

The Native Bees Are Calling You!

Industrial honeybee operations are threatening pollinators on our public lands



Stunning native bee diversity

America's arid Southwest is home to an astonishing numbers of bee species: [1,300 species in Arizona](#) alone, and over 1,100 in Utah.¹ These include a stunning variety, from metallic green sweat bees to furry bumblebees to shiny carpenter bees. Most are solitary or live in small colonies (e.g. bumblebees), and each provides **important pollination services** to keep its (and our) ecosystems healthy, diverse, and full of flowers. However, this astonishing bee diversity is **in peril**, not only because of habitat loss, pesticides, and climate change, but because of something we know and love—**honeybees!**

Honeybees outcompete native bees

Introduced to North America from Europe in the 1600's, honeybees (*Apis mellifera*) are a [managed, non-native](#), Eurasian species with hives 10,000-40,000 bees strong.² In such numbers, honeybees consume large amounts of the pollen and nectar needed by native pollinators to raise their young. Just one honeybee hive consumes enough pollen in a summer to raise [133,000 native bees!](#)³ Through [many painstaking studies](#), scientists have shown clearly that honeybees [negatively impact](#) reproduction success in native bees.⁴

Honeybees transmit diseases and parasites

Honeybees can also **transmit deadly diseases** to native bees. [Deformed wing virus](#)⁵ and [black queen cell virus](#)⁶ have been transmitted, as well as other [harmful pathogens and parasites](#).⁷ In turn, honeybees can be vulnerable to native bee diseases.⁸

Honeybees are not good for native plants

Honeybee presence alters wildflower communities. Some wildflower species require **specific native bee pollination skills** (such as buzz-pollination) for reproduction. When honeybees outcompete native bees, **they can [negatively affect the reproduction of native plant species](#)**.⁹ Worse yet, honeybees have been shown to [preferentially pollinate](#) (and thus increase) many **abundant, non-native, invasive plants**.¹⁰

Permits on public lands

Despite the serious adverse impacts of honeybees on native bees and plants, some U.S. Forest Service and Bureau of Land Management managers are **granting permits** to commercial beekeeping companies to park **large collections of hives** (“apiaries”) for months each year on our national public lands. Without population baselines, most **native bee declines or disappearances will go unnoticed**. There is **no hope of effective monitoring** (it requires too much time, money, and expertise), and **there is no public notice**. Many areas of the highest native bee diversity are threatened by proposals to park **thousands or even millions** of managed honeybees [virtually for free](#) on our public lands. This is a poor substitute for longer-term, [less destructive alternatives](#). Read more about [better options for beekeepers here](#).

What can YOU do to help stop these permits and **save our native bees** and wildflowers?

Write to your local land managers!

You can stand up for native bees simply by speaking or writing to your local public land managers. Urge them to **say no to requests for honeybee apiary permits**, and hand them this [science overview](#) and [annotated bibliography](#) (full links below). Why is this a particularly helpful step for you to take? Commercial honeybee permits are still granted or denied at **the local level**. By and large, each forest district ranger is deciding whether or not to permit honeybee apiaries on their district. Your voice can make a difference!

Wondering who to contact? Look up your nearest National Forest district and find the district ranger’s contact information [here](#).

Science overview by bee scientist Vincent Tepedino:

<https://tinyurl.com/honeybee-science-overview>

Annotated bibliography:

<https://tinyurl.com/honeybee-annotated-biblio>



GRAND CANYON
TRUST

Protecting the wild heart of the West since 1985

¹ Buchmann et al., *Arizona Bee Identification Guide*

² Sheila R. Colla and J. Scott MacIvor, “Questioning public perception, conservation policy, and recovery actions for honeybees in North America,” *Conservation Biology* 31, no. 5 (2017): 1202–1204.

³ James H. Cane and Vincent J. Tepedino, “Gauging the effect of honey bee pollen collection on native bee communities,” *Conservation Letters* 10, no. 2 (2017): 205–10, <https://doi.org/10.1111/conl.12263>.

⁴ Rachel E. Mallinger, Hannah R. Gaines-Day, and Claudio Gratton, “Do managed bees have negative effects on wild bees?: A systematic review of the literature,” *PLoS One* 12, no. 12 (2017): e0189268.

⁵ L. Wilfert et al., “Deformed Wing Virus Is a recent global epidemic in honeybees driven by Varroa mites,” *Science* 351, no. 6273 (2016): 594–597.

⁶ Peng et al., “Host range expansion of honey bee black queen cell virus in the bumble bee, *Bombus huntii*,” *Apidologie* 42, no. 5 (2011): 650–658.

⁷ Dave Goulson and William O.H. Hughes, “Mitigating the anthropogenic spread of bee parasites to protect wild pollinators,” *Biological Conservation* 191 (2015): 10–19.

⁸ McMahon et al., “A sting in the spit: widespread cross-infection of multiple RNA viruses across wild and managed bees,” *Journal of Animal Ecology* 84, no. 3 (2015): 615–624.

⁹ Magrach et al., “Honeybee Spillover Reshuffles Pollinator Diets and Affects Plant Reproductive Success,” *Nature Ecology & Evolution* 1, no. 9 (2017): 1299–1307, <https://doi.org/10.1038/s41559-017-0249-9>.

¹⁰ Morales et al., “Disruption of pollination services by invasive pollinator species,” in *Impact of Biological Invasions on Ecosystem Services* (Springer, 2017), 203–220.

Credits: Photos by USGS Bee Inventory and Monitoring Lab, public access. Flyer written by Thomas Meinzen, Grand Canyon Trust.