

Pollinators

6 Articles

Check articles you have read:

☐

Pollinators

439 words

☐

The Mexican Long-Nosed Bat

388 words

☐

The Lesser Long-Nosed Bat

462 words

☐

Save the Monarch Butterfly

192 words

☐

Overwintering Monarchs

449 words

☐

How to Build a Pollinator Garden

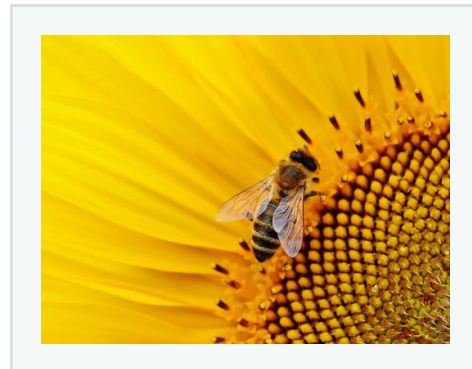
676 words

Pollinators

This text is from the U.S. Fish & Wildlife Service.

These hard-working animals help pollinate over 75% of our flowering plants, and nearly 75% of our crops. Often we may not notice the hummingbirds, bats, bees, beetles, butterflies, and flies that carry pollen from one plant to another as they collect nectar. Yet without them, wildlife would have fewer nutritious berries and seeds, and we would miss many fruits, vegetables, and nuts, like blueberries, squash, and almonds . . . not to mention chocolate and coffee . . . all of which depend on pollinators.

[...]



HOW YOU CAN HELP

Pollinators need your help! There is increasing evidence that many pollinators are in decline. However, there are some simple things you can do at home to encourage pollinator diversity and abundance.

1. Plant a Pollinator Garden
2. Provide Nesting Sites
3. Avoid or Limit Pesticide Use

WHY POLLINATORS ARE IMPORTANT

Pollinators, such as most bees and some birds, bats, and other insects, play a crucial role in flowering plant reproduction and in the production of most fruits and vegetables.

Examples of crops that are pollinated include apples, squash, and almonds. Without the assistance of pollinators, most plants cannot produce fruits and seeds. The fruits and seeds of flowering plants are an important food source for people and wildlife. Some of the seeds that are not eaten will eventually produce new plants, helping to maintain the plant population.

In the United States pollination by honey bees directly or indirectly (e.g., pollination required to

produce seeds for the crop) contributed to over \$19 billion of crops in 2010. Pollination by other insect pollinators contributed to nearly \$10 billion of crops in 2010.

A recent study of the status of pollinators in North America by the National Academy of Sciences found that populations of honey bees (which are not native to North America) and some wild pollinators are declining. Declines in wild pollinators may be a result of habitat loss and degradation, while declines in managed bees is linked to disease (introduced parasites and pathogens).

WHAT IS POLLINATION?

Pollination results when the pollen from the male part of the flower (stamen) is moved to the female part of the same or another flower (stigma) and fertilizes it, resulting in the production of fruits and seeds. Some flowers rely on the wind to move pollen, while [other flowers] rely on animals to move pollen.

Animals visit flowers in search of food and sometimes even mates, shelter, and nest-building materials. Some animals, such as many bees, intentionally collect pollen, while others, such as many butterflies and birds, move pollen incidentally because the pollen sticks on their body while they are collecting nectar from the flowers. All of these animals are considered pollinators.

The Mexican Long-Nosed Bat

This text is from the U.S. Fish & Wildlife Service.



the Mexican long-nosed bat

The Mexican long-nosed bat, first discovered in 1937, is primarily found in Mexico, but also lives in the southern part of the United States (Texas and New Mexico), and is relatively larger in comparison to other bat species. If you happen to be in an area where they live, the Mexican [l]ong-nosed bat can be identified by its dark gray to dusky brown color. Additional features include a long muzzle with a prominent nose leaf (small fold of skin) at the tip, a long three-inch tongue, and a small tail that may appear to be missing.

These bats are found in desert scrub vegetation covered with century plants (agaves), mesquite, creosote bush, and a variety of cacti, which serves as their primary food source. While the population status of the Mexican long-nosed bat is uncertain, there are strong indications that they are declining. The largest reported population of Mexican long-nosed bats in the United States is in Texas in and around Big Bend National Park.

The feeding ecology of the Mexican long-nosed bat is of great importance in understanding its life history and recent decline. The bats are considered an important pollinator for century plants, because they have developed a mutualistic relationship with one another. The bats' migration from northern Mexico to Texas coincides with the blooming of the plants from June through August.

As the Mexican long-nosed bats move along their migratory path, they are attracted to large quantities of nectar that are present in century plants. In flight, the bats hover over the plants, while using their long tongues to drink the nectar. Their tongues become coated with pollen grains that stick to their fur, thus transferring the pollen as they move from one plant to another to feed.

