

# Environmental Almanac: Massive turtles introduced

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In the last week of October 1984, a man named Lance Cantrall captured an adult alligator snapping turtle on a bank of Clear Creek, a small tributary of the Mississippi River in far southwestern Illinois.

Knowing alligator snappers were rare in the state, he conveyed it to personnel with the Illinois Department of Conservation (the predecessor of today's Department of Natural Resources). They measured it (top shell, front to back, 19.5 inches), estimated its weight (70 pounds) and collected some other data before releasing it back at the capture site, unchanged except for a message they painted on its back in white nail polish: "Contact IL. Conservation."

As far as anyone knows, that turtle was never seen again.

And nearly 30 years passed before the next time a native alligator snapper (definitely not the same one) was found in the state, which happened last month. That's when Chris Phillips, a herpetologist with the Illinois Natural History Survey, pulled one from the murky depths at the base of a logjam in a Union County creek.

Ironically, Phillips found that native turtle as he was diving to recover an introduced alligator snapper, one that had been released in the creek this summer as part of broad effort to re-establish them in Illinois and Oklahoma and augment populations in Louisiana. That introduced turtle, which he afterward also found, had been fitted with a radio transmitter to make locating it easier.

To clarify, alligator snapping turtles (*Macrochelys temminckii*) are a species distinct from common snapping turtles (*Chelydra serpentina*), despite some similarities in habits, habitat use and look.

Alligator snappers can be identified by three ridges of prominent spines that run from front to back on the upper shell and by the size of their head, which looks huge in proportion to the size of their body, and also features a prominent hooked beak.

Alligator snappers are also distinguished by numerous fleshy projections on the head, neck and front legs, as well as a muscular tail nearly as long as its shell.

And size. Alligator snappers grow larger than any other turtle in North America, with top weights in the wild reaching 155 pounds, and top weights of captives reaching 220 or more.

Unlike common snapping turtles, which can adjust to life in nearly any body of water and can be found throughout Illinois, alligator snappers strongly prefer large rivers or waters directly connected to them. They appear never to have been abundant in the state, which marks the northern limit of their range, and occurred here only in connection with the Illinois, Ohio, Wabash and Mississippi rivers.

I spoke recently about the project to re-establish alligator snapping turtles in Illinois with two of the people at its forefront, Mike Dreslik, also a herpetologist with INHS, and Ethan Kessler, an INHS intern who is working toward a master's degree in the UI Department of Natural Resources and Environmental Sciences with Dreslik as his adviser.

Here's what I learned from them.

During the 20th century, alligator snapping turtle populations declined in Illinois as a result of habitat loss from the alteration of rivers and overharvesting for food and other purposes. As a result, they were listed as endangered in the state. But favorable conditions now exist in enough places to make reintroduction feasible.

The current reintroduction, which involves collaboration with multiple other state and federal agencies, as well as the St. Louis and Peoria zoos, involves a long-term effort because alligator snapping turtles are long-lived creatures, and they don't reach sexual maturity until they're 11 or more years old.

"You want grandchildren out of this," Dreslik said. "We'll be looking at other benchmarks along the way, but ultimately we'll know we've succeeded when we see the offspring of the offspring of the turtles we're releasing."

This summer, Dreslik, Kessler and others released a total of 97 alligator snapping turtles, dividing them among three sites on a creek with suitable habit, and spreading the work out over three days with time in between.

To say those turtles were released, though, tells only a small piece of the story. On the day they were let go in the water, every one got a health checkup, which included a visual exam and blood work. They were also fitted with iButtons, tiny data loggers that record the water temperature every hour for a year. In addition, 62 of the turtles had radio transmitters attached to their shells so researchers could re-find them.

And by "researchers," I mean Kessler, a field technician and whoever else they could get to help. Before the end of the field season in mid-October, Kessler said, they located each turtle three times a week, and he ended up with data from more than 1,300 successful turtle finds.

Partly this was to keep tabs on the health of the turtles and to see whether they were competent at life in the wild, since nearly all of them were reared in aquariums at hatcheries or zoos. Happily, they really were. Only one of the turtles with radio transmitters died this year, a small one that was hanging out in shallow water. (Evidence at the scene suggests a raccoon killed it.)

Additionally, the information gathered in relocating them will help scientists answer important questions about habitat preferences and movements. The surprise on this front came from the biggest of the released turtles, a 16-pounder. Upon release, he immediately moved nearly a mile upstream to a big logjam, where he then stayed put for the rest of the season.

The answers to questions about movements and habitat preference will, in turn, help to answer the broader one that interests INHS researchers, and which has implications for the prospects of other endangered turtle species as well. As Dreslik summed it up, "How do we reintroduce turtles to the wild with the greatest chance of success?"

Of course, the happiest surprise of all in this story was that the reintroduction effort led to the discovery of the wild alligator snapping turtle described above. As to what exactly that means, the jury is still out. But given the amount of time and effort that has gone into looking for alligator snapping turtles, no one I spoke with was inclined to take it as evidence of some hidden, viable population.

A pressing concern is how well the turtles introduced this year cope with winter. We'll check back in the spring.

*Rob Kanter is a lecturer with the UI School of Earth, Society and Environment. Environmental Almanac is supported in part by the UI Institute for Sustainability, Energy and*

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