

A photograph of a Gopher Tortoise (Gopherus polyphemus) in its natural habitat. The tortoise is positioned in the center of the frame, partially obscured by a patch of white sand. The surrounding environment consists of dry, brownish grasses and small green plants growing in sandy soil. The overall scene is a natural, somewhat arid landscape.

**The Gopher Tortoise**  
*(Gopherus polyphemus)*

**A Species in Decline**

# History

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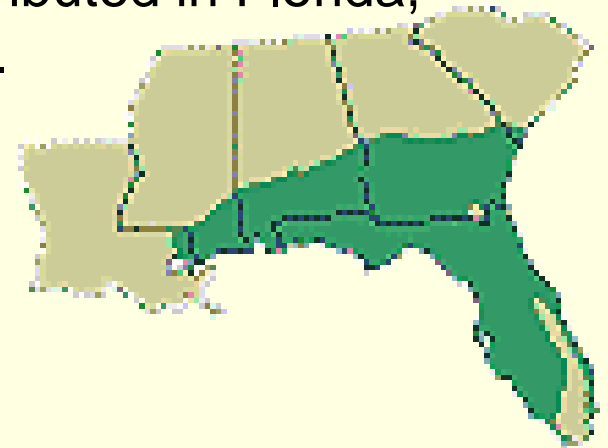


- Gopher tortoises, or "gophers" as they are commonly called, belongs to a group of land tortoises that originated in western North America nearly 60 million years ago making it one of the oldest living species.
- At least 23 species of tortoise are known to have existed on our continent since that time, but only four remain today.
- The ancestors of gopher tortoises, along with those of scrub jays, burrowing owls, and short-tailed snakes, were part of a savanna fauna that migrated into the southeastern United States millions of years ago.

# Geographic distribution

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- The Gopher Tortoise is endemic to the United States
- Florida represents the largest portion of the total global range of the species.
  - Most gopher tortoises are found in north-central Florida and southern Georgia.
  - Throughout the coastal plain of the southeastern United States.
  - Gopher tortoises remain widely distributed in Florida, occurring in parts of all 67 Counties.



# Description

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- Gopher Tortoises are reptiles that have a gray-brown oval Carapace (shell), with a flat top.
- Their forelimbs are flat and shovel shaped, with finger nails, which are great for digging burrows.
- It is a moderate-sized terrestrial turtle, averaging 9 to 12 inches long.
- Average weight 12 -14 pounds.





# Identification

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- The species is identified by its stumpy, elephantine hind feet and flattened, shovel-like forelimbs adapted for digging.
- The plastron (or the bottom of Gopher tortoise shell), is yellow.
- Most often, the female is bigger than the male.

*Gophers are  
thought to live  
40 -60 years*



**Some of the differences between the male and female are:**

*The male plastron, is concave and his carapace at his rear end is tucked under more. His Gular ( the bone that sticks out at the front of the plastron) is more pronounced, and he may have chin scent glands that hang down.*



*The female plastron is flat and her carapace at the rear is shaped more like a skirt. Her Anal bone projections are shorter than the male to enable her to pass eggs.*



# Reproduction

- Gopher Tortoises mate from April to June.
- Females mature around 10 years of age.
- The female gopher tortoise will lay her eggs in May to June, she excavates a nest in or near the burrow apron (mound of sand at the entrance of the burrow) into which she lays 11- 14 eggs, of which 5 -6 hatch .
- The incubation period for eggs varies from 80 to 100 days in Florida.
- Due to predation, success is low:

*Nest predators include raccoons, foxes, skunks, armadillos, fire ants, and dogs.*



# Hatchlings

- Hatchling gopher tortoises may use an adult burrow or dig a small burrow of their own.
- Young gophers are vulnerable to predation until their shell hardens at about 6-7 years of age.
- Raccoon, indigo snake, black bear, and red-tailed hawk, among others, eat hatchlings and young tortoises.
- Gophers grow about  $\frac{3}{4}$  inch a year.

***Hatchlings are  
1 ½ inches long and  
have a yellow-orange  
carapace***



# Hatchlings



Can you see the hatchling?

Fact: The sex is determined by the temperature of the sand or dirt where nest is incubating...

above 85° F, a female

below 85° F/ 30° C a male.



# Home Range

- This refers to the size of the habitat that a Gopher Tortoise needs to live in:
  - Adult Females need 0.2 to 1.4 acres
  - Adult Males need 1.1 to 3.2 acres
  - Juveniles (classed as less than 4 years old) need 0.02 to 0.9 acres.