The century plant needs this cross-fertilization to produce fruit and viable seeds for more century plants.

In 1988, the Mexican long-nosed bat was listed as endangered by the U.S. Fish and Wildlife Service. Some of the factors that contributed to the listing include harvesting of agaves for the production of liquor, limited growth and lifespan of the agave plants, frequent wildfires, and the clearing of rangeland areas in northern Mexico. The clearing of rangeland reduces the food supply, which affects the bat population.

The Lesser Long-Nosed Bat

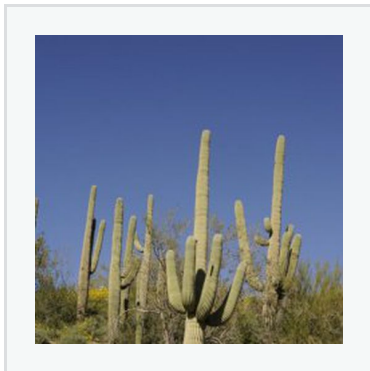
This text is from the U.S. Fish & Wildlife Service.

[The lesser long-nosed bat] (*Leptonycteris curasoae yerbabuenae*) is a medium-sized, migratory nectar bat native to the [southwestern] United States and northern Mexico. It has an extensive range, spanning southeastern Arizona through southwestern New Mexico in the United States, and moving south into Mexico for the winter months. The lesser long-nosed bat is yellow-brown or cinnamon gray and is about three inches (8 cm) long. The tongue measures approximately the same length as the body and provides access to the nectar of deep desert flowers. This species also has a small noseleaf on the tip of its nose. A “noseleaf” is a small flap of tissue shaped like a leaf growing out of the top of the nose. The wingspan of the lesser long-nosed bat is approximately 10 inches long. These bats can live for about 12 years.



Bill Radke/USFWS

the lesser long-nosed bat (Leptonycteris curasoae yerbabuenae)



George Gentry/USFWS

habitat of the lesser long-nosed bat, showing Saguaro cacti

Lesser long-nosed bats are nectar feeders and important pollinators for their nectar plants. In the United States, this includes agaves, saguaro, and organ pipe cacti. As the bats approach the host plant flowers, they use their long, extendable tongue to gather nectar, [which is] stored at the bottom of the flower. In the process, the bat's face and neck fur become covered with pollen that it unwittingly transports to other flowers it visits, resulting in cross-pollination. Like other nectar feeders, lesser long-nosed bats may either hover at, or land on, flowering stalks to feed. Although nectar, pollen, and insects are consumed, fruits, especially fruits of the columnar cacti, are also eaten

after the flowering season, and these bats are also important seed dispersers for these cacti species. Lesser long-nosed bats are also opportunistic feeders at hummingbird feeders because of the loss of habitat and other food sources. The loss of habitat and other food sources is mainly due to human development and increased fire due to invasive non-native species and changes in the amount and timing of precipitation.

The lesser long-nosed bat is found in a variety of vegetation communities including desert scrub, desert grasslands, Madrean oak woodlands, thorn scrub, and tropical deciduous forests supporting agaves, saguaro and organ pipe cacti, and flowering trees; their primary food source. Female lesser long-nosed bats migrate north, following the blooming desert flowers in the spring, into southwestern Arizona to give birth. Roosts are typically within caves and mines, offering darkness and protection. The adult males tend to roost in different locations than the adult females and babies, often remaining in Mexico. Day roost sites include caves and abandoned mines, and night roosts range from these same caves and mines to buildings, bridges, and trees.

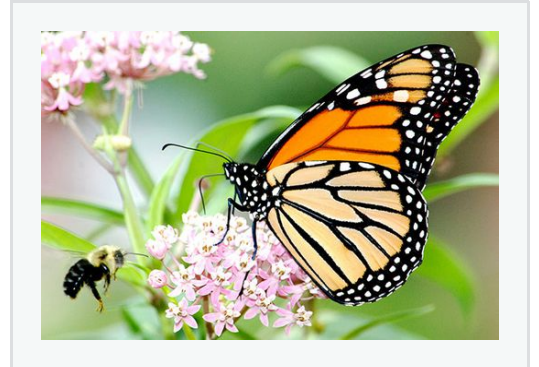
Save the Monarch Butterfly

This text is from the U.S. Fish & Wildlife Service.

The monarch butterfly is one of the most recognizable species in North America, and it's in trouble. Habitat loss and fragmentation has occurred throughout the monarch's range. Pesticide use can destroy the milkweed monarchs need to survive. A changing climate has intensified weather events, which may impact monarch populations.

Numbers of monarchs have decreased significantly over the last 20 years, but together we can save the monarch. In the United States, there is a massive effort to provide habitat for monarch butterflies, imperiled bumble bees, and other pollinators. There is no one group or agency responsible for providing habitat needed for monarch conservation. All organizations, agencies, and individuals must work together to improve, restore, and create grassland habitats to save monarchs.

