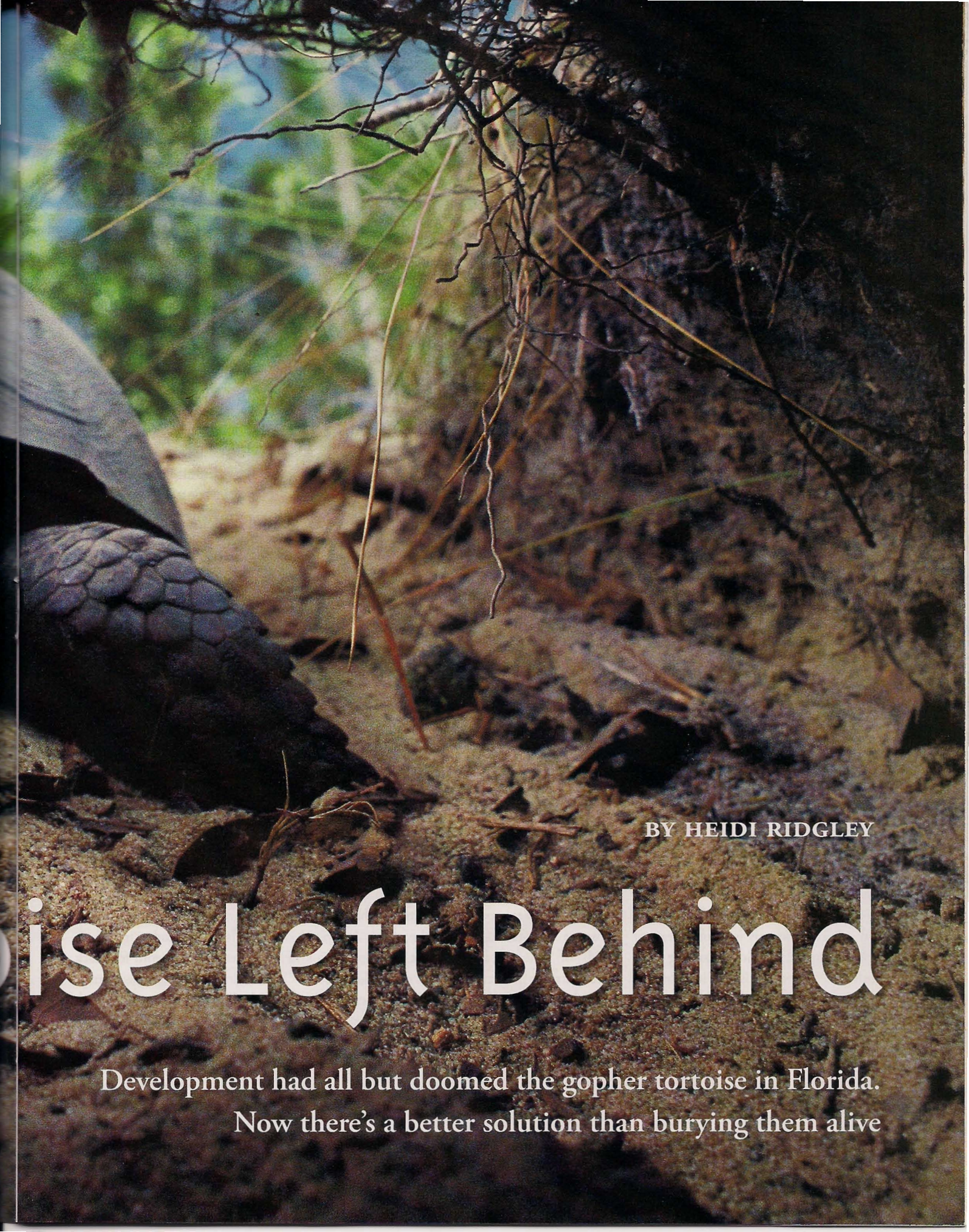


No Torto



BY HEIDI RIDGLEY

# ise Left Behind

Development had all but doomed the gopher tortoise in Florida.  
Now there's a better solution than burying them alive

It's a scorching afternoon in the Florida Panhandle—and there's a rustling coming from the partridge peas. A gopher tortoise, the size of a bicycle helmet, scuttles out and through the sandy soil. Conscious of being watched, he stops short to blend into the low-brush backdrop. Then, changing tactics, he makes a mad dash to his burrow, 15 feet away, where he clumsily flips over the top of the entrance and lands on his back, limbs wiggling.

