

## GCPS Science and Engineering Fair Activity

### **Learn about pollinators with the GT Urban Honey Bee Project!**



**You probably already know that bees are an important part of our ecosystem. As pollinators, bees help flowering plants live and grow. This is *very* important, as many fruits and vegetables are grown on flowering plants.**

**You may also know that bee populations are in danger in many areas. But do you know why? And do you know what scientists are doing to learn more about how bees can be helped?**

**In this activity, you'll explore a honeybee hive with Dr. Jennifer Leavey from the Georgia Tech Urban Honey Bee Project.**

**1. Watch the video below:**



**2. After watching the video, learn more about the factors impacting honey bee populations with the reading below.**

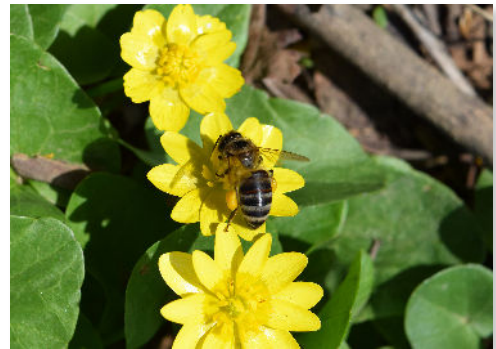
## **Save our Pollinators!**

### **Pollinators are important for the environment.**

Many plants need pollinators, like bees, to live and grow. More importantly, plants that grow food — like pumpkins and strawberries — rely on pollinators to carry pollen between the plants. This is important for the plants to grow fruit that we eat.

### **Bees are helpful and important, but their population is going down!**

Some species of pollinators are even close to being extinct. In the United States, 57 species of bees are on the Red List. This means there are so few of them left that they are considered **endangered** or **extinct**. There are 58 species of butterflies and moths on the Red List. Butterflies and moths are also important types of pollinators.



*A honeybee on a flower. Flowers contain nectar, which bees use to make honey. They also contain pollen.*

There are many reasons why the population of pollinators is declining.

**Bees are losing their homes.** Farming, mining, and building have damaged the current **habitats** of bees. It is hard for bees to find new habitats. They need to live in specific places that meet their needs. Like humans, bees like to live in places that have mild temperatures, decent amounts of sunlight, and access to food.



*Bee hives made by humans are designed to be good homes to bees.*

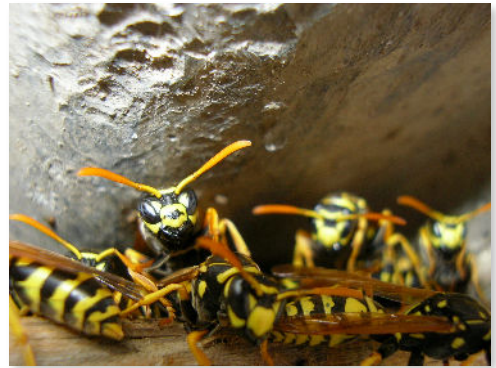
**Non-native plants and insects are growing in areas they should not be in.**

These are plants and insects that do not belong in a place they are in. New plants in an environment may attract bees more than the native plants. Just like how humans sometimes like food that is not the healthiest, the same can be said for pollinators.

Non-native pollinators, such as new insects, may compete with native pollinators. This means the native pollinators will have to **compete** for food.

**Pesticides are harming the bee population.**

Pesticides are chemicals. They are used to get rid of unwanted plants, animals, or bugs. They can harm the bees themselves. They can harm the environment the bees rely on to survive. Some pesticides can kill plants that are food sources for bees. Other pesticides can poison the bees' food sources or hurt the bees directly.



*You might use insecticides to get rid of yellow jackets, but these chemicals will also hurt bees!*

**The bee population is declining because of parasites and diseases.** Pests like mites and ticks don't just affect humans. Bees have pests and parasites that can hurt them as well. When bees are dealing with parasites and disease, they are less able to find food and grow their colony.

**What do you think you could do to help bees and other pollinators?**



**How could you help create potential homes for bees?**



**How could you reduce your use of pesticides?**



**How could you help make sure bees have more food?**