

A BHC team is researching a tiny creature with a big impact: bees.

They are small enough to be overlooked by many, but their role in our lives is huge. Bees pollinate many of the fruits and vegetables that make our meals possible, and the flowers that we love.

You have likely heard the buzz that bees are facing significant hazards and declining. Fortunately, there are places providing habitat to help them, including Illiniwek Forest Preserve in Hampton.

BHC assistant professor Isaac Stewart is working with East Campus BIOL 295 - Research in Biology students to study the bee population at Illiniwek.

Bee inventory underway

The team is discovering what bee species are at specific sites in the forest preserve by conducting a bee inventory. Students collect bees with a bug net and then identify them.



They aim to collect just one bee per species at each location. That strategy reduces the impact on the population of bees.

Bees have a mass reproduction strategy, where they produce hundreds of offspring with the assumption very few will survive to reproduce. That strategy means carefully collecting a limited amount does not harm the population.

Illiniwek will use the data to track the effectiveness of its efforts to encourage pollinator diversity. The information will help Illiniwek make decisions about increasing pollinator habitat to bring as many bee species into the preserve as possible.

Researching a species

Assistant professor Stewart recently spoke at the 2019 Illinois Association of Conservation Districts annual conference at Starved Rock State Park about bees. His topic was “The Search for *Bombus affinis*: How a Team of Researchers Scientifically Established a Species’ Decline.”

He detailed how researchers showed that the number of rusty patched bumble bees (*Bombus affinis*) declined 96% in the last 20 years. Isaac was one of the researchers before joining Black Hawk College. The U.S. Fish and Wildlife Service recently added them to the endangered species list.

At this time, the team has not found *Bombus affinis* during the bee inventory at Illiniwek. More than 40 species of bees have been identified, however, with many species to come. The survey work began in late summer, and many species are only abundant in early spring.

Getting started

When BHC freshman Emily Vintika found out about the bee inventory project in class last semester, she knew she wanted to get involved due to her passion for ecology and the environment. She said the experience was fantastic.

“It taught me the importance of our pollinators and gave me the opportunity to see the ecological value in my state,” she said, adding that the project also helped her grow as a student and work on her independent study skills.

Vintika gave a presentation on her work, sharing the knowledge she had gained about bees. Her presentation inspired Nicolas Sierra, also a freshman, to become the student to work on the project this semester.

What's next



Sierra, who is earning his Associate in Science at Black Hawk College with plans to transfer to Bradley University, is helping identify the bees Vintika collected and will collect bees himself this spring.

Black Hawk College East Foundation funded a grant for high-tech microscopes with built-in digital cameras for photographing specimens to send to experts for identification assistance.

“Even though my collection will be small, it will be useful information on how the population of a certain species is doing, how bees are doing as a whole and flowers certain bees are attracted to,” Sierra said.

Sierra knows the value of bees, noting they are very important to the ecosystem and that “a decline of bees in our environment will have a devastating effect on our lives.”

How you can help

While the declines occurring are significant, there is an easy way to help protect pollinators: plant native plants they pollinate, such as echinacea (cone flowers), asters, and rudbeckia (black-eyed Susans). Stewart said having more resources available helps them withstand pesticides, disease and more.

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