Biologist Matt Aresco—who is touring me around Nokuse Plantation, a 50,000-acre private refuge about two hours west of Tallahassee—rights him, and in an instant the “shell-shocked” tortoise disappears. A little farther along on our walk, we spot another male with a transmitter attached to his shell. It looks like he's wearing lipstick. “It's those red berries he's been eating,” Aresco says.

Both these Florida gopher tortoises are among the fortunate few who have made it to Nokuse (pronounced “no-go-see”), a haven for the animals. The guy with the berry-stained beak is one of the most recent arrivals. He was one of a handful of tortoises relocated from about 400 miles away in Orange County, where the state granted the Orlando Expressway Authority the right to bury an estimated 469 tortoises for a road expansion project. “By the time we found out about the plan to bulldoze them, there were only four left,” says Aresco. “All the rest are buried under a new highway now—and we couldn't've taken them all.”

Only four tortoise species are found in North America, and the gopher tortoise, with its stumpy, elephantine hind feet and flattened shovel-like forelimbs adapted for digging, is the only one found east of the Mississippi. Historically ranging from South Carolina to Louisiana, its numbers have always been most abundant in the Sunshine State, where it's been safeguarded in various degrees since 1972—following decades of popularity as a dinner delectable, stewed or fried. The species' biggest crisis now is the asphalt, housing and shopping centers that are rapidly edging out its environment. Today about 785,000

adult tortoises survive here, according to recent state estimates, representing a decline of at least 50 percent over the past three generations.

Since 1991 the state has allowed land developers who encounter gopher tortoises to bury them alive—for a fee. The money received from what is termed “incidental take” funds the Florida Fish and Wildlife Conservation Commission's land acquisition trust, intended to buy and preserve habitat for other tortoises in other locations. But the reality, says Aresco, is that some 80,000 to 100,000 tortoises have been buried alive, and the state wasn't getting enough money from the program to acquire habitat at present-day land costs. Less than 20 percent of lost tortoise habitat in Florida has been replaced.

The loss of the tortoises raises concerns not just because of the inhumane way they die but also because gopher tortoises do not reach sexual maturity until they are 15 to 20 years old, making it harder for the species to recover from significant population declines. Further, because it is a keystone species—some 350 kinds of insects and animals including the federally protected eastern indigo snake make use of gopher tortoise burrows—the absence of tortoises affects the survival odds of other creatures. “The tortoise needs strong protection for its own sake but also because it's a keystone member of its natural community,” says Laurie Macdonald, Defenders' Florida director. “Protecting the tortoise, its burrows and its foraging grounds is one of our top concerns because it also benefits a multitude of other species.”

Last July, about a month after my visit,

the gopher tortoise got a much-needed break. Years of mounting public outrage spurred the Florida wildlife commission to declare the tortoise a threatened species and also to make relocation of these reptiles a requirement under a new management plan. That's where Aresco and his boss, M.C. Davis, play a crucial role. Davis, a self-made millionaire, began buying up land in 2001 with the goal of connecting 1 million acres of federal, state and private lands in the Florida Panhandle. Taken in total, Nokuse Plantation, Apalachicola National Forest and Eglin Air Force Base could provide safe haven for tens of thousands of tortoises.

