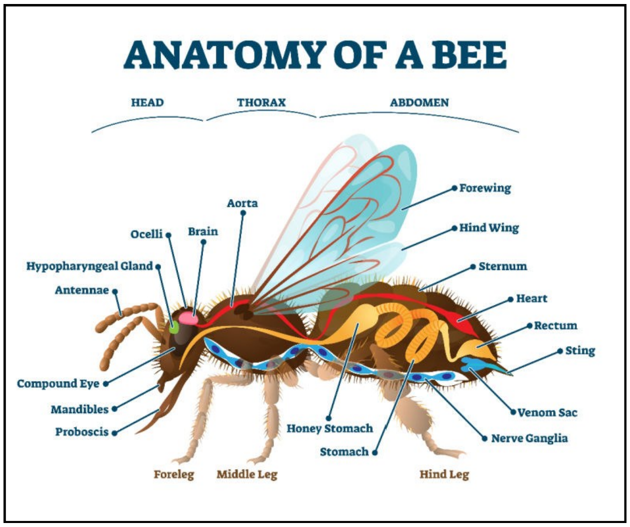
How Do Honey Bees Impact Native Bee Populations?

By Maria Bartlett

Many people have heard about the decline of honey bees and wondered what could be done to help. Many suburban residents, and even some living in urban areas, have taken up bee keeping as a way to help. But is that the best thing to do… are honey bees hurting our native bee populations?



To answer that question it is important to understand that both honey bees and native bees play critical environmental roles but roles that are very different: **honey bees serve primarily an agricultural purpose while native bees enhance biodiversity and conserve healthy ecosystems**.

As many of us know, honey bees are not native to North American but were brought over from Europe with the colonists in the 1620s. They live socially in large hives, can fly long distances, and need a lot of flowering plants to secure pollen and nectar. Today, their large hive colonies are used primarily for, and are essential to, US agriculture, especially for the large mono crops like almonds in California and corn/soybeans across the Midwest. They are also important for producing honey! And, they are fascinating creatures and serve as an engaging hobby for many.

There was a time in the early 2000s when Colony Collapse Disease threatened many honey bee hives and jeopardized the $18B contribution they made to US agriculture. However, **populations have rebounded** and at this time, honey bee populations are at adequate levels for the role they play in pollinating crops.

What about our native bees? Of the 20,000 species of native bees worldwide, there are 3600 in North America. **Many of these are endangered or in decline** due to loss of habitat, widespread pesticide use (primarily neonicotinoids), and climate change challenges. Unlike honey bees, native bees are solitary or live in small colonies, fly no more than 300 yards for food, and live in the ground or tree cavities. Unlike honey bees that forage on many different plants, many native bees are specialists that are supported by only a particular species of native plant.

So, what do these differences mean for our bees and can they coexist and where do they each belong? Honey bees are huge feeders: 1 honey bee hive can extract the same amount of pollen as 100,000 native bees! This is why honey bees are so useful as pollinators in agricultural settings. However, in natural settings and suburban gardens, honey bees can easily outcompete native bees leading to native bee decline **unless there is an overwhelming abundance of flowering plants** so there is enough for all. Realistically, this means **honey bees are best in agricultural settings.** If managed for honey and/or as a hobby outside of an agricultural setting, the hive density in any one area should be very low so as not to challenge/

Carpenter bee

outcompete the native bee populations. What is an ideal density? Buglife UK suggests 1 honey bee hive needs 5 acres of flowering habitat. Xerces suggests that a honey bee hive in natural areas should be more than 2 miles from at risk-native bees. Low density hive placement ideally could be a community discussion in order to not outcompete native bees.

In addition to providing ample flowering resources, it is also important to note the **critical importance of reducing the use of pesticides in settings foraged by honey and native bees!** Neonicotinoids are especially harmful to all bees and contribute to much bee decline.

Resources:

https://xerces.org/bug-banter/saving-bees-why-honey-bees-are-not-answer

https://xerces.org/blog/want-to-save-bees-focus-on-habitat-not-honey-bees

Video presentation by Xerces staff: https://www.youtube.com/watch?v=_8XMgphEP1M

MORE RESOURCES

We need to talk about honeybees - Xerces Society
https://www.youtube.com/watch?v=_8XMgphEP1M

Why getting a hive won't "Save the Bees"
https://xerces.org/sites/default/files/publications/22-011.pdf

The Truth About Honey Bees
Raising non natives does not "save the bees"—and may harm them.
https://www.nwf.org/Home/Magazines/National-Wildlife/2021/June-July/Gardening/Honey-Bees

Honeybees disrupt the structure and functionality of plant-pollinator networks
https://www.nature.com/articles/s41598-019-41271-5

The Problem with Honey Bees
They're important for agriculture, but they're not so good for the environment
https://www.scientificamerican.com/article/the-problem-with-honey-bees/

Plants Pollinated by Honey Bees Produce Lower-quality Offspring
https://today.ucsd.edu/story/plants-pollinated-by-honey-bees-produce-lower-quality-offspring?_ga=2.240226432.209776918.1688047624-2003186901.1688047624

The island that banned hives: can honeybees actually harm nature?
https://www.theguardian.com/environment/2025/sep/18/hives-honeybee-boom-tuscan-island-italy-aoe