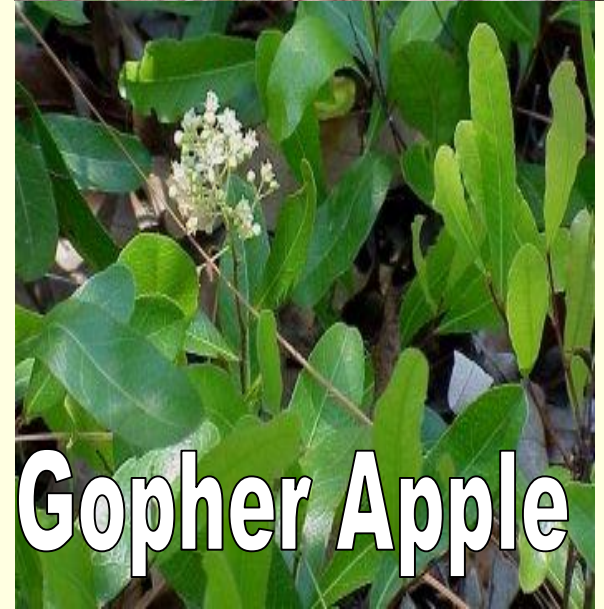
**DIET**

# Diet

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## Gophers are herbivores:

- They feed mainly on low-growing plants that require abundant sunlight.
- Although grasses and legumes make up the bulk of their diet (stinging nettle/prickly pear cactus and wire grass), gopher tortoises eat a large variety of herbaceous plants including gopher apple, pawpaw, blackberries, saw palmetto berries, and other fruits.
- If you have gopher tortoises living on your property, landscaping with native plants will ensure that proper food is available.



# Habitat



- Gopher tortoises live in dry, upland habitats that have well-drained soils for them to dig their burrows.
- The common habitat in which the gopher tortoise is found in Volusia County includes: pine flatwoods, xeric oak, sand pine, scrub oak, agricultural lands (pastures), disturbed habitats, and coastal dune and scrub.

# Light House Point Park, Ponce Inlet



**Coastal Dune Habitat**

# *HABITAT (cont.)*

- Tortoises can also live in man-made environments, such as pastures, old fields, and grassy roadsides.

To be suitable for gopher tortoises, the habitat must have well-drained sandy soils for digging burrows, herbaceous food plants, and open sunny areas for nesting and egg incubation, and basking for thermoregulation.



# Fire



- Periodic natural fires play an important role in maintaining tortoise habitat by opening up the canopy and promoting growth of herbaceous food plants.
- If natural fires are suppressed, habitats may become unsuitable for tortoises.
- Today, land managers use prescribed fire to maintain tortoise habitat.



# Burrows

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# Burrows

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- Gopher tortoise burrows remain at a fairly constant temperature and humidity level year-round, thus providing shelter from extreme hot and cold temperatures, drought, fire and are a safe place from predators.
- The average burrow is 6-8 feet. deep and 15 feet long.
  - *Some burrows can be up to 40 feet (12 meters) in length and 10 feet (3 meters) in depth.*



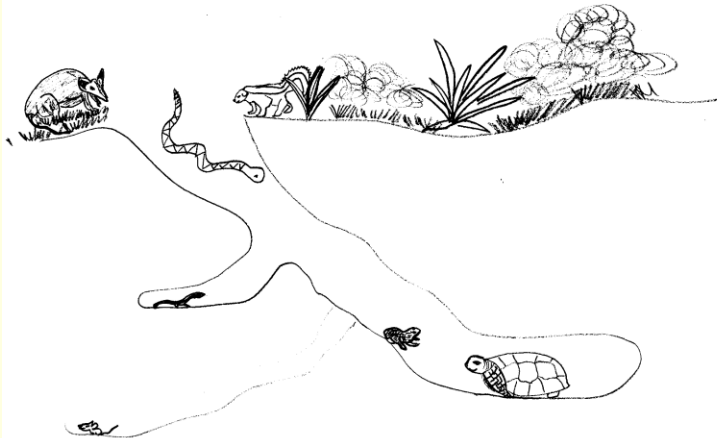
# Burrows continued

- Entrance to the burrow is shaped relatively the same as the tortoise (oval),
  - *Each burrow has a single opening*
- Width of burrow entrance is generally the same size as the length of the gopher tortoise, this enables the tortoise to turn around in the burrow.
- A gopher will use more than one burrow overtime.



# A Keystone Species

- The Gopher Tortoise is called a keystone species because it provides shelter for other species.
- Keystone species have a major influence on the structure of an ecosystem and its removal can disrupt the whole ecosystem.