No matter who you are or where you live, you can get involved today. Start by planting milkweed and nectar plants that are native to your area. Garden organically to minimize your impacts on monarchs, their food plants, and other pollinators. Become a citizen scientist and monitor monarchs in your area. Educate others about pollinators, conservation, and how they can help.



Jim Hudgins/USFWS

a monarch butterfly on swamp milkweed in Michigan

Overwintering Monarchs

This text is from the U.S. Fish & Wildlife Service.

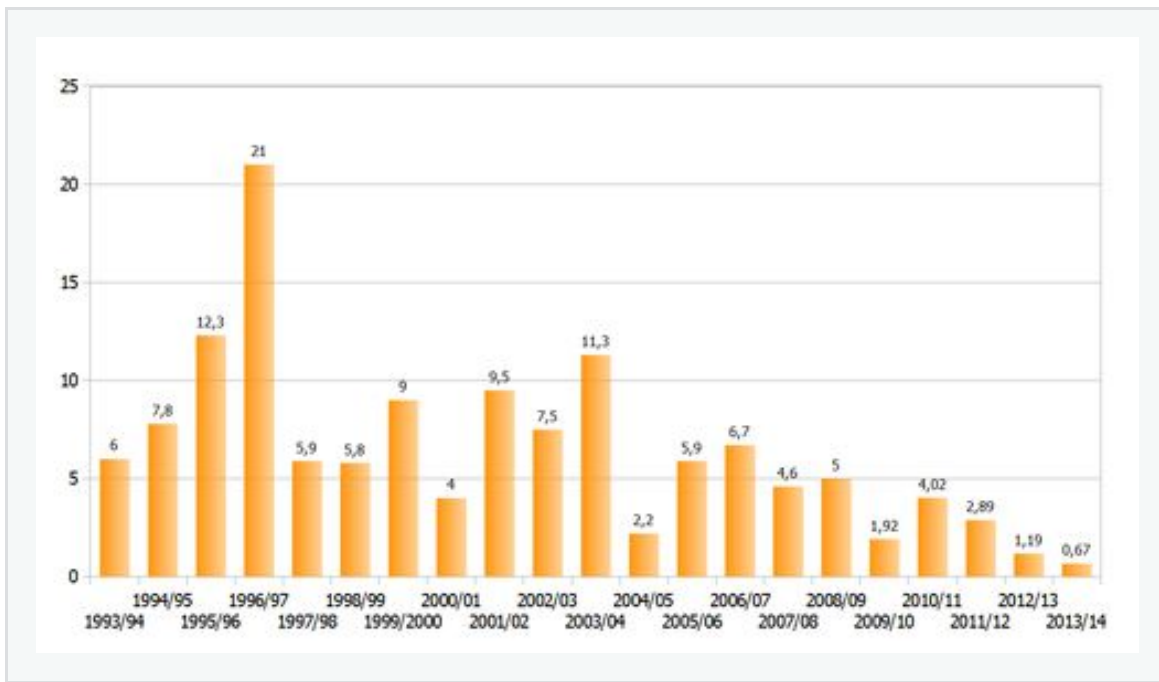
After a phenomenal two-month-long migration from the United States and southern Canada, beginning in August, the North American monarch butterfly reaches Mexico, where it spends the winter months.

The monarchs cluster in Mexico's rare oyamel fir forests, occasionally taking shelter in pines and other trees. The oyamel trees provide much needed refuge and protect the butterflies from extreme temperatures, rain, snow, and predators. As temperatures drop over the winter, monarch movement decreases, and the butterflies form large, dense clusters on oyamel branches, coloring the forest orange.

By mid-December, monarchs have settled into their overwintering homes. With colder temperatures, monarchs gather in several predictable areas, with little movement[.] This is when the overwintering count takes place. The monarch population is estimated by the total area they occupy in the overwintering grounds, and has been conducted by the World Wildlife Fund and the Mexican National Commission of Protected Natural Areas since the winter of 2004–05.

Mexico established the Monarch Butterfly Biosphere Reserve in 1980 to protect the monarch's mountainous home. Just over 60 miles from Mexico City, the 138,000-acre reserve is sectioned off into several sanctuaries that provide winter refuge to the millions of monarchs who migrate to Mexico each fall. From roughly late October through February, monarchs live in the forested mountains of Mexico, where temperatures are mild enough for survival. This habitat is only found on 12 mountaintops on the planet, and is essential to the persistence of the monarch and its migration.

