

GETTING A HANDLE ON GATORS



Already held in a snare, a mother alligator is about to be caught in a mouth noose before being lifted aboard an airboat. Below, 23 fertilized eggs were found in each of two nests investigated during a recent research trip.

Researchers enter swamp to monitor nests, survival

Story and photos by Dan McCue

of the News staff

LOXAHATCHEE NATIONAL
WILDLIFE REFUGE

Gathering her "team" together at the front end of a Kline airboat, Laura A. Brandt was unsparing in describing their predicament.

Just 10 feet from where they were standing was a recently laid alligator nest, obscured by a tangle of bushes and saw grass.

This is normally a joyful discovery for Brandt, who has studied alligators and crocodiles for 18 years, most recently as a U.S. Fish and Wildlife agent assigned to the Loxahatchee preserve in Palm Beach County, just west of Boynton Beach.

The problem was no one — not Brandt, graduate student and

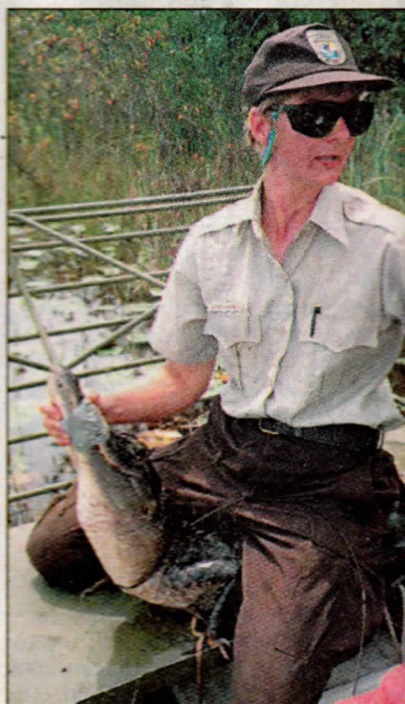
biological technician Ashley Traut, or the reporter who had accompanied them to the depths of the refuge — had any idea where the mother was.

This is, to put it mildly, a ticklish situation when the task at hand is getting to the nest, removing the eggs, measuring and weighing them, and taking another series of measurements of the nesting site itself.

One of the team would have to stand guard next to the nest, prepared to whack the mother alligator on the nose with a metal rod should she arrive on the scene and move in to protect her eggs.

The blow, Brandt explained, wouldn't dissuade the alligator from attacking, only slow her down enough — hopefully — to allow for an escape.

"There are two hard and fast rules when it comes to this kind of research," Brandt said with a



Laura A. Brandt, an alligator expert with the U.S. Fish and Wildlife Service, prepares to measure a mother alligator captured as part of a study of alligator nesting success at the Loxahatchee Wildlife Refuge near Boynton Beach.

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laugh as she prepared to step off the boat and fight her way through the tangle. "Stop, look and listen, and stay out my way."

"The lead researcher always makes it out alive."

Though the research Brandt is doing at the Arthur R. Marshall Loxahatchee Wildlife Refuge has been done before in other parts of the Everglades — much of it by the scientist herself — her work is now seen as a critical component of the \$7.8 billion Everglades restoration effort that is expected to begin next year.

Working in conjunction with other researchers, her goal is to collect pre-restoration data on everything from wading birds to insects to flora so scientists monitoring the project can better assess its environmental impact.

Because their well-being and their behavior are so closely tied to water conditions, alligators were selected as a key indicator species by those hoping to improve the health of the Everglades.

One of the project's goals is to ensure the remaining Everglades and remnants of it, such as the 146,000-acre Loxahatchee refuge, receive the proper amount of water at the appropriate time of year.

One way they'll know whether that goal is being achieved is through Brandt's study of alligator nesting and hatchling success at the refuge.

Begun last year, her effort is integral to three major research projects. One simply looks at nest density in different sectors of the park and the second examines egg clutch and female size.

"This is actually the first time we're looking at characteristics of alligator nests and the basic biological characteristic of alligators living inside this refuge," Brandt had said before the recent early morning expedition had begun.

The third study to which Brandt is contributing is being undertaken with the U.S. Geological Survey and the University of Florida. It looks at the differences in survival rates between alligators that nest and hatch in the refuge's canals and those that live and nest in the conservation area's interior.

"What all the studies share is a focus on some aspect of the long-term survival of the species," she said.

"And each, of course, will figure significantly in the scientific analysis and monitoring that will go on as part of the restoration effort."

"This data will allow us to create computer models of what will happen to various critters as canals are removed and the nature

of the surface water is changed in certain areas."

Removing the eggs

Stepping off the airboat, Brandt and Traut were immediately knee deep in the water and ankle deep in Everglades muck.

As they slowly approached the alligator nest, they could see a series of tunnels through the underbrush — paths the mother alligator had been using to move to and from the nest.

Given the inherent danger of the exercise, one might expect Brandt to carry a gun. She explained that in the panic of an alligator attack, you would be more likely to shoot yourself or another researchers than the alligator.

"Not to mention that in order to shoot and kill an alligator you really have to hit it in the right place. If you hit it any place really hard, the bullet is just going to bounce right off it," she said.

Brandt knelt to begin excavating the nest, methodically opening it from above so that in the end it looked like nothing so much as a tiny volcano.

Brandt and Traut were grim-faced. Despite the danger, the work couldn't be rushed. As she gently lifted eggs from the nest, Brandt marked the tops and handed them to Traut to place in a large plastic container.

"You have to be very careful to not turn the eggs over," Brandt explained. "If you do and keep them that way for any length of time, you can drown the embryos inside."

Alligator eggs look like elongated chicken eggs. If fertile, they are darker at each end than they are in the middle, and unlike in some other reptilian eggs, the shells of a gator egg are very solid, feeling like a slightly warm slab of marble.

