

# NATIVE BEES

## Need Your Help



Industrial honeybee operations are threatening pollinators on our public lands

### NATIVE BEE DIVERSITY



- America's arid Southwest is home to an astonishing number of native bee species: [1,300 species live in Arizona](#) alone, and over 1,100 in Utah.<sup>1</sup> They come in all manner of shapes, sizes, and colors. Most are solitary or live in small colonies.
- Native bees provide **important pollination services**, keeping our lands healthy, biodiverse, and full of blooms. Some species are also important crop pollinators.
- Already imperiled by habitat loss, pesticides, and climate change, our native bees are **now threatened on public lands** by a species we know and love—**HONEYBEES**.

### HONEYBEES OUTCOMPETE NATIVE BEES

- Introduced to North America from Europe in the 1600s, honeybees (*Apis mellifera*) are a [managed, non-native](#) Eurasian species with hives 10,000-40,000 bees strong.<sup>2</sup>
- Honeybees consume **pollen and nectar** needed by native pollinators. In **a single summer, one honeybee hive consumes enough pollen** to raise **33,000 native bees**.<sup>3</sup>
- Scientists have shown that honeybee competition [negatively impacts](#) native bee foraging and [reproduction success](#).<sup>4,5</sup>



### HONEYBEES TRANSMIT DISEASES and PARASITES



Deformed Wing Virus [Klaas de Gelder, Flickr](#)

- Honeybees can also **transmit deadly diseases** to native bees.
- [Deformed-wing virus](#),<sup>6</sup> [black queen cell virus](#),<sup>7</sup> and other **harmful pathogens and parasites** have been transmitted.<sup>8</sup>
- In turn, honeybees can be vulnerable to native bee diseases.<sup>9</sup>

### BAD NEWS for NATIVE PLANTS

- Honeybees being present 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 plants**.<sup>10</sup> Worse yet, honeybees have been shown to [preferentially pollinate](#) **(and thus increase) abundant, non-native invasive plants**.<sup>11</sup>



## COMMERCIAL HONEYBEE PERMITS on PUBLIC LANDS

- Despite the dangers of honeybees to native bees and plants, some U.S. Forest Service and Bureau of Land Management (BLM) managers are **granting permits to commercial beekeeping companies** to park **large collections of hives** (“apiaries”) on 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 **no public notice**.
- Areas of high native bee diversity are currently threatened by proposals to park **millions** of managed honeybees **virtually for free** on our public lands. This is a poor substitute for longer-term, **less destructive alternatives** on private lands.



## HOW YOU CAN HELP

1

You can help native bees by speaking or writing to your local public land managers. **Urge them to say no to requests for honeybee apiary permits**, and give them this [science overview](#) and [annotated bibliography](#).

2

Why is this a particularly helpful step for you to take? Commercial honey bee permits are still granted or denied at **the local level**, so each forest district ranger or BLM field manager decides whether or not to permit honeybee apiaries on his or her district.

**YOUR VOICE CAN MAKE A DIFFERENCE!**

3

Wondering who to contact? On the Colorado Plateau, look up your nearest national forest district ranger’s contact information [here](#) and BLM field manager’s contact [here](#). Elsewhere, call your local BLM Field Office or Forest Service district office and ask for the field manager or district ranger’s contact information.

4

Spread the word! Share this flyer and tell your friends to speak up for native pollinators.



<sup>1</sup> Buchmann et al., *Arizona Bee Identification Guide*. [https://www.pollinator.org/pollinator.org/assets/generalFiles/AZ\\_bee\\_guide\\_FINAL.pdf](https://www.pollinator.org/pollinator.org/assets/generalFiles/AZ_bee_guide_FINAL.pdf) Accessed 17 March 2020.

<sup>2</sup> 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.

<sup>3</sup> 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>.

<sup>4</sup> 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.

<sup>5</sup> Torné-Noguera, Anna, Anselm Rodrigo, Sergio Osorio, and Jordi Bosch. “Collateral effects of beekeeping: Impacts on pollen-nectar resources and wild bee communities,” *Basic and applied ecology* 17, no. 3 (2016): 199–209.

<sup>6</sup> M. A. Fürst et al., “Disease associations between honeybees and bumblebees as a threat to wild pollinators,” *Nature* 506, no. 7488 (2014): 364.

<sup>7</sup> Wenjun 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.

<sup>8</sup> Dave Goulson and William Hughes, “Mitigating the anthropogenic spread of bee parasites to protect wild pollinators,” *Biological Conservation* 191 (2015): 10–19.

<sup>9</sup> McMahan et al., “A sting in the spit: widespread cross-infection of multiple RNA viruses across wild & managed bees,” *Jour. of Anim. Ecol.* 84, no.3 (2015):615–624.

<sup>10</sup> Magrath et al., “Honeybee spillover reshuffles pollinator diets and affects plant reproductive success,” *Nature Ecology & Evolution* 1, no. 9 (2017): 1299–1307.

<sup>11</sup> Morales et al., “Disruption of pollination services by invasive pollinator species,” in *Impact of Biological Invasions on Ecosystem Services* (Springer, 2017), 203–220.

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