

# Surviving Drought

## LAKE JACKSON'S TURTLES

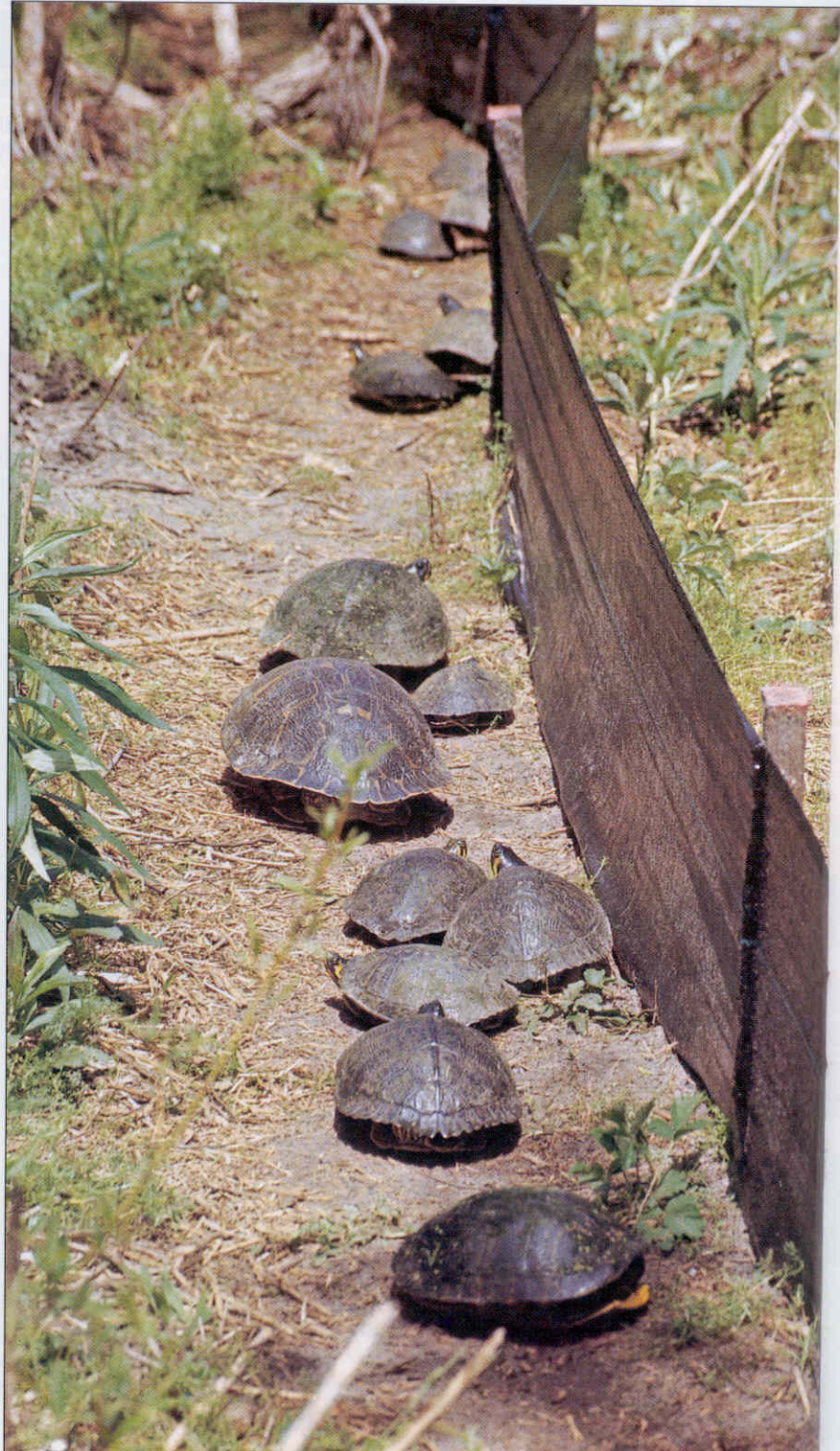
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**As the spring of 2000 approached, dozens of dead turtles began to accumulate daily along U.S. 27 N as they left the drying lake and tried to cross the highway towards Little Lake Jackson.**

**T**he roar of an 18-wheeler is followed by a blast of air as it passes. Hidden in the low brush at the edge of U.S. 27 near Tallahassee is a Florida cooter, a turtle that hatched from an egg on the shores of Lake Jackson 15 years ago. She grew large living in the lake, but today she must leave. The lake waters had been slowly receding for months and this morning she crawled out of a muddy drying pool to begin a dangerous migration to find new water. Ancient instincts directed her west, somehow knowing that there was water in the distance.

She forced her large armored body through the thick vegetation and by afternoon she had slowly climbed the steep slope that leads to the highway, sliding back down several times before reaching the top. After pausing to rest, she leaves the cover of the roadside brush and stretches her neck to use all her senses to guide her. Water and a new home are only a few hundred yards away, but the landscape between her and her goal is strangely unfamiliar. She could not know that the short stretch of open ground ahead is a killing zone for turtles; she only knows that she must cross to the other side.

Driving north on U.S. 27, I squint my eyes and see the familiar silhouette from a quarter mile away. I quickly pull my truck off the road, get out, and race towards her. I would have only a few seconds to save her. A line of rush hour traffic is rapidly approaching and the turtle, paused in the center of the northbound lane, is confused and trying to get a bearing on her position. Seeing me running towards her, she pulls her head into the safety of her shell, not aware that the real danger is the rolling thunder of the machines piloted by motorists oblivious to her plight. I snatch







*Florida softshell turtles were often the last ones to leave the drying pools.*

her off the road and look back as 20 sets of wheels rocket over the spot where she had rested only a moments before.

