

Invasive snail may damage diet of rare Everglades bird

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In this photo released by the University of Florida's Institute of Food and Agricultural Sciences, graduate student Chris Cattau holds shells from a native Florida apple snail (right) and a much larger invasive species, on the UF main campus on Feb. 2, 2010. Both snails are eaten by an endangered bird, the Everglades snail kite. But a UF study suggests juvenile kites may starve while trying to subsist on the hard-to-handle invasive snails. Photo by: Tyler Jones/University of Florida/IFAS

(PhysOrg.com) -- Invasive animals often wreak havoc with their feeding habits; however, University of Florida researchers say a huge South American snail is causing problems when it's the prey rather than the predator.

Known as the island apple snail, it could threaten an endangered bird, the Everglades snail kite. The kite normally feeds on native apple snails the

size of a golf ball. But in recent years, those snails have declined in historically important kite habitat and the birds have fled.

Many kites now dwell at Central Florida's Lake Tohopekaliga, which is filled with the invasive snails. The mollusks grow larger than a tennis ball and kites have difficulty holding them. Researchers warn that young kites there may be malnourished.

The study was published in the current issue of [Biological Conservation](#).

Popular in the aquarium trade, the island apple snail may have been accidentally or deliberately released in the wild. It's been found in numerous Florida locations, according to the state Fish and Wildlife Conservation Commission.

As the invader spreads, it could become a serious threat to snail kite populations, said Wiley Kitchens, a courtesy professor with UF's Institute of Food and Agricultural Sciences. Fewer than 700 of the birds exist in the U.S., all of them in Central and South Florida.

"There's an 80 percent probability that in the next 30 years, snail kites will be extinct in the U.S., for all practical purposes," Kitchens said. But management efforts by state and federal agencies provide hope, he said.

The snail kite is important to scientists because it's one of the few vertebrates whose range is largely restricted to the greater Everglades ecosystem, Kitchens said. He considers it a barometer for the region's environmental health and success of Everglades [restoration efforts](#).

Researchers observed snail kites at Lake Tohopekaliga, also known as Lake Toho, and at wetlands dominated by native apple snails.

Adult kites had trouble handling island apple snails but got enough to eat.

Juvenile kites had more difficulty, possibly because they're less experienced at holding and devouring prey.

The younger birds dropped invasive snails eight to 10 times more often than native snails, and it took them four times longer to attempt to eat the invasives, Cattau said.

The study suggests juvenile kites on a steady diet of invasive snails might burn more calories than they consume because they expend so much effort trying to eat the snails, said Chris Cattau, one of Kitchens' graduate students.

"In some cases this could impact survival," said Cattau, who co-wrote the paper.

The UF researchers hypothesize that if Lake Toho remains a popular kite breeding area, it may become an ecological "trap," providing too little food for young birds and raising their mortality rate.

In Florida, the invasive and native apple snails have rarely been found side-by-side, said Phil Darby, an associate professor with the University of West Florida and an expert on apple snails. So it's hard to say if the invader will displace native snails.

Anecdotal reports suggest native apple snail populations are rebounding in Lake Toho, though they remain low in many areas the kites have largely abandoned. Other reports suggest invasive apple snails have reached Lake Kissimmee and other Florida waters.

In any event, Darby says, native apple snail populations must be brought back in historically important kite habitat if the birds are to return there. "They're flexible," he said. "Kites will show up where the food sources are most abundant."

Residents can report suspected invasive apple snails using the Web page [www.myfwc.com/docs/WildlifeHab ... ils FLMS handout.pdf](http://www.myfwc.com/docs/WildlifeHab...ils_FLMS_handout.pdf)

Provided by University of Florida

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