

Snake predator may benefit endangered bird, study finds

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An endangered Florida bird may have some unexpected help in its struggle for survival, according to a new University of Florida study.

UF Institute of Food and [Agricultural Sciences](#) researchers found that rat snakes, once thought to threaten the endangered, red-cockaded [woodpecker](#), actually benefit the birds. The study is published in the current issue of the [ornithology](#) journal *The Condor*.

The findings could help [landowners](#), [conservationists](#) and those enrolled in programs such as Safe Harbor, which allows those with [endangered species](#) on their land to harvest timber if they agree to help promote the species' recovery. Forestry and forest products contributed more than \$4.4 billion to Florida's economy in 2008.

Red-cockaded woodpeckers are small, black-and-white birds, about 8.5 inches long, that live in longleaf pine forests and are named for the red spot on the male bird's head.

Katie Sieving, a wildlife ecology and conservation professor, and co-author John Kappes, a former doctoral student in the department, found that rat snakes help the birds by eating species that commonly steal red-cockaded woodpecker nest cavities.

Red-cockaded woodpeckers nest in cavities they create in living pine trees and naturally protect themselves from rat snakes by pecking around the cavity and causing sap to flow.

“Any snake that climbs the tree gets sap stuck under its scales and, more often than not, will fall out of the tree before being able to eat the red-cockaded woodpeckers,” Sieving said.

Since cavity thieves, such as red-bellied woodpeckers, don’t maintain the sap flow, they are easily disposed of by rat snakes, and red-cockaded woodpeckers can return to their nests.

“It is counterintuitive that a principal predator of a particular species can also indirectly benefit that species,” Kappes said. “But if it eats its enemies at higher rates than it eats the particular focal species, then it can. This pattern has been seen repeatedly in ecological communities, and now we have found evidence of such complex interactions in the red-cockaded woodpecker cavity system.”

The study was conducted at two North Florida sites — Camp Blanding Joint Training Center in Clay County and Goethe State Forest in Levy County, with \$210,000 in funding provided by the Florida Department of Military Affairs, Camp Blanding Training Site, and \$40,000 in funding from the U.S. Geological Survey, Biological Resources Division. Tree cavities were monitored regularly for signs of nesting and predation.

Despite steadily increasing red-cockaded woodpecker numbers, there are still fewer than 4,000 of the [birds](#) in Florida. At one time the species numbered in the millions across the U.S., but significant habitat reduction caused their decline.

Preserving red-cockaded woodpeckers is important because their preservation also requires protecting their surroundings, Kappes said.

“It has some pretty demanding requirements for relatively old forests and relatively extensive amounts of it to maintain a population,” Kappes said.

“If we maintain red-cockaded woodpecker populations that are viable, then we are going to be maintaining chunks of this ecosystem that are also viable.”

Provided by University of Florida

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