

## Sustainabilities



# Put Nature to Work

## NATIVE POLLINATORS

### Bumblebee

*Bombus sp.*



Photo by Jona Giese

### Eastern Tiger Swallowtail

*Papilio glaucus*



### Blister Beetle

*Lytta magister*



To learn more about native U.S. pollinators visit [www.xerces.org](http://www.xerces.org).

by Suzanne Greene

Water quality relies heavily on native plants, and many factors play into how these plant communities function. One getting more attention of late is the vigor of our pollinators. From butterflies to bees, these insects are in trouble. But the good news is that there are some simple and worthwhile things we can do to nurture our native wildlife and help what some deem to be the hardest workers in nature – pollinators.

### Plight of the pollinator

You may have heard the news regarding the crisis hitting our native honeybees – whole colonies of bees are mysteriously vanishing from their hives, leaving crops from almonds to apples unable to fruit. While the bees get a lot of press, there are more than 100,000 species of pollinators in the world, many of which are in peril. Though there is a lack of comprehensive research, the population of wild bees, butterflies, bats and hummingbirds are clearly trending downward.

Pollinators are hugely important to our ecosystem and our economy. They control the reproduction of countless plant species that keep our wild areas diverse and productive and form the base of our ecosystems. Drew Merritt, a native plant expert at Humble Roots Farm and Nursery in Mosier, Oregon, says “Our forests would look a whole lot different without pollinators.”

Even more worrisome is our dependence on pollinators for edible and industrial crops, 80 percent of which rely on pollinators for fruit production or reproduction. Indeed, soybean and cherry crops account for \$40 billion worth of products in the United States each year, making pollinators a vital component of our economy as well as our edible food resources.

So what’s happening to our pollinators? Lack of habitat leaves pollinators without places to nest and

forage. Pesticides meant to kill off garden weeds don’t kill indiscriminately. They hit a native bee the same as a boll weevil. Disease and competition from introduced species deplete the already scarce resources and upset the delicate balance developed over centuries of evolution.

### Native gardens and pollinator conservation

Native plants have grown and evolved to adapt to the conditions of their ecosystem; once established, they will thrive with no fertilizer, pest control or irrigation. A summer drought is no problem for natives – they are adapted to local climates and do not need additional water or protection.

Using natives in gardens also provides a vital source of food and shelter for wildlife. Merritt says, “Ornamental landscaping plants, those that haven’t evolved alongside our insects, aren’t able to provide the food necessary for a functioning food web,” whereas native plants have co-evolved with vegetable-eating insects of the ecosystem. In fact, “90 percent of herbivorous insects are specialized to eat a single or a few species of plants and only have the enzymes to digest those specific compounds,” Merritt says. Research has shown that landscaping that includes native shrubs instead of ornamentals support 12 times the abundance of native butterflies and trees. Without the habitat and nutrients for insects to nest and grow, these insects won’t exist to fulfill their vital role in pollinating our food crops, trees and flowers.

When it comes to hybridized versions of native plants, there is no room for compromise as far as a pollinator sees it, according to Matthew Shepherd, from the Xerces Society, an organization dedicated to the protection of invertebrates. Hybrids and varieties can breed out the pollen-producing parts of the plant and offer very little food for an insect or none at all. Shepherd says that these plants “don’t

provide a resource, only a distraction.” The bees must move on to find another source of food.

### Chaos and the native garden

A messy garden is the key to cultivating native pollinators. While a traditional English garden may call for neatly trimmed hedges, dead-headed flowers and crisp rolling lawns, this model is far from friendly for pollinator conservation. Shepherd says, “If you garden too tidy, you’ll be taking up a lot of useful habitat.” He suggests incorporating these three easy tips for a garden that can help our native wildlife in a simple, cost-effective way.



**Create egg laying sites:** Pollinator habitat is a key issue affecting populations. Most native bees nest in the ground in excavated tunnels. Try

leaving areas of bare, dry ground or sand piles in sunny places for bees to make their homes. Some native bee species prefer dead trees as a nesting site, but old logs or bundles of hollow-stemmed plants like bamboo make a great substitute.



**Plant native flowers:** Plant a variety of native flowers that bloom throughout spring, summer and fall. Consider leaving dead flower heads on the plant to provide cover and nesting ground for pollinators. Research native pollinators in your region to find species that will serve as a host for caterpillars and butterflies.



**Minimize pesticides:** Chemicals that target garden pests may inadvertently affect native pollinators. Plant natives and use organic compounds as sparingly as possible.

Looking for a list of native plants and where to buy them? Visit [www.plantnative.org](http://www.plantnative.org).

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Constructed wetland garden. – SARAH TOMAH-HELDENBRAND, ENVIRONMENTAL CONCERN