Scattered along the highway lay the remains of turtles that had not been so lucky. On that day I counted 85 dead turtles along a short section of the northbound side of U.S. 27. Here, the four-lane highway was built directly across the northwest part of Lake Jackson in the 1950s, isolating a small part of the lake to the west, now known as Little Lake Jackson. While Lake Jackson was slowly drying, Little Lake Jackson still had plenty of water. Looking out over the drying lake bottom on this warm February day, I knew it was only the beginning of a massive migration of turtles that would attempt to cross the highway in the coming months. Something needed to be done quickly to prevent the mortality of thousands of turtles.

Lake Jackson is a 4,000-acre lake. During prolonged drought conditions, a lowering of the water table causes leakage into the groundwater through two sinkholes and most of the lake bottom dries, an event that has occurred approximately every 25 years during the 20th century (see March/April 2000 *Florida Wildlife*). Although Lake Jackson is known primarily for its sport fish, it is an ecosystem that supports a rich diversity of reptiles and amphibians. These animals are uniquely adapted to the

periodic drying of the lake by either burrowing into the dry lake bottom or migrating to nearby water.

As the spring of 2000 approached, dozens of dead turtles began to accumulate daily along U.S. 27 N as they left the drying lake and tried to cross the highway towards Little Lake Jackson. Although I spent many hours patrolling the roadside for migrating turtles with the help of several volunteers, it was clear that a more permanent solution was

*Page 26: A virtual army of turtles, cooters and sliders make their way along the fence to a protected culvert under the highway.*

*Below: This old male common snapping turtle at Lake Jackson weighed 24 pounds, and probably lived in the lake for over 30 years.*

needed. I contacted the Florida Department of Transportation, and they agreed to donate materials if I would construct a fence. I designed a 3,000-foot fence along the margin of U.S. 27 N to prevent turtles from crossing the deadly highway and instead direct them through a large-diameter drainage culvert that connects Lake Jackson and Little Lake Jackson. The fence was constructed using a two-foot woven nylon silt fence attached to wooden stakes with the bottom edge buried to prevent turtles from pushing under the fence. A slightly smaller fence was constructed on the Little Lake Jackson side of U.S. 27 in September of 2000 to protect turtles attempting to cross back over to Lake Jackson as it refilled.

The turtle fence was completed just in time. The month of April was exceptionally dry, and hundreds of turtles began migrating towards Little Lake Jackson. I monitored the fence daily for





the next seven months. I collected turtles walking along the fence and transported them across the highway in large plastic containers. As part of my doctoral research at Florida State University, I measured each turtle and recorded the species and sex. From April to August 2000, I counted over 5,000 turtles that left Lake Jackson and were intercepted by the fence before they reached the highway.

Pulses of movement by turtles corresponded to the dry down of several large pools during the spring and early summer. During the intense heat of the day, turtles would burrow into the soupy mud amidst the dead and dying catfish, bowfin and gar. In the early evening, turtles of all sizes from large adults to hatchlings no larger than a quarter would emerge by the hundreds, caked in mud, and begin migrating in unison towards the setting sun over Little Lake Jackson. When Lime Sink dried, some turtles traveled almost a mile before they reached the fence. Their shells and limbs often bore testament to the dangers of being a turtle, from deep boat propeller scars to alligator bite marks. As the final pool dried to cracked mud in late June, 200 turtles per day were found at the fence.

Moving along with the turtles was a menagerie of reptiles and amphibians including numerous green water snakes, banded water snakes, mud snakes, water moccasins, pig frogs, leopard frogs and an occasional small alligator. By the end of July 2000, the northwest part of Lake Jackson was completely dry and the turtles were safely in Little Lake Jackson. One can imagine the carnage along the northbound lane of U.S. 27 if the fence had not been there.

The mass migration of turtles from Lake Jackson was a unique

opportunity to learn how abundant turtles are in Florida lakes. Of the 5,000 turtles saved by the fence, 2,028 were Florida cooters and 2,097 were yellow-bellied sliders.

Cooters eat aquatic plants and algae (including the invasive hydrilla) and are very beneficial to lake communities. Sliders are more omnivorous. Contrary to popular opinion, these turtles do not eat live fish. They simply aren't fast enough.

Another abundant turtle at Lake Jackson was the common musk turtle, or stinkpot. These small turtles migrated most often during or immediately after rain. They remained in the drying pools longer than other turtles and were sometimes killed by raccoons before they migrated.

A similar but less abundant turtle at Lake Jackson was the eastern mud turtle. I also found only 87 softshells and eight snapping turtles. Meat from these turtles are popular food items in many parts of their range and some populations in Florida may be in decline because of over harvesting.

The migration of thousands of turtles

from this drying lake and their ability to find water is truly an incredible natural wonder. Turtles possess a tenacity for survival that reflects millions of years of adaptation to dynamic environments. Yet, the resiliency of turtles is often overshadowed by their vulnerability to habitat destruction and fragmentation and the dangers of roads and highways. As stewards of the environment, we need to ensure that turtles and other wildlife are protected from the hazards that we create. ●

**Editor's Note:** As Lake Jackson began to refill in spring and summer of 2001, 3,200 turtles migrated back to Lake Jackson from Little Lake Jackson. Once again, the fences along U.S. 27 saved thousands of turtles.

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*Florida cooters like this one, along with yellow-bellied sliders, were the most common turtles found at Lake Jackson.*