

Gopher Tortoises: A keystone species, protecting other animals



The life of a gopher tortoise

The life of a gopher tortoise revolves around a tunnel-like burrow that is excavated using its shovel-like front feet. Burrows average 15 feet long and 7 feet deep and but can be up to 40 feet in length and 10 feet in depth. Each burrow has a single opening and the width of the burrow is approximately equal to the length of the tortoise, allowing the tortoise room to turn around at any point within the burrow. Burrows are usually easy to spot because of the characteristic mound of loose sand at the burrow entrance (called the "apron").

Gopher tortoises are ectotherms, meaning they depend upon their environment to maintain their body temperature. Burrows remain at a fairly constant temperature and humidity level year round, providing shelter during periods of extreme temperatures,

drought and fire. Tortoise burrows also afford refuge to more than 360 animal species. Some, such as the Florida mouse, cannot exist without the tortoise burrow.

Gopher tortoises feed mainly on low-growing plants that require abundant sunlight. Grasses and legumes make up the bulk of their diet but they also eat gopher apple, pawpaw, blackberries, saw palmetto berries and other fruits.

Gopher tortoises can live more than 60 years and average 9 to 11 inches in length and up to 15 pounds. Males reach maturity between 9 and 12 years of age but a female may take 10 to 21 years. They grow relatively slowly and growth



Gopher tortoises are considered a keystone species because they dig burrows that provide shelter for 360 other species of wildlife, called "commensals." These commensal species include the gopher frog, Florida mouse, eastern indigo snake, and hundreds of invertebrates like beetles and crickets. Without the gopher tortoise, many of these species would not exist.

The life of a gopher tortoise revolves around its burrow(s) where they spend up to 80 percent of their time. Gopher tortoises provide shelter from predators and weather for some 360 animal species in burrows, including frogs, owls and even endangered indigo snakes.

rates vary by geographic region. They typically breed from April to June. During May and June, females lay 3 to 15 eggs, either in the sand mound in front of the burrow or in another nearby sunny place. The incubation period for eggs varies between 80 and 110 days but, in Florida, it is usually from 80 to 90 days. The sex of the offspring is determined by the temperature of the nest (above 85°F will produce females, below will produce males). A mature female generally produces one clutch of eggs a year. Nest predation by coyotes, raccoons, foxes, skunks, armadillos and fire ants can be quite high and an individual female may produce a successful nest as infrequently as once in 10 years.

Hatchling gopher tortoises use an adult burrow or dig a small burrow of their own. Young gopher tortoises are vulnerable to predation until their shell hardens at about 6 to 7 years of age. Adult tortoises have few enemies, other than humans, domestic dogs and raccoons.

Conservation status

Why is the gopher tortoise in trouble? Habitat loss from land alteration and development pose the most serious threat to the continued survival of the gopher tortoise. Both people and tortoises like to live in high, dry areas. Other threats include some forestry practices (not allowing enough sunlight), disease (specifically an upper respiratory tract disease), road mortality, poaching for food, tortoise races (now prohibited in Florida), broad scale use of herbicides and pesticides, the release of exotic pet tortoises and predation by domestic dogs and cats.

It's unknown how many gopher tortoises live in Florida. Although slow moving, they're hard to count because much of their time is spent underground in deep burrows. In 2006, scientists estimate the population at about 785,000 tortoises statewide.

Gopher tortoises are protected in every state and cannot be harmed. In Florida, both the tortoise and burrow are protected. A permit from FWC is required to possess, study or relocate gopher tortoises, and they must be relocated before any land clearing or development takes place.

Celebrate Florida's only native tortoise



April 10th was officially adopted by the Gopher Tortoise Council as Gopher Tortoise Day! In Florida, gopher tortoises are found in parts of all 67 counties and are frequently encountered in neighborhoods, along roadways, and in many of Florida's public parks and forests. The goal of Gopher Tortoise Day is to increase awareness and appreciation for these long lived, gentle reptiles.

You can help



- Look at their feet and you'll see that gopher tortoises are land animals. They don't live in water. Their hind legs are described as stumpy and elephantine and their forelimbs are described as flattened, shovel-like and are covered in thick scales.
- Leave burrows alone. Don't collapse or mow over them. Mark burrows with small flags to alert others of their presence.
- Don't allow your animals to harass a gopher tortoise.
- Don't feed them. Food humans eat doesn't make for healthy gopher tortoises. The best way to feed them is by planting low-growing native plants and removing invasive exotic plants in your yard.
- If you help a tortoise cross the road, move it to the side it was headed in.
- Support local land conservation initiatives.
- Learn more. Visit GreenSyncInc.org for more information.
- Be concerned. As many as a million species on the planet are now at risk because of increased human population and too little concern, according to a recent United Nations report.



Only five of the 23 dry-land tortoises in North America still exist. The gopher tortoise (*Gopherus polyphemus*) is the only one that lives in southeastern United States and is a species in decline that warrants additional protection by states and the federal government.

Gopher tortoises live in extensive subterranean burrows in dry upland habitats. They are found in longleaf pine sandhills, xeric oak hammocks, scrub, pine flatwoods, dry prairies, coastal dunes and man-made environments, such as pastures, old fields and grassy roadsides. The habitat must have well-drained sandy soil, herbaceous food plants and open sunny areas for nesting and basking. Periodic fires play an important role in maintaining tortoise habitat by opening up the canopy and promoting growth of herbaceous food plants.



Less than 5 percent of the 90-million-acre original system remains. This drastic reduction in habitat, along with ever-increasing development, has made the gopher tortoise a threatened species in Florida.

More than 80 percent of gopher tortoise habitat is privately owned. Landowners are helping the gopher tortoise by enhancing and restoring longleaf pine forests. With the help of NRCS, landowners are improving forest stands through prescribed burning and other sustainable forestry practices as well as planting new longleaf pine trees. Fires historically burned through the pine savannahs of the South, which suppressed woody species and enabled longleaf pine forests to have an open understory. Prescribed burning mimics that process.

Created by GreenSync Inc. with sponsor support from LCEC and thanks to Gopher Tortoise Council, Florida and U.S. Fish and Wildlife Services, Natural Resources Conservation Service and www.gophertortoise.org. Graphics were provided thanks to PJ McGowan (top left photo), Marguerite Yeno (young tortoise) and FWC.

