

FEATURED

## Where have all the gopher tortoises gone?

Eli Witek

Mar 25, 2021



A gopher tortoise meanders. The long-living terrestrial turtle survives on an herbaceous diet, and is under threat from booming development in Central Florida.

PHOTO COURTESY NICOLE PERRY

Every time a new development appears in Florida, its builders must first find out if the area is already occupied and, if so, what to do with the existing residents.

These often-overlooked inhabitants are vital to the ecosystem — and they are being pushed out by development.

Development of vacant land doesn't just add cars to the road, calls to the police and more demand for water; development can also wipe out biodiversity, a fundamental measure of the health of our interconnected ecosystem.

Gopher tortoises are a biodiversity harbinger. The health of their species signals the fate of hundreds of others.

For years, Volusia County has been exporting gopher tortoises to make way for development.

Our local gophers have moved up to 100 miles away, and sometimes even farther, to counties like Suwannee and Clay in North Florida, and south to sites in Polk and Osceola counties, some 40 miles south of Orlando.

A survey of development in West Volusia in 2020 alone shows that more than 20 projects applied for, and received, permits to relocate gopher tortoises.

In just one year in West Volusia, hundreds of tortoises were evicted from their homes and relocated to make way for houses and municipal projects.

### **What's a gopher tortoise and why should we care?**

The gopher tortoise, an unassuming terrestrial turtle, acts as a canary in the coal mine for the health of the environment and our wildlife populations.

The deep burrows dug by gopher tortoises, where they spend most of their lives, provide important (and sometimes essential) habitat for up to 400 other species across Florida, including species that are listed as endangered or threatened, like the Florida mouse and the eastern indigo snake.

For some species, the burrows are necessary to their survival — in fact, there are at least 13 distinct species of insects that are found only in gopher-tortoise burrows.

Because their survival assures the survival of so many other life-forms, gopher tortoises are a keystone species.

The loss of these hospitable hosts would have unintended and far-reaching consequences, the equivalent of hundreds of species losing housing and shelter.

Because the largest threat to the gopher tortoise population is habitat destruction, declining tortoise numbers also signal significant habitat loss for species that do not rely on the tortoise, like songbirds.

Florida's landscape and ecosystem would be fundamentally altered, impacting the quality of life of all its residents, including humans.

The life span of a gopher tortoise — like that of other tortoises and turtles — is relatively long: 40 to 60 years in the wild, or more than 90 years in captivity.

## Where do they go?

The Florida Fish and Wildlife Conservation Commission permits what are called “recipient sites” throughout the state. These sites are privately or publicly owned lands that are intended to provide a new permanent home for displaced tortoises.

In Volusia, there is only one in-county recipient area — the Port Orange Gopher Tortoise Recipient Site adjacent to Tiger Bay Wildlife Management Area.

The capacity of that site is 1,023 tortoises, or about two tortoises per acre.

But with the development business booming, the demand may be quickly exceeding the availability.

“Right now, there’s not the available capacity to meet the demand from the construction,” said Alex Zelenski, CEO of the DeLand-based environmental consultant firm Clearview Geographic. “The market is incredibly in need of reservation capacity in this area.”

Currently, the capacity at the Port Orange-managed site is reserved, the equivalent of gopher tortoise advance booking.

“The reservations are full at the moment,” Port Orange Public Information Officer Christine Martindale said.





This juvenile gopher tortoise lives at the Port Orange Gopher Tortoise Recipient Site, along with other tortoises that were moved from their homes to make way for development. The site is managed by CPH, an environmental management firm. All the available space at the Port Orange site is currently reserved, and other recipient sites across the state are filling up, too.

PHOTO COURTESY CPH ENGINEERING FIRM

## **Business is booming**

Because the land chosen for development, particularly for residential homes, is the same high and dry habitat the gopher tortoise prefers, when development is booming, so is the demand for places to relocate gopher tortoises.

For example, Park Lake Estates, a new neighborhood approved by the DeLand City Commission in 2019, is turning 198 acres into 450 single-family homes north of Victoria Park, stretching from Dr. Martin Luther King Jr. Beltway to County Road 4139/Summit Avenue.