“This land is a developer's dream,” Davis tells me on a slow drive around Nokuse. “Of all the money-making schemes I've tried, the one I'm not making any money on at all is the one that would've made me more than all of them together.” He credits his inspiration for saving wildlife to Macdonald and Christine Small from Defenders of Wildlife's Florida office. After watching a presentation on the plight of Florida black bears in the mid-1990s, he suggested they combine their activist passion and scientific know-how with his businessman resources. By 2001 he began purchasing the land that today makes up Nokuse, the Creek Indian word for black bear. Of its current acreage, just under half is suitable for gopher tortoises, which require deep, well-drained, sandy soil.

About 1,000 tortoises now live here in traditional turkey oak, wire grass and longleaf pine habitat. Some are in relocation “pens” of 10 to 350 acres, where they will stay for about 12 months until they acclimate to their new environment.



This Florida gopher tortoise (right) is looking for a meal, but it wasn't so long ago that it might have ended up in the stewpot instead. Called "Hoover chickens" during the Depression, gopher tortoises were legally hunted in Florida until the late 1980s. Their preferred terrain is sandy soil (below), where they dig their burrows and seek shelter (previous spread) during the midday heat.



Others roam freely—but with transmitters that disclose their location so they can be turned back toward safety if they roam too far. “We’re looking at different-sized pens to see what works for particular parcels of land and in what instances they are needed,” says Aresco. “If you don’t know, the tortoises could all wander off to unprotected areas.” In fact, the state has issued permits for relocation of about 60,000 gopher tortoises since 1992, but these “hard releases,” where tortoises are simply set down and set free, are much less successful.

“Gopher tortoises have a homing instinct and they will usually almost immediately leave a relocation site, even if the habitat is of high quality, and will often walk for miles attempting to return to where they came from,” says Aresco. “We have found radio-tracked tortoises almost 2 miles from where they were released and still moving farther away.” Often this means crossing roads and highways where they are hit by cars. The idea is to make relocations—whether to Nokuse or other protected lands—safe, successful and cost-effective.

The morning before my Nokuse visit, I was 300 miles away in a Jacksonville suburb riding in an all-terrain vehicle on my way to watch the largest-ever gopher tortoise rescue operation in action. Up until the new management plan’s enactment, the state was still granting incidental take permits to developers. Anyone who obtained a permit before the end of July has a permanent license to kill. Aresco’s goal is to convince these landowners not to bury the tortoises by offering a low-cost alternative. In the case of this rescue operation, the developer had already paid more than \$500,000 for the permit but agreed to allow relocation efforts if it wasn’t on his nickel. Estimated cost to Nokuse: \$100,000 to save about 500 tortoises.

It’s a bumpy mile-and-a-half trip into the woods past scrub oak, sweet gum,



palmetto and wild berry bushes—all 75,000 acres slated to be flattened for a golf-course community before the year is out. Bruce Earnest, an animal rescue responder for The Humane Society of the United States, stops the cart near a backhoe positioned over a 10-foot hole. Its operator slowly and methodically scoops out the soil in pursuit of a gopher tortoise—one that everyone watching hopes is home. “Sometimes we find a tortoise and sometimes it’s just the end of an empty burrow,” says Jason Butler, a graduate student at the University of Florida.

The map Butler holds out to me is covered in dots. Each one signifies a gopher tortoise burrow—about 800 of them. Although not all of them will be active, the crew will dig out every one to be safe. Already they’ve rescued 130 tortoises in about three weeks’ time. It takes one backhoe about a half-hour to uncover each burrow, which can stretch 30 feet long and

15 feet deep, although today’s operation is hitting a snag: It’s starting to rain. Just as the driver is about to give up and head for shelter, another worker slides down the sand into the hole and starts digging with his bare hands. “He’s here!” he calls up over the engine noise. The operator hollers back: “You said that a half-hour ago.” But the man in the hole ignores him, drops to his knees and thrusts an arm into the tunnel up to his shoulder. When he stands up he’s holding a foot-long tortoise. “I told you there was one in there,” he says, climbing out to show me the indentation on its hard-shell underside indicating it’s a male. “Usually it’s easier than that,” he says, “although sometimes you can spend two hours digging with nothing to show for it.”

