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U.S. Fish & Wildlife Service

# Pollinators of Texas

In Texas, pollinators are bats, bees, hummingbirds, butterflies, moths, wasps, flies, and beetles.



## Pollinators uphold ecosystems all over the planet

- Up to 80% all plant species are pollinated, mostly by insects.
- Three quarters of all the world's most common human food crops require insect pollination.
- These include: coffee, tea, chili, berries, tomatoes, fruit and nut trees, spices, and vegetables.
- Additionally, fields of livestock crops, such as alfalfa and clover, are pollinated by insects.

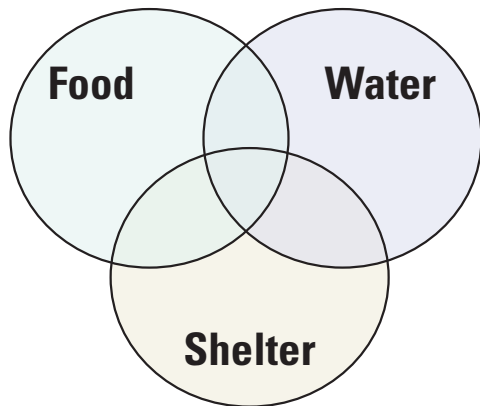
*In her lifetime, one bee can pollinate 5000 blossoms!*



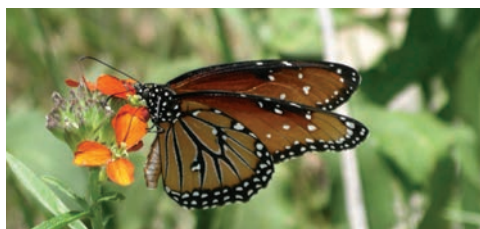
## What do pollinators need?

Pollinators need plants that provide pollen and/or nectar; and some insect larval stages need food plants. Nectar plants are blooming flowers that provide nectar—a sweet liquid produced by some flowers. Pollen is available from all flowering plants but not all pollen is desirable. Food plants are those that caterpillars (larval stage of butterflies and moths) live on and eat for nutrients.

Pollinators need water sources to survive. They can extract water from the nectar sources or the plants they chew on but some prefer either open water in sunny locations or even muddy spots. Some butterflies are attracted to salty, sandy areas called puddlings. Providing water sources is easy – you can choose plants, like honeysuckles that hold water, place dishes of water in sunny areas, or create a muddy spot.



Shelter can come in many forms: bare ground (e.g. ground-nesting bees), banks and cliff faces, and various vegetative structures, including undersides of leaves, rotting wood, or stem pith. Diversity in vegetation (trees, shrubs, grasses, and forbs) provides many sheltered niches for pollinators to utilize as both nesting and loafing sites. Easy-to-make bee boxes/blocks provide needed shelters in urban areas where dead trees are not present.



## Ten Things You Can Do In Your Yard To Encourage Pollinators.

1. Plant a pollinator garden—provide nectar and feeding plants (flowers and herbs).
2. Provide a water source—place shallow dishes of water in sunny areas or create a muddy spot.
3. Provide shelter and overwintering habitat (bee boxes, undisturbed soil areas, and piles of woody debris).
4. Stop using insecticides and reduce other pesticides.
5. Provide sunny areas out of the wind.
6. Use native plant species whenever possible—mimic local natural areas.
7. Grow flowers throughout season. Provide a variety of colors and shapes.
8. Plant in clumps and layers. Use trees, shrub layers, with some low-growing perennials and vines—intermix with flowering annuals.
9. Use compost instead of commercial fertilizers.
10. Look but do not touch.