But 155 acres of that land is gopher-tortoise habitat.

A survey pinpointed 38 burrows. Twelve tortoises, many of them juveniles, were relocated to a recipient site in Clay County, 74 miles northwest.

At the cost of \$326 per tortoise, the developer shelled out at least \$2,282 in FWC fees. The fees go to gopher-tortoise management. The recipient sites also charge their own fees for the space, typically starting around \$800 per tortoise.

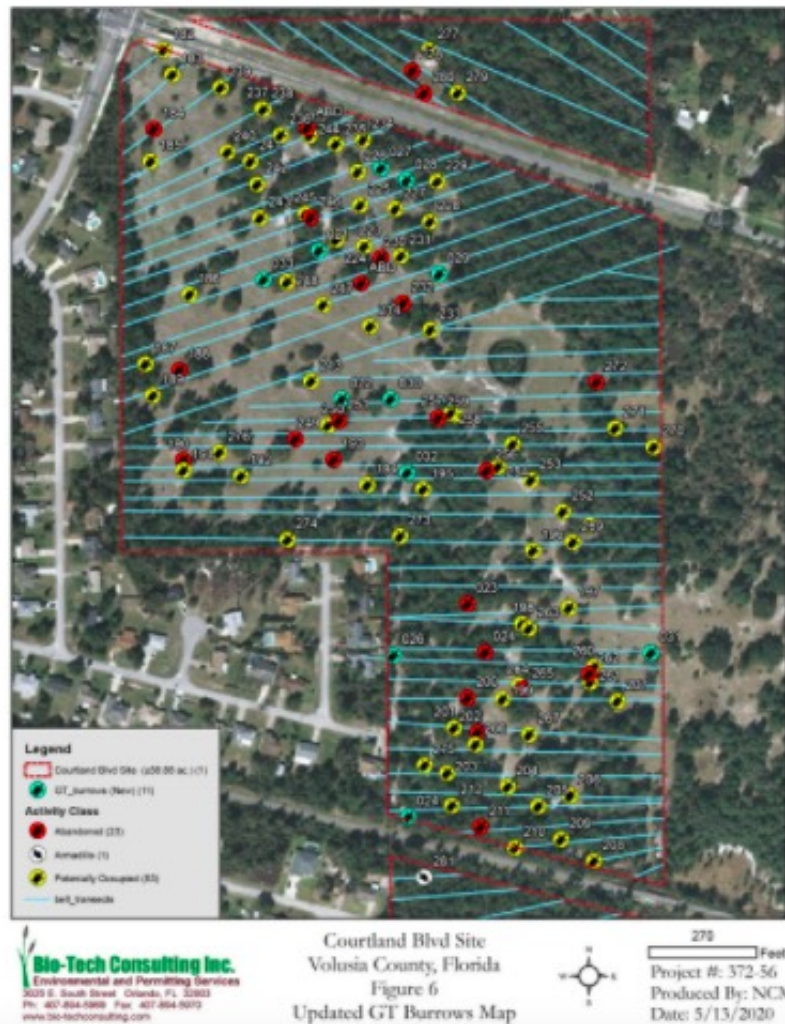
Developers also must pay to hire authorized gopher-tortoise agents, who are permitted and overseen by the FWC, to survey the land, fill out the permit applications, and actually capture and transport the tortoises.

For larger projects on prime gopher-tortoise real estate, the costs, and the number of relocated tortoises, go up.

Ironically, green-infrastructure measures taken to alleviate the environmental burdens of increasing development and energy needs can also displace our native fauna.

For example, Duke Energy's DeBary Solar Farm affected more than 380 acres, and 97 percent of that land was gopher-tortoise habitat. Seventy-one tortoises were ultimately relocated, this time to the Port Orange site, at a cost of \$22,649 in FWC fees alone.

And, installing an updated underground conduit that will be necessary to connect the SunRail system from DeBary to DeLand spanned some 12 miles and impacted 179 acres. Sixty-five tortoises were relocated to three separate recipient sites: 57 to sites in Clay County, and eight to the Port Orange location.