He places the tortoise in a box on a truck—another one to be counted among the lucky. Had this tortoise not been found, he would’ve been entombed when

If this baby gopher tortoise (left) is lucky, it could live into the next century. Loss of habitat to new housing developments (below) and shopping centers is the species' greatest threat. A new state law will help matters by requiring developers to relocate the animals rather than bury them alive, as they've been allowed to do in the past.



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## Defending Gopher Tortoises

Recognizing the Florida gopher tortoise is a keystone species, Defenders has been hard at work to ensure the tortoises gain much-needed protection in the state. Serving on the state Gopher Tortoise Stakeholder Work Group, Defenders' Florida staff has worked with the Florida Wildlife Commission to develop a comprehensive gopher tortoise management plan, while also ensuring the termination of the state's permitting program that allowed developers to bury tortoises alive during construction.

Defenders also cosponsored a meeting last spring that brought together 25 experts and activists from around the state and sparked the beginning of the Florida Uplands Network (FUN), which will work to protect Florida's rapidly diminishing upland habitats. Defenders' Florida staff is also working to reauthorize "Florida Forever," the state land acquisition program which ensures that wildlife habitat is permanently protected by purchasing lands for conservation or by paying for conservation easements on private lands. Public workshops will be held around the state this winter to build momentum for the reauthorization of this crucial land-protection program. Contact the Florida office at 727-823-3888 for more information.

the bulldozers roll in to compact the soil, collapsing burrow entrances that then often get covered in cement. "That's the sad thing," says Aresco. "Can you imagine being a tortoise in there, digging around trying to get out?" Because of their slow metabolisms, it takes entombed tortoises weeks or months to die, eventually from dehydration, starvation or suffocation.

Back at the entrance to the woods, the tortoise joins 11 other early-morning rescues in a dark, climate-controlled semi-trailer. Built-in pet kennels can accommodate about 60 tortoises, which get placed in plastic bins and covered in hay until they are transported. "We try to mimic their natural habitat as much as possible by keeping it cool and dark inside," says Earnest. "We want to ensure they have the least amount of stress while they wait."

Two days later, two other Nokuse biologists, a local volunteer and Davis, with two granddaughters in tow, greet

the now-full tractor-trailer when it rolls up to Nokuse's warehouse garage early in the morning, and the unloading begins. Soon 71 tortoises—all rescued from the Jacksonville site—are lined up in their bins on the cement floor, clawing at the sides, trying to dig their way out. Everyone forms an assembly line to weigh, sex and mark each tortoise for identification before the animals are rehydrated and released to their new habitat.

When biologist Margaret Gunzburger proclaims two females the biggest she's ever seen and guesses they'll weigh in at 20 pounds, everyone stops to gather round. "They could be 100 years old," she says. "Their eggs are probably the size of ping pong balls." Surveying the rows of bins, Davis' voice gets solemn: "The ages of these gopher tortoises probably total 3,500 years," he says. "And they were all about to get bulldozed."

But with the new law in place and a

millionaire's backing, there's soon to be a lot more lucky gopher tortoises out there. In fact, as I'm leaving, the Nokuse crew is readying itself for afternoon arrivals from two additional sites. There won't be nearly as many as in the morning's delivery, but by tomorrow each tortoise can expect to be back outside munching on berries—or partridge peas—before the day is done.

*Heidi Ridgley is senior editor of this magazine. Send your comments about this piece to [mageditor@defenders.org](mailto:mageditor@defenders.org).*



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**Cover** Without swift and decisive action against global warming, two-thirds of the world's polar bears—including all those in Alaska—may disappear by 2050. © Nick Jans **Top** The uphill battle of Florida gopher tortoises may be over thanks to a new state law that prevents developers from burying them alive. © Fred Whitehead/Animals Animals **Back cover** The mountain plover, a denizen of the prairie, is getting a little help from farmers and conservationists in Colorado. © Bill Schmoker

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