

Pollinator Conservation

Three Easy Steps to Help Bees and Butterflies

Pollinators are vital for both wildflowers and crops. Without them, about 85% of plants would be unable to produce seeds or fruit.

Changes in our landscapes have contributed to declines in both managed honey bees and wild native bees.

There are simple steps that you can take to support bees and other pollinators wherever you live.



Photograph by Mace Vaughan/The Xerces Society

Bumble bees are one of the most important pollinators of our native plants and crops.

Pollinators are essential to our world. Bees, butterflies, hummingbirds, moths, wasps, flies, beetles, even a few bats are some of the animals that move pollen between flowers, enabling them to produce seeds.

The ecological service these pollinating animals provide is necessary for the reproduction of over 85% of the world's flowering plants. The resulting seeds and fruits provide food for countless other animals ranging from songbirds to grizzly bears.

Pollinators are also essential to human life. Consider for a moment that approximately one in three mouthfuls of food and beverage required the presence of a pollinator. The United States alone grows more than a hundred crop plants that need pollinators. With-

out pollinators, there would be no apples, pumpkins, blueberries, or many other fruits and vegetables. Only wind-pollinated crops such as corn and wheat would remain.

Bees are the primary pollinator for most wildflowers and crops in the United States and Canada. Worldwide, there are an estimated 20,000 species of bees, with approximately 4,000 species native to North America. The non-native European honey bee is the most common domesticated pollinator in the United States. However native pollinators are often adapted for specific plants, resulting in more efficient pollination and the production of larger and more abundant fruits and seeds.

Pollinators at Risk

In many areas pollinators are in decline. The loss of honey bees due to pests, diseases, and other factors has been widely publicized in recent years.

While the loss of honey bees is alarming, many of our wild native bees are also disappearing. For example, in the mid-1990s, the yellow-banded bumble bee was the most abundant bumble bee in northern Wisconsin. Ten years later it made up less than 1% of the

state's bumble bees. Across the continent in Oregon, Franklin's bumble bee has likely gone extinct during the same period.

Pollinators are a keystone species group; the persistence of a large number of other species depends upon them. As pollinators disappear, the effect on the health and viability of crops and native plant communities can be disastrous.



The Xerces Society
for Invertebrate
Conservation

www.xerces.org

Three Steps To Help Pollinators

Protecting, enhancing, or providing habitat is the best way to conserve pollinators. Whether you tend a small flower box in the city or maintain a large rural garden, there are practical steps you can take to improve the health, abundance, and diversity of your local pollinators.

Create a Diversity of Bloom

Bees, butterflies, and other beneficial insects need abundant nectar and pollen sources throughout the growing season. Select native plants wherever possible. Cultivate a landscape with diverse flower colors, shapes, and bloom times. Try to provide blooming plants from early spring to fall, with at least three species of flower in bloom each season. Note that some ornamental plants have been selected for traits that are attractive to people, rather than pollinators. Avoid pollenless cultivars and double-petaled varieties of ornamental flowers.

Protect Nests and Egg-Laying Sites

Native bees use untidy areas of the garden to nest such as open sandy ground, brush piles, and old tree stumps and snags. Consider leaving some of these for wildlife habitat. Supplement nesting opportunities with mason bee houses or bundles of hollow plant stems.

Butterflies often need specific host plants to feed on during their caterpillar stage. For example the caterpillars of monarch butterflies feed exclusively on the leaves of various milkweeds. Protect or plant the host plants of butterflies native to your area.

Don't Use Pesticides

Pesticides can be important tools for protecting crops and controlling invasive species, however most lawn and garden pest problems can be solved without such chemicals. Keep in mind that even "organic-approved" insecticides can harm pollinators and other wildlife.

Herbicides, while usually not directly lethal to insects, can reduce plant diversity, including the diversity of weedy, noninvasive wildflowers that provide essential pollen and nectar for bees, butterflies, and hummingbirds.

Learn More

The Xerces Society is an international nonprofit organization that protects wildlife through the conservation of invertebrates and their habitat. Visit our Pollinator Conservation Resource Center, at www.xerces.org/pollinator-resource-center, to find where you can purchase regional wildflower

Bees at a Glance

- Unlike honey bees which form large social units, the majority of our native bees live as solitary individuals, with each female constructing her own nest. She collects nectar and pollen to provision it with food for her offspring. The only native bees to form social colonies are bumble bees and a few species of sweat bees.
- Most native bees are usually very gentle and unlikely to sting unless grabbed or stepped on. Only honey bees, bumble bees, and a few of the social wasps such as yellowjackets (which are not significant pollinators) are likely to sting when their nests are disturbed.
- The economic value of pollinator-dependent crops in the United States was estimated to be between \$18 and \$27 billion in 2003. If this calculation is expanded to include indirect products, such as the milk and beef from cattle fed on alfalfa, pollinators may be responsible for more than twice this dollar amount.



A pollinator garden can be developed anywhere. Plant it with a diversity of flowers that together provide bloom from early spring to late summer, and you will create a valuable resource for pollinators. Photograph by Matthew Shepherd/The Xerces Society.

seed mixes, and buy a copy of *Attracting Native Pollinators*. *Protecting North America's Bees and Butterflies*. Together these resources provide complete guidance on selecting appropriate plants, creating nests, managing habitat, and understanding your local bees.