to help!

- **Provide Habitat:** You can help the monarch butterfly in your own backyard, back forty or along every road in between by planting regionally appropriate native milkweed and flowering plants that provide nectar. For a regional and season specific plant list, see Xerces Society <http://www.xerces.org/monarch-nectar-plants/>.
- **Use Best Management Practices:** Adjust timing of mowing to not interfere with monarch breeding or nectaring along the migration route. For additional details, see: <http://monarchjointventure.org/images/uploads/documents/MowingForMonarchs.pdf>. For western population: Consult with a monarch expert and an arborist prior to any cutting or thinning within tree stands known to support overwintering monarchs. Schedule tree thinning or cutting outside of the November to February overwintering season.
- **Eliminate or reduce the use of pesticides.** Insecticides can result in direct mortality to monarchs and herbicides can eliminate needed host and nectar plants. If pesticides are used, select pesticides that are specific to the pest; time applications to avoid monarch activity periods; establish buffers; and minimize drift to non-target areas by direct ground application.



Monarch larva (ptoto: Rick Hansen/USFWS)

For current information go to: <https://www.fws.gov/savethemonarch>.

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