UF/IFAS RESEARCH DISCOVERIES

WILDLIFE

As a peninsula, Florida is home to a broader range of wildlife than many U.S. states of comparable land mass. Approximately 800 species of terrestrial and freshwater vertebrates naturally occur here, including species commonly found throughout the Southeastern U.S., animals found in Caribbean island nations, and species unique to Florida.

The mission of the UF/IFAS Department of Wildlife Ecology and Conservation is to foster education and scholarship that promotes better understanding, management and conservation of Florida's animals and wildlife found elsewhere in the nation and the world. About one-third of the department's research programs have an international focus, much of it addressing wildlife issues in tropical and subtropical regions.

Historically, the department has put particular emphasis on species that are iconic, rare, cryptic or dwindling in numbers, to preserve our planet's natural history for future generations. These efforts are especially important in Florida because state policymakers are continually faced with decisions on land use, water allocation, development, environmental protection and other factors that impact not only human health and economic prosperity, but also the continued well-being of the animals that share our state with human residents.

Ongoing Research







FOX SQUIRRELS

The fox squirrel, *Sciurus niger*, is widely distributed throughout North America, but Florida specimens are typically larger than their northern counterparts and are found in a wider variety of color patterns. These distinctions have led wildlife biologists to conclude that Florida is home to four fox squirrel subspecies, two of which are imperiled. Robert McCleery, an assistant professor with the UF/IFAS Department of Wildlife Ecology and Conservation, wants to determine how distinct Florida's fox squirrels are. He is testing tissue samples from road-killed fox squirrels collected around the state to determine whether all four subspecies are genetically distinct from one another. He is also using remote-control cameras and citizenscience initiatives to learn how we can better conserve fox squirrels in Florida.

UNMANNED AIRCRAFT SYSTEMS

One challenge that wildlife biologists face is the need to obtain accurate population data for a species within a specific geographic area. For 15 years, Franklin Percival has pioneered a technology addressing that challenge — unmanned aircraft systems (UAS) using small, hand-launched planes. Outfitted with specially equipped cameras, these aircraft fly slowly at low altitudes, gathering detailed images of targeted wildlife species and their habitats. Percival, a courtesy associate professor with the Department of Wildlife Ecology and Conservation, has conducted numerous studies with colleagues, providing insights on improved aircraft design, instrumentation, power supplies and other performance-related matters. Developments on the horizon include the use of UAS to track individual animals outfitted with radio transmitters.

FLORIDA BONNETED BAT

Few of Florida's 13 resident bat species are well understood by scientists; perhaps the least known is the Florida bonneted bat, *Eumops floridanus*, which is also the state's most endangered bat species and the largest, with a 21-inch wingspan. Holly Ober, a UF/IFAS associate professor at the North Florida REC in Quincy, along with graduate students and colleagues from state agencies, is investigating the mammal's natural history and hopes to guide management efforts to preserve it. Due to the bat's obscurity, researchers are still pursuing fundamental information such as its preferred habitat and natural range. Thus far it's believed the species prefers roosting in longleaf pine cavities and is found in small populations scattered across southern Florida. PHOTO COURTESY OF FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

IFAS Research

UF/IFAS RESEARCH DISCOVERIES



Research with Impact





BEACH MOUSE

The Perdido Key beach mouse, *Peromyscus polionotus trissyllepsis*, is an endangered subspecies of oldfield mouse that inhabits coastal dunes and is found only in a small geographic range near the Florida-Alabama border. For the past two decades, UF researchers have investigated the rodent's abundance, distribution and living habits to determine how its survival may be impacted by development and storm activity. Previous research results have led to enhanced sand dune protection on federal lands to ensure sufficient beach mouse habitat, and these results recently helped attract funding for a new study on the possible impact of a road-widening project on Perdido Key, said James Austin, an associate professor with the UF/IFAS Department of Wildlife Ecology and Conservation.

EVERGLADE SNAIL KITE

The Everglade snail kite, *Rostrhamus sociabilis*, is critically endangered in the U.S., but populations of the bird have increased recently, apparently because an invasive pest is providing a new food supply. Snail kites normally feed upon a native snail, but UF/IFAS research suggests the bird has begun consuming the exotic island apple snail, *Pomacea maculata*, which can grow to the size of a tennis ball, said Robert Fletcher, an associate professor with the Department of Wildlife Ecology and Conservation. Studies indicate that snail kites have greater reproductive success when nesting in wetlands colonized by the invasive snail, perhaps due to greater food availability. This research has led to changes in state water-management and weed-control efforts to protect the kite.



WADING BIRDS

Florida's Everglades provide nesting habitat to wading birds including storks, herons and ibises, and active wading bird nests are an excellent indicator of the Everglades ecosystem's overall health, says Peter Frederick, a research professor with the UF/IFAS Department of Wildlife Ecology and Conservation. The birds can nest in other wetlands throughout the Southeastern U.S., and select the Everglades only if water levels, prey abundance and other factors are favorable. Frederick and colleagues at Florida Atlantic University, Audubon Florida and Florida International University developed models that predict wading bird nesting locations and nesting numbers based on past and present water conditions. This work gives greater certainty to the scientific basis for Everglades restoration, and has helped retain government support for the effort.

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Wading Birds

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