**GOPHERS ON THE GO** — This map shows an updated gopher-tortoise survey of land at Doyle Road and Courtland Boulevard in Deltona, the site of Courtland Park, a new development slated to open later this year. In an area of about 58 acres, 83 tortoise burrows (marked in yellow) were identified as potentially active, while 23 (in red) were determined to be abandoned. Eleven additional burrows were found after the original survey (in green). A gopher tortoise survey is required to estimate the number of tortoises that must be moved. The developer, Courtland Acquisitions Group LLC, hired an environmental consultant, Bio-Tech Consulting Inc., to conduct the survey, and capture and transport the tortoises — who ultimately numbered 45 — to a recipient site 78 miles southwest in Polk County. The subdivision will have 208 homes on 40- to 50-foot-wide lots. Courtland Acquisitions paid \$13,257 in fees to the Florida Fish and Wildlife Conservation Commission to relocate the tortoises.

PERMITTING DOCUMENT/BIO-TECH CONSULTING INC.

## The gopher tortoise real estate market

Drew Kaiser, of the Daytona Beach-based Kaiser Consulting Group, manages 17 recipient sites for private landowners. Since 2006, Kaiser said, his group has helped relocate more than 22,000 tortoises.

“Business in Central and South Florida has been booming with housing developments, DOT projects, and various other municipal contracts,” Kaiser told *The Beacon*. “I have very limited space on all of our sites right now.”

Many of the landowners of these recipient sites are farmers or ranchers who receive some financial compensation to offset the costs, through the relocation fees.

“Tortoises kind of have a market price,” Zelenski said, with regard to shopping to reserve a space at a recipient site. “You’re essentially selling a permanent home for that tortoise.”

## Solutions

Developers can avoid the need to relocate gopher tortoises, but it requires a new way of thinking about development.

“The idealist in me would love to have 100 percent of relocation on-site,” Zelenski said. “Ideally, we keep ecological value as close to its original condition, in its original location as possible.”

One concept gaining traction is low-impact development, an umbrella term for an overarching philosophy that pulls together several ideas, like Florida-friendly landscaping and stormwater management, to imagine development that integrates with the landscape.

“Anytime we live in high density, we have an impact on the environment. This is just the fact,” Wendy Anderson, chair of the Volusia Soil and Water Conservation District Board of Supervisors and environmental-science professor at Stetson University, said during a forum on low-impact development March 18. “The question is how can we do it in such a way that we minimize impact in the land.”

This can be as simple as landscaping with native plants, or using more porous material in driveways and sidewalks, to allow water to percolate down and recharge the aquifer, or as complicated as creating a development plan that includes conservation areas on-site for wildlife like the gopher tortoise.

Developers may find these efforts pay off.

“People will pay more for this,” Anderson said. “I think we’ve seen time and time again across the nation and across the developments in Florida, that when we develop with the environment in mind, and in such a way that improves the health and well-being and quality of life for the residents who

live there, there is a higher profit margin. Developers can actually make more money.”

Part of the problem, and the solution, is tied to education, Zelenski and Anderson said.

At least concerning gopher tortoises, that starts from the very beginning.

“One of the No. 1 threats to the gopher tortoise is people just not knowing that there’s this permit and relocation requirements,” Zelenski said. “I’ve had a few clients reach out to me after the red flag has been raised, and it’s much easier to deal with this process if you’re proactive rather than retroactive.”

Starting development without the proper permits results in higher fees for the gopher-tortoise management, and can result in fines, as well.

“If you’re moving dirt and cutting up trees and tearing up your ground, and upland habitat, make sure you get a gopher-tortoise survey by an authorized agent,” Zelenski said.

Because development can move quickly, and not everyone is aware of the regulations, the public can play an important role.