[S]tatus of the monarch population [in 2016]



overwintering area of the monarch butterfly (y-axis=total area of forest that monarchs occupy (hectares); x-axis=winter season)

The 2015–16 monarch butterfly population estimates reflect a 255% increase in the area occupied by monarchs in the overwintering habitat since [the previous] year. Overwintering monarch butterflies occupied approximately 10 acres of habitat in Mexico [the winter of 2015–16] compared to [the previous] year's estimate of 2.8 acres. This is great news, but more work is needed to restore the eastern population of monarchs.

To provide some context, in the winter of 2013–14, experts reported the lowest monarch population on record with an occupied 1.66 acres of overwintering habitat. In 1996–97, monarch populations peaked with estimates reporting more than one billion monarchs occupying 44.5 acres of habitat.

You can help!

You can help monarchs as they prepare to migrate between Mexico, the U.S., [and] Canada each year by planting native milkweed and wildflowers. Avoid tropical milkweed, and delay mowing during times of peak monarch activity in your area. Everyone and every little bit of habitat can help. The more monarchs we have, the better they can withstand extreme weather and climate events.

How to Build a Pollinator Garden

This text is from the U.S. Fish & Wildlife Service.

Monarch butterflies and pollinators are in trouble. You can help by planting a pollinator garden! You can plant a garden anywhere – your yard, school, church, business, or even in a pot for your front steps.

A simple, native flower garden will attract beautiful butterflies to your yard and help pollinators stay healthy. In addition to nectar from flowers, monarch butterflies need milkweed to survive, so if you notice the leaves on your milkweed have been chomped, don't worry, it's a great sign!

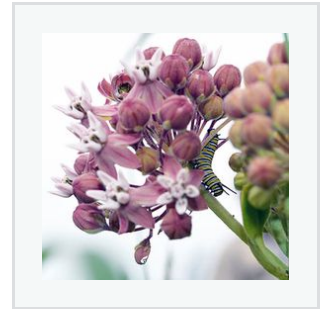


Courtney Celley/USFWS

Pollinator garden in Minneapolis, Minnesota. Creating habitat, no matter the size, is helpful for monarchs and pollinators.

Before gardening

Gather your supplies, and research what varieties of milkweed and wildflowers are native to your area. You can also look up pollinator-friendly plant lists for your region. If you're starting from seeds, find a local seed supplier.



Joanna Gilkeson/USFWS

Despite its namesake, milkweed is not a weed. These beautiful wildflowers are the only source of food for monarch caterpillars and essential for their survival. Plant milkweed that is native to your area, and attract all kinds of pollinators.

What you'll need

- A yard, raised bed, or some flower pots
- Garden tools to break the soil or build a raised bed
- Extra dirt and mulch
- Native milkweed and nectar plants

Seven easy steps

1. **Choose your location:** Butterflies enjoy basking in the sun. Gardens should be planted in sunny spots, with some protection from the wind.
2. **Take a look at your soil:** Break ground to see the consistency of the soil in your yard. Soil may influence the kinds of plants you can grow, or may require special considerations. If you find

that your soil type doesn't match the plants you'd like to plant, you might consider building a raised bed or using flower pots.

3. **Prep your soil:** If you're planting in your yard, remove the lawn and current plant cover and rake the soil. Additional dirt can be helpful no matter the location and is necessary for raised beds and flower pots – add your soil to the bed or pot.
4. **Choose your plants:** Find a nursery near you that sells native and local plants and milkweed for your area. Native plants are the ideal choice because they require less maintenance and tend to be heartier.
 - Choose plants that have not been treated with pesticides, insecticides, or neonicotinoids.
 - Plant perennials to ensure your plants come back each year and don't require a lot of maintenance.
 - Choose a diversity of plants that bloom throughout the seasons to ensure pollinators benefit in the spring, summer, and fall. This will also ensure that your garden is bright and colorful for months!
5. **[Choose] seeds or small plants:** Small plants that have already started growing in a nursery are simple and show instant return on pollinator visits, especially if you are planting in a small space. Seeds are best if you have more time. If you'd like to use seeds, plan ahead to plant in spring or fall, giving the seeds time to germinate. Seeds can also be best if you are doing a very large garden as they tend to cost less. Remember to water your seeds even before you see plants.
6. **Plant your flowers and milkweed:** For small plants, dig holes just big enough for the root system. Cover the roots with dirt, and reinforce with dirt or straw mulch to reduce weed growth. For seeding, spread seeds across your freshly prepared garden, and cover them with dirt. Consider adding some flat rocks so butterflies can bask in the sun!
7. **Wait, watch, water, and weed your garden:** It may take some time, but you will eventually see butterflies and other pollinators enjoying your garden. Make sure to weed and water your garden to keep it healthy.



Jim Hudgins/USFWS

Native wildflower gardens add a pop of color to your garden, help bumblebees and butterflies, and need less maintenance. This purple coneflower attracted both bumblebees and a crab spider! What's not to love?

Best of luck, and thank you for helping monarchs, bumble bees, and other pollinators!