Analysis of the eggs — 23 in all — would be done from the safety of the airboat.

Brandt smiled.

"We have to bring these back, you know," she said.

'Lucky to be here'

Though year-round, most of the refuge is off limits to the public, what a visitor gets to see is a marsh trail that runs along dikes surrounding impoundments, where water levels are manipulated seasonally to benefit wildlife.

In addition, a boardwalk by the visitor center traverses a cypress swamp.

More adventurous souls can launch a canoe and paddle along a 5.5-mile trail that takes you into the refuge's marshy interior, but most of the land is posted off limits to preserve it for the wealth of wildlife in the area.



DAN MCCUE/News staff

Laura A. Brandt measures an alligator egg before returning it to the nest.

In addition to the thousands of alligators that inhabit the refuge, the year-round population includes raccoons and bobcats, snakes, herons and egrets and many varieties of freshwater fish.

"It's beautiful out here," Brandt said as puffy cumulus clouds gathered in the sky. "You should feel lucky to be here."

Brandt's journey to this place began in college.

"I was a biology student at Penn State, and got a job cleaning the alligator and crocodile tanks in the lab — basically because I was tired of waiting tables in the dining hall," she said with a laugh.

Intrigued by the reptiles, she enrolled at the University of Georgia and began working more seriously with the animals at the Savannah River Ecology lab in Aiken, S.C.

From there, she transferred to Florida International University, earning her master's degree while continuing to work in Aiken, and then earned her Ph.D. in wildlife ecology and conservation at the University of Florida.

But why alligators?

"They're really amazing creatures when you think about it," she said. "Here they've been around over 200 million years and yet they really haven't changed all that much."

As Traut entered the last of a series of notations about the eggs into a log book, Brandt prepared to return to the nest.

The second foray into the alligator's lair was no easier than the first. After the eggs were returned, each in its original order, Brandt beat a hasty retreat.

The work had taken a little more than an hour.

Mom at 2nd nest

With that it was off to a second tree island and a second nest,

Foreo Tropical

which Brandt had spotted earlier and knew would be much better protected than the first.

Idling the airboat after about 10 minutes of coasting over water and mud flats, Brandt asked Traut whether he wanted to try to snare the mother or drive and let her do it.

Traut, who had until recently devoted his studies to wading birds and insects, had never caught an alligator before but said he'd like to try snaring the mother.

His equipment consisted of a 10-foot PVC pipe to which a wire snare had been attached. A clasp on the snare allowed it to close around the alligator's neck without choking her.

Brandt explained what was about to happen.

"Because they are cold blooded, alligators only have a certain amount of energy they can expend before they need to rest," she said. "Therefore, the idea is to be patient and allow her to expend most of her energy in the water.

"You have to play them more or less like a sports fish, letting them wear themselves out before you attempt to pull them on board the boat."

At Brandt's direction, Traut tied one end of a rope attached to the snare onto a center beam in the boat.

"This alligator isn't all that big, but the larger ones can tear the whole rig right out of your hands," Brandt said.

Asked what the biggest alligator she ever caught was, Brandt said, "Twelve feet, 6½ inches. In South Carolina.

"The biggest crocodile I ever caught was 12 feet, 10 inches. We were in a 15-foot, nine-inch boat."

With that, she kicked the airboat into gear and spun it carefully around another thicket of bushes of saw grass. Swimming next to a clearing in the grass — a clearing through which the nest was clearly visible — was the 6½-foot female gator.

As Brandt carefully guided the airboat toward her, Traut leaned forward, slowly lowering the snare in the alligator's general direction.

"Bring it down slow and then slip it on her real quick," Brandt advised. With that, Traut "roped" the alligator, and she began to fight with a mighty splash, spraying mud and water and swamp debris all over the airboat.

At one point she actually appeared to spring from the water, much as a sailfish or marlin does after it's hooked.

"Don't let go, don't let go,"

Brandt shouted. "Let her fight, but pull her toward the boat."

When the alligator finally calmed down, a second rope noose was slipped around her snout.

After the quick application of a large rubber band and some duct tape, that noose was removed and the alligator — the 300th captured at Loxahatchee — was pulled on-board the airboat.

As she was stretched out on the bow, number 300 let out an angry, muffled roar.

Work done quickly

What work now needed to be done needed to be done quickly.

If Brandt and her assistant took too long, the alligator would regain its strength and could fight its way out of the boat.

"One of the biggest sins when you're out catching an alligator is having it escape with either the noose still on it or without removing the tape from around her mouth," Brandt said. "In that case, you've got to chase her down and try to re-catch her. You never want that to happen."

Brandt quickly took a series of measurements with a tape measure. The alligator's length and girth duly recorded, the next task was to tie a rope around her and lift her with a hand-held scale.

After all her pertinent statistics were recorded, she was tied to the boat and returned to the water to await her release. Brandt and Traut then were off to her nest to mark and measure the eggs — but not before Brandt tied the airboat to a tree.

"It'd be awfully embarrassing to have an alligator run off with our boat," she said.

When the work at the nest was done, the alligator was pulled back into the airboat and the snare removed. Brandt looped a rope through the tape and rubber on the alligator's jaw, then threw her back in the water.

The rope pulled off the last of the restraints, and the alligator swam back toward her nest.

"There's just something primordial about them," Brandt said. "People see them as big and bad and threatening, but to me they are creatures that exhibit absolutely fascinating social behavior.

"I mean, if given the chance, she could have crushed our hands or arms in her jaws. At the same time, however, she'll check her nest constantly over the next few weeks, and if an egg for some reason doesn't hatch, she gently crack it in her mouth to see if a baby is trapped inside."