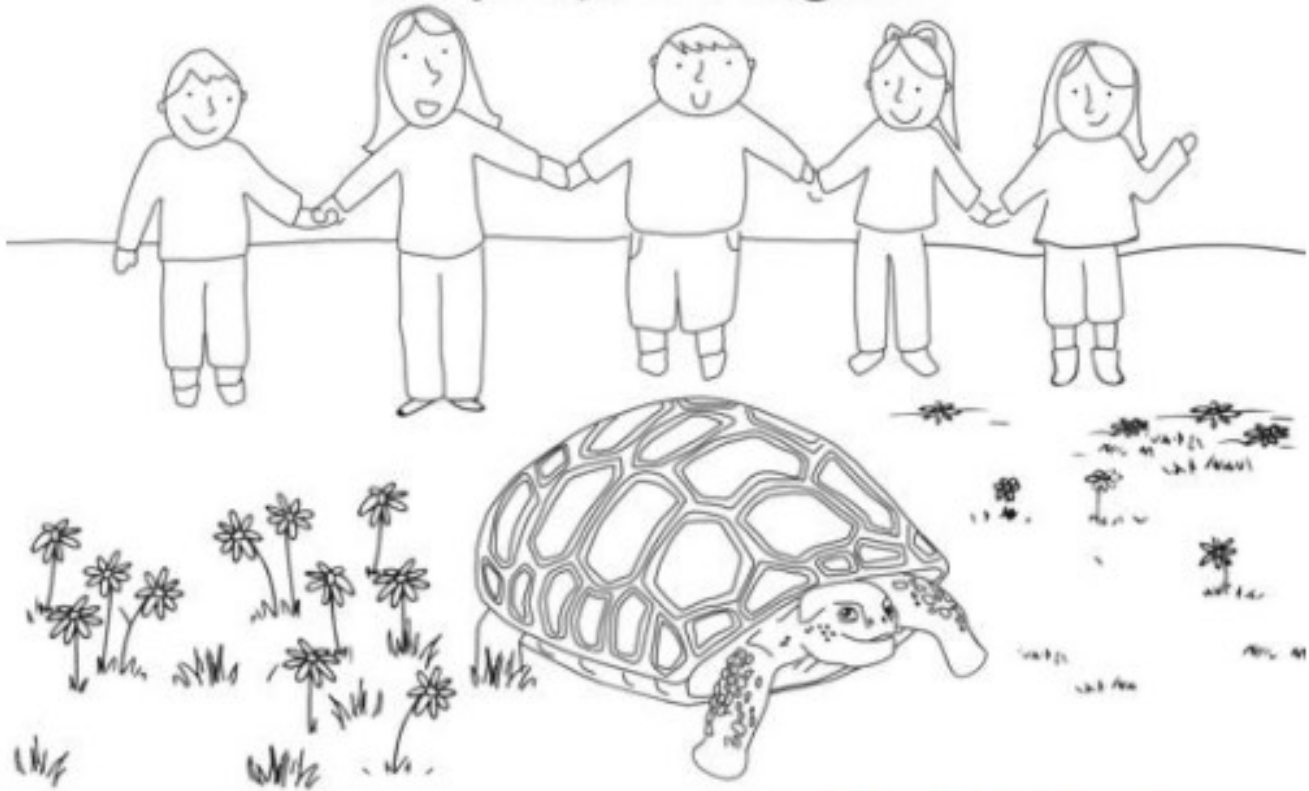
“The public needs to pay attention. If they see something that’s off, say it,” Zelenski added.

Help from the public will also be required to spread knowledge about and increase demand for low-impact development.

“You have to educate the community at large, homebuyers, Realtors. Maybe it starts at the beginning with architects, engineers and landscape designers,” Anderson said. “We have to educate the entire chain, including policymakers.”



I'm thankful to have kind friends  
like you protecting me.



A page from a coloring book made available for download by the [Florida Fish and Wildlife Conservation Commission](#). Check out the full coloring book (the story of "Gilbert the Gopher Tortoise"), [HERE](#).

FWC IMAGE/FELICIA NUDO

A page from a coloring book made available for download by the Florida Fish and Wildlife Conservation Commission. Check out the full coloring book (the story of "Gilbert the Gopher Tortoise"), [HERE](#).

FWC IMAGE/FELICIA NUDO

---

Eli Witek