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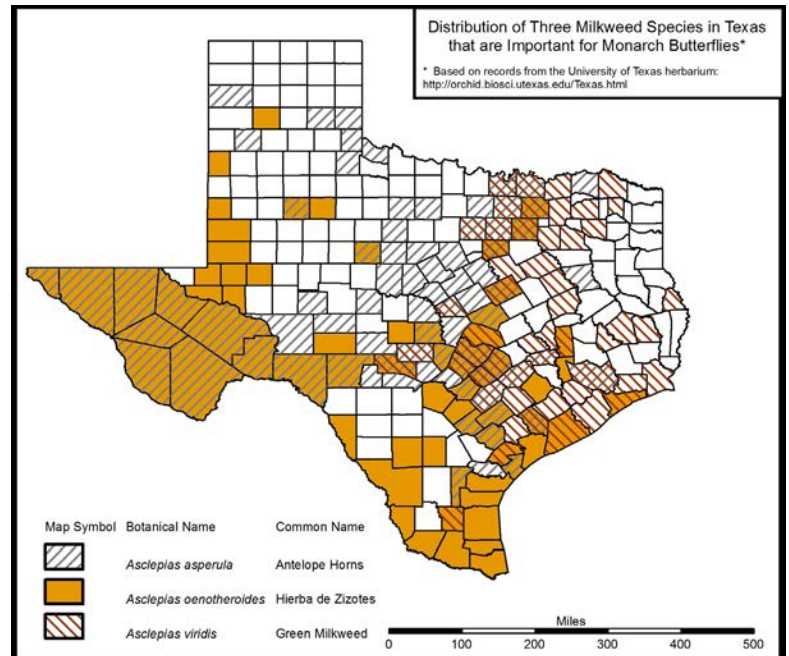
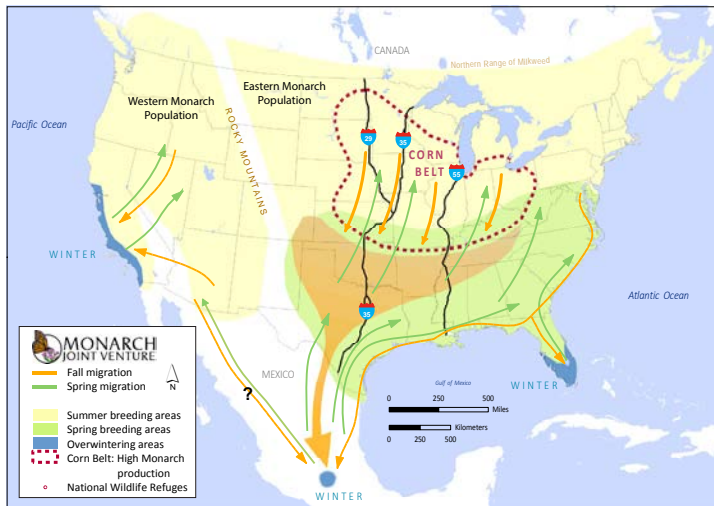
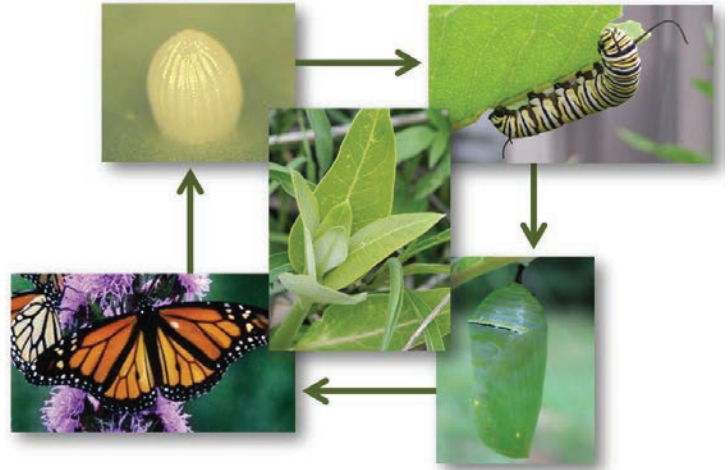
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# Monarchs of Texas

## Monarchs of Texas

The monarch butterfly is one of the most beautiful and recognizable insects on earth, but it needs our help. The monarch is losing its habitat, and more importantly, it is losing its milkweed plants that used to grow in that habitat, which monarchs depend upon for laying eggs and caterpillar food. As a result, its populations across the United States and into Canada and Mexico have been dropping by about 90% over the past 20 years, reflecting a drop of about 970 million individuals by 2015.

To reverse its pressing threats (mainly loss of habitat and native milkweed plants due to urban development; shifts in agricultural practices; land management activities, such as mowing and herbicide applications along roadsides and rights-of-way; use of insecticides; severe weather events likely related to climate change; and degradation of wintering habitat in Mexico and California) the U.S. Fish and Wildlife Service is proactively working with partners to conserve the monarch.



## Key Recovery Actions

Habitat restoration; milkweed and native flower seed production; outreach and education; and research and monitoring are key aspects of this effort. Many of the projects will focus on the I-35 corridor from Texas to Minnesota, areas that provide important spring and summer breeding habitats in the eastern monarch population's central flyway. Texas has the most native milkweed species of any state with 37 species. We are working to increase milkweed availability for public planting of natives and to maintain the genetic diversity of Texas's high number of native milkweeds.

## You can help too!

Consider planting local, native milkweed and other native flowering plants in your garden to help the monarch.

Together, we can restore the monarch and help all pollinators by providing milkweed and its needed flowering native grassland habitat, to enable the butterfly to complete its life cycle and amazing migration. By conserving and connecting habitat for monarchs, we will benefit other plants and animals, including critical insect and avian pollinators.

