What's Eating the Wild Turkey?

A wild turkey nesting study reveals, in some cases, every single turkey gets gobbled up. Yet flocks continue to expand, thanks to hidden nests.

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It seems everything out there craves a delicious turkey. And, on special occasions, even turkey eggs. With so many turkey lovers in Illinois, how does the supply keep up with the insatiable demand—and are there any leftovers? Southern Illinois University researchers were hungry for an answer. Beginning in 2008, they began setting traps and fitting radio-transmitters on the turkey of choice among Illinois' wild carnivores: the eastern wild turkey (*Meleagris gallopavo-silvestris*). Unlike the domesticated turkey found in supermarkets, the native Illinois bird is equally popular among camouflaged sportsmen and wild, surreptitious carnivores.

SIU graduate student researcher Kenneth Delahunt (above) prepares to release a hen turkey that's been fitted with a radio transmitter. Transmitters enable researchers to locate nests and monitor survival.

Wildlife experts point out that relatively few Illinois studies have been conducted about the nesting habits and brood success of wild turkeys. Little was known about the connection between nest-site selection and predator efficiency. Or, after a raccoon robs them of their eggs, will a hen turkey create a new nest in the same spot—or wisely head to safer ground? What's more, researchers wanted to learn how many different wild predators gobble up turkeys and their eggs each year in Illinois.

A study to document the nesting habits, and to establish what's eating our turkeys would therefore represent an important piece of wildlife research in Illinois.

Starting in 2008, the SIU Cooperative Wildlife Research Laboratory began to monitor every move of selected wild turkeys throughout the year, especially during the crucial nesting season each spring. In that first season, graduate student Kenneth Delahunt managed to trap and fit with motion transmitters nine hens for study. The study location, selected by SIU researcher Jack Nawrot, is thousands of acres of former coal mine that's been reclaimed—and is full of wild turkeys.

"I chose Burning Star 5 mine property for a few reasons," Nawrot explained of the vast, fenced-in property on the Jackson-Perry county line. "In terms of having thousands of acres of Illinois crop and grassland for private study, along with woods, water and plenty of turkeys, Burning Star was ideal. Plus it was close to the university."

Delahunt, who's making the turkey project the subject of his master's thesis, began daily treks to the old mine property north of Carbondale. Within a year Delahunt had live-trapped a total of 24

Research revealed opossums were a frequent visitor to turkey nests, often eating every egg, resulting in total nest failure.

turkeys and fitted them with radio transmitters. Two years into the project, he continues to trap and add more birds to the study group.

"Right now we have 42 birds with transmitters," Delahunt added. "Since the project began we've been able to follow 63 birds."

The study represents one of the largest groups of turkeys ever tracked with radio telemetry in Illinois. The transmitters are motion-activated, and have a signal range of up to 2 miles. Under ideal conditions, the battery life can last 2 years, which means it's possible to track a hen during consecutive nesting seasons. Delaunt explained that when the bird is alive, the slightest motion will send a "live" signal back to the researchers. If something has eaten the bird and discarded the transmitter—or left the transmitter on the carcass—the lack of regular motion sends out a "dead" signal.

Using radio telemetry, Delahunt was able to learn where hens were nesting without actually disturbing the nest. Nest-site selection, he learned, whether amid an open field or within brushy cover at the edge of a forest, influenced the ability of predators to find the tasty resource.

What's more, researchers found no shortage of predators eager to make a meal of eggs and hens during spring nesting season. During the 2008-2009 seasons, seven hens were killed (3 bobcats, 2 coyotes and 2 unknown predators—including a possible owl—were indicted). Turkey eggs were wildly popular among raccoons, opossums and other small predators: in 2008, 93 percent of nests (14 out of 15) were destroyed by egg-stealing thieves.

There also seemed to be a connection between a nesting hen's willingness to abandon her eggs to an approaching predator and the amount of time invested into the incubation. For example, eggs that had been laid recently were abandoned to any predator attack. Eggs that were close to hatching might trigger a maternal stand-off against a predator—even as that maternal defense might prove fatal.

In the span of a week, when eggs were nearing their hatch date, two hens were killed by bobcats, and all the eggs were eaten. Following the tell-tale "death signal" sent by the transmitter, Delahunt was able to track the location of each kill and identify the killer based on how the bird was eaten. Listening to the beeps while carrying his receiver, Delahunt knew he should be able to see one transmitter on the ground in front of him. But there was no sign of it or the bird that once carried it—until his boot bumped against something, which generated a motion signal on his receiver. Beneath a little clump of debris was the buried transmitter and turkey carcass.

"It was a bobcat," the student researcher said. "Bobcats bury their kills."

As the study continues, the success of the thriving turkey population in Illinois is being revealed as a life-or-death struggle, where any hen might lose everything, including herself. But with nest sizes averaging about 12 eggs, one successful nest can boost a population even as scores of turkey eggs get gobbled up elsewhere.

"One management objective that might arise from this project," Nawrot noted, "Is the management of nesting habitat. In areas where there is limited nesting habitat, some of the nests are so obvious to predators, it's the equivalent of strolling up to a buffet and helping yourself to scrambled eggs every morning."

(Photo by David Brewer.)

A bobcat crosses the ice at Burning Star 5 mine property where several hen turkey deaths were linked to this efficient predator.