

What are Native Bees and Why Should We Care About Them?



*Native plant populations, like this lupine on Mt. Hood, Oregon, depend primarily upon native bees for pollination.
Photo by Matthew Shepherd.*

Nearly three quarters of the earth's flowering plants, including most of our fruit, vegetable and seed crops, depend upon the pollinating services of bees for healthy reproduction. North America boasts close to 4000 species of bees that are native to this region, and which are essential to the survival of the plants which anchor our natural ecosystems. The reason for this is that our native plants and *native bees* have evolved together over the millennia, forging specialized and highly effective partnerships. Without native bees, most of our flowering trees, plants and shrubs would eventually disappear. So too then would the countless species of animals, from tiny birds to giant grizzly bears, which depend upon these plants for food and shelter.

The Honey Bee Problem

It is perhaps ironic that the familiar honey bee, an introduced species from Europe, is not included in this group of critical North American pollinators. The honey bee was originally brought to North America by European settlers in the 1600's for the production of beeswax and honey. While the honey bee has more recently been exploited by agricultural interests for the purpose of crop pollination, it is not an evolutionary partner of our North American plant communities. In fact, not only is the European honey bee not essential to the persistence of our natural ecosystems, this non-native species can in some situations pose a threat to their survival. For this reason the U.S. Fish and Wildlife service established a policy in 2001 prohibiting honey bee hives in national wildlife refuges throughout eight upper Midwest states.



European honey bee. Photo by Kathy Garvey.

Now, straining under the yoke of industrial agriculture, honey bee colonies have sharply declined over the past few decades. The combination of cross-continental transport, exposure to pesticides and poor nutrition has increased the vulnerability of these six-legged livestock to a host of pests and diseases.

Native bees to the rescue, but first we must rescue them

North America's native bees have also been profoundly affected by the shift to industrial farming practices, as habitat destruction and pesticide poisoning have wiped entire populations from the agricultural landscape. Prior to industrial agriculture, when family farms produced most of our food, there was no need for a managed honey bee pollination business.

The abundant and diverse populations of wild bees living on or nearby the farms provided all the pollination services the farmer needed, *free of charge!* These small to mid-sized family farms, planted with multiple crops and embedded in natural habitat, offered native bees plenty of forage and nest sites. These ecological features, necessary to support native bee populations, have been mostly eliminated from today's conventional farms. The transition to vast acres of single or "monoculture" crops, a heavy reliance on pesticides and the removal of nearby native grasses and wildflowers have driven our native bees from these intensively farmed areas. By necessity then, and at considerable expense to the grower, most of North America's current crops are pollinated by managed honey bee colonies.

The unsung heroes of crop pollination

Yet even today where conditions allow, native bees – our unsung heroes – contribute roughly 3 billion dollars annually to our agricultural production, without ever submitting a bill for their services.



Full Belly Farm in Yolo County, California, which has a diverse organic cropping system and is embedded in natural habitat, supports abundant populations of native bees. All of the pollination needs for Full Belly are met without the use of a single managed honey bee colony! Photo by Celeste Ets-Hokin.

The continued loss of natural areas to suburban and industrial development has taken an additional toll on our North American native bee populations. Like the honey bee, our native bees have suffered alarming declines, nationwide. Yet most of us are not even aware of the existence of these pre-eminent North American pollinators, let alone their astonishing diversity or their profound importance to our ecosystems and food webs.



[Metallic green sweat bees](#) are excellent crop pollinators and are also frequent visitors to North American gardens. Photo by Celeste Ets-Hokin.

Meet and greet our brilliant native pollinators in your own backyard

We therefore hope that our Wild Bee ID app will provide both an introduction to North America's native bees and a tool for gardeners coast to coast to actively participate in their conservation. Because, as natural areas are steadily diminished, we are discovering that our residential gardens can provide valuable habitat for many bee species. These adaptive pollinators are always on the lookout for urban real estate, and *when you build it, they will come!* Traveling no further than our own backyards and community gardens we can help ensure the survival of our native bees by joining together in the creation of wild bee gardens.

Wild Bee Gardens

You might be wondering, “What exactly are wild bee gardens?” Are they gardens for wild bees or wild gardens for bees, or are they simply a riotous, colorful spectacle of blooms that attract and support our native bees from spring through fall? They are really all of the above. The best bee gardens are in fact a bit on the wild side. They are notably lacking in large manicured lawns, non-flowering hedges, plastic ground cloths and pesticides. Instead, they are rich in plants native to their region, they boast a seasonal succession of flowers of varying shapes, sizes and colors, and they offer nest sites for wild pollinators. Once established, wild bee gardens also become a magnet for many other native pollinator species, including butterflies and hummingbirds. And by inviting native bees into our backyards and community gardens, we reap the rewards of their prodigious pollination services. So let’s make our landscape BEE-UTIFUL!



This thriving community native bee garden, located in the Gardens at Lake Merritt in Oakland, California, was established in one short year. Photo by Celeste Ets-Hokin.

How our App pages can support the creation of wild bee gardens

The contents of this application, which include the [native bee](#) and [plant profile](#) pages, as well as the following guides, are designed to assist North American gardeners in the rewarding business of creating pollinator-friendly gardens. While not intended as an identification guide for individual bee species, Wild Bee ID rather provides the user with an understanding and appreciation for the diversity of North American native bees, the tools to easily create habitat for them in our urban and suburban gardens and tips on how to recognize the different types of bees that will be visiting these gardens.