

# BOUNDLESS SCIENCE

Streaming Science

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Image by Thomas Wright

## **UNDERSTANDING THE IMPORTANCE OF BATS: A COMPREHENSIVE EXPLORATION OF THEIR PUBLIC BENEFITS**

*By Lauren Cook and Carleigh Newsom*

A thriving bat colony at the University of Florida (UF) is helping the community by controlling insect populations and inspiring local conservation efforts. Dr. Shelly Johnson, is a State Specialized Agent in Natural Resources with the UF's Institute of Food and Agricultural Sciences (UF/IFAS). She provides insight into the bat colony at Field and Fork Farm and Gardens, highlighting its ecological significance and the collaborative conservation initiatives it supports.

The bat colony at the Field and Fork Farm and Gardens on campus was established in 1991 and has been growing since. These bat houses are home to a maternal colony of up to 600,000 Brazilian free-tailed bats and potentially smaller amounts of the other species. Some bats stay at the houses all year, while others wander to nearby areas. However, this is not a migrating colony, therefore they will never travel far, and they typically return in April to have their babies. These babies which are called pups typically do

not leave the roost until the end of summer once they can fly. The second bat house was built in 2010 after the first reached full capacity. In 2017, a third house was built and in 2022 the original house was removed due to deterioration, but convincing the bats to relocate proved difficult. Johnson and others tried various methods, including placing smaller bat houses nearby, adding landing pads, improving ventilation, and using exclusion techniques. This involved covering the original house with netting to force the bats to the bottom when they left at dusk, making it harder for them to return. After four to five days, most of the bats successfully moved to the new house and they were able to exclude all bats from the original.

The bat houses at UF are an iconic feature of campus, attracting crowds every evening at dusk. This natural event brings students, faculty, and visitors together to witness the unique relationship between the university and its environment.



The bat houses serve as a simple yet meaningful reminder of the diverse ecosystems that thrive even in urban settings.

The bat colony provides many benefits to the local Gainesville community, especially pest control. Bats are the only major predators of night-flying insects and eat a variety of insects from mosquitoes to beetles. The bats' eating habits help not just the comfort of the nearby community but also agricultural producers in the area. Johnson mentioned that bats have the potential to save farmers billions of dollars each year, due to reduced need for pesticides and less crop damage from predators.

*"I love bats. They're probably my favorite animals... so coming out to Field and Fork is the best way I can still get out and get involved with the bats."*

Field and Fork Farm and Gardens and the bats share a symbiotic relationship. The structures at the gardens have offered 33 years of housing for the bats. In turn the bats provide guano, which fuels the farm's compost. This compost supplies essential nutrients to the crops grown on the farm which are then processed and delivered to the Alan and Cathy Hitchcock Field and Fork Pantry on the UF campus. This pantry is open to all faculty, staff, and students who are experiencing food insecurity.

Members of the community can help these nocturnal flyers by being aware of the bats and their natural habitat. The bats thrive in natural vegetation and structures. This can range from oak trees to caves depending on the species. Johnson also expressed the need for open water for them to drink from and typically supports a major food source for them.

Awareness of the bat's benefits to the community, land management, and public policy is something that Johnson and Florida Bat Working Group aim to share. This group is made up of people all over the state of Florida who are interested in bats. This included the Florida Fish and Wildlife Commission, the Department of Transportation, consultants and University staff. This group brings together resources to

collaborate on ways to educate, manage, and conduct research on bats.

The Florida Bat Working Group launched "The Bat App" to engage the public in bat conservation efforts. This free resource is available for download on mobile devices or can be accessed through any web browser. The group invites anyone interested in learning more about bats, or how to protect their colonies, to explore its features.

The thriving bat colony at the UF plays a crucial role in pest control and supports local agriculture, underscoring the importance of conservation efforts in urban environments. Community members have the opportunity to support these remarkable creatures by raising awareness about their ecological significance and advocating for the preservation of natural vegetation and open water sources.

Florida residents are encouraged to engage with the Florida Bat Working Group and explore "The Bat App" to learn more about bat conservation and how to help protect these vital animals. Together, Florida can ensure that the bat colony continues to thrive, enriching our community and enhancing our environment for future generations. Join us in celebrating and safeguarding these nocturnal flyers.



Image by Tyler Jones



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