

THE FALL (and hopeful rise) OF THE AMERICAN BUMBLE BEE

American bumble bee (*Bombus pensylvanicus*) is a native bumble bee that once inhabited prairies and forests across the United States, pollinating a large variety of wild plants and agricultural crops. Historically, this bumble bee had the largest geographic range of any bumble bee in North America. Unfortunately, this species has declined by as much as 90 percent in significant portions of its range, including right here in Loveland, Ohio. Habitat loss & degradation, introduction of nonnative diseases, widespread insecticide-use, and climate change have all played a role in the plight of this once widespread bumble bee.

So far, the American bumble bee has disappeared from at least 8 states in the United States with more sure to follow if major efforts are not made to reverse the trajectory of this species' decline. Fortunately, scientists and conservation groups have sounded the alarm and petitioned the U.S. Fish & Wildlife Service to add the bumble bee to the list of species protected by the Endangered Species Act. An initial 90-day finding indicated that listing the American bumble bee may be warranted, so now the Service is in the process of evaluating all scientific data and literature to determine whether the species will be listed or not. While this species is gone from some areas, it still occurs here in Loveland.

Beyond federal protections, it is critical that local communities work to protect, enhance, and create habitat capable of supporting the American bumble bee and other at-risk pollinators. Love Our Land is educating people about the troubling loss of this and other imperiled species, and raising awareness regarding conservation efforts the public can implement, including planting native vegetation and removing nonnative invasive plants, to halt the decline of the American bumble bee and ultimately help this bumble bee recover. If you are interested in helping native pollinators, check out our website at www.loveourland.org/inform to learn more. Also, keep an eye out for upcoming classes and events that will provide attendees the knowledge and skills necessary to tackle the environmental challenges our communities face. **Together we can give the American bumble bee and other biodiversity a fighting chance.**

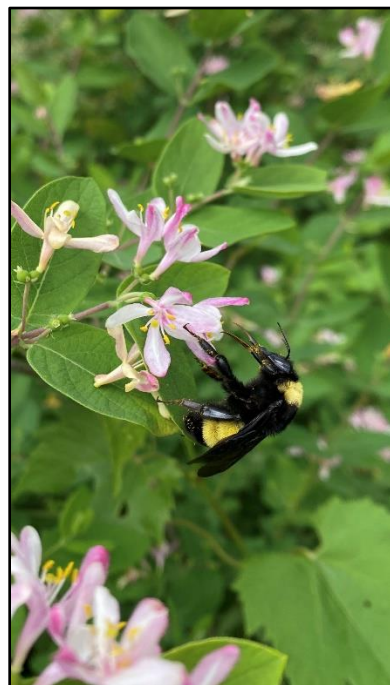


Workers

Once a nest is established, the queen begins laying eggs of female workers. Workers take over the duties of procuring pollen and nectar for the eggs the queen lays. Workers comprise the largest proportion of a colony.

Workers visit a wide variety of flowering plants. These plants must provide the pollen and nectar resources necessary to support a growing bumble bee colony. Not only should flowers be abundant, they must be diverse in order to provide continuous blooms throughout the growing season. Native plants are uniquely suited for this role as they historically supported robust and healthy native bee communities. Our role in the proliferation of nonnative plants has impaired our ecosystems and their functions.

We need native plants growing in our parks and preserves, but also in our yards and neighborhoods if we are to save the American bumble bee and other biodiversity.



Queens

Unlike nonnative honey bees, new queen bumble bees from the previous season are the only individuals from a colony that survive to the next year.

Queen American bumble bees emerge from hibernation in spring. They diligently search for pollen of flowering plants to establish a new colony. Once a nest is located—often underground—they lay eggs on the pollen that mature into the first group of 'workers'. These workers take over the job of collecting pollen and nectar and the queen transitions to just laying more eggs to build up the colony.

Without abundant and diverse native flowering plants that bloom in the spring, queens cannot establish colonies. One important action the public can take is to plant native flowers, shrubs, and trees that bloom from early spring to fall so the colony has food throughout the season.

Males

Males don't arrive on-scene until closer to the end of the season. This has to do with the fact male bumble bees main role is to mate with new queens from other colonies, which don't begin hatching and emerging until right around the time males do.

In addition to mating, male bumble bees also perform valuable pollination services. Because males do not need to collect pollen to feed baby bumble bees, they tend to messily carry pollen grains from flower to flower inadvertently pollinating various plants.

Sonication, a.k.a. Buzz Pollination

Bumble bees perform a unique type of pollination known as "sonication" where they separate their wings from their flight muscles and vigorously shake pollen from certain flowers, including tomatoes, eggplants, and peppers. Most other bees cannot pollinate these plants making bumble bees extremely important for agriculture.