# Commensals – sharing the burrow



Florida mouse

- More than 300 different species have been recorded utilizing a single gopher tortoise burrow for food or shelter.
- This includes the Florida mouse, Indigo snake, pine snake, gopher frog, opossum, armadillo, burrowing owl, gopher cricket, scarab beetles, and many others.
- The gopher cricket and tortoise burrow fly can only be found in tortoise burrows.
- Some, such as the Florida mouse, cannot exist without the tortoise burrow.

# Status of the Gopher Tortoise

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- The gopher tortoise is protected by the United States Fish and Wildlife Service and the Florida Fish and Wildlife Conservation Commission under the Endangered Species Act and Chapter 39 of the Florida Administrative Code.
- In Florida is listed as a “threatened species”, due to the declining numbers throughout their range.
- Habitat loss due to:
  - land development (may be the most serious threat)
  - Forestry practices
  - Mining
  - Agriculture
- Road mortality also increases as more roads are built to keep up with development.

## *Other factors responsible for their decline include:*

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- Disease transmission from improper relocation.
- The broad scale the use of herbicides and pesticides.
- The release of exotic pet tortoises.
- Illegal poaching for food.
  - Currently, tortoise harvesting is illegal in every state where tortoises are found.
  - Gopher tortoises do not reproduce at a rate that can withstand harvest.



## **Do Not Disturb Gopher Tortoise Burrow**

It is illegal to take, harm, or harass this species under rule 68A – 27.005 of the Florida Administration Code. The destruction of gopher tortoise burrows constitutes taking under the law.

Any person who violates this provision is guilty of a misdemeanor of the second degree under Florida Law Chapter 372.0725.

**Should you witness a violation please contact Florida Fish and Wildlife Conservation Commission at 1-888-404-FWCC.**



# Never Handle a Gopher Tortoise

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- The only time you should touch a Gopher Tortoise is if you come across one trying to cross the road and it is in danger, the Gopher Tortoise Council recommends that you “simply carry the tortoise across the road in the direction that it was going,” while being aware of traffic and potential hazards to yourself.
- It is also important to keep dogs away from gopher tortoises, as dogs have been known to injure and kill tortoises.
- **REMEMBER DO NOT PUT GOPHER TORTOISES INTO THE WATER**

# Gopher Tracker

[www.gophertracker.org](http://www.gophertracker.org)

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- The purpose of Gopher Tracker is to collect data in order to record the location, movement, and range of the gopher tortoise.
- If you have a GPS unit, get the waypoints of the burrows (as close as possible without trespassing)
- If no GPS, the proximity, the main road the burrow is off / of and what two cross roads it is in between.
- The data collected will develop a detailed record on Gopher Tortoises that will assist with the long-term survival of the species.

# What should I do if I see a Gopher Tortoise or Burrow?

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- Quietly observe it from a distance and document for us where you see it. Please remember it is a protected species, do not disturb it.
- If you can take photos that's great but don't encroach on the gophers space or trespass on private property to get the photos.
- Go to our website: [www.gophertracker.org](http://www.gophertracker.org)
- Fill out and submit your reports.



## Gopher Tracker

Keith Abrahamson

[kabrahamson@volusia.org](mailto:kabrahamson@volusia.org)

386-736-5927 xt 12079

Become a GOPHER TRACKER!!!

The gopher tortoise needs your help. Volusia County is gathering volunteers that would like to help in our efforts to protect the gopher tortoise. This new group, the Gopher Trackers, will document sightings of gopher tortoises and their burrows. If you see a Gopher Tortoise or know where their burrows are, please let us know. All we need to know is where you saw the tortoise or its burrows. Please be as specific as possible. A complete address is best, but if that is not available, simply tell us what street (with cross roads if possible) you documented the tortoise or burrow on with the closest landmark. Please DO NOT TRESPASS in order to get this information. If you would like to give more information please do so. For example, photos, GPS waypoints, if you saw what the tortoise was it doing, etc. If you want to help, please send your gopher tortoise sightings to [kabrahamson@volusia.org](mailto:kabrahamson@volusia.org).

The Gopher Tortoise is listed as a Threatened Species. Please do not harm, harass, handle, or feed the gopher tortoise.

[back to: protected species permitting environmental permitting em home](#)



[Gopher Tortoise and/or Burrow Sighting Report](#)



# Gopher Tortoise & /or Burrow Sighting Report

Date of Report:  Date of Sighting:  Time:  am  pm

Name:

Phone Number:

E - mail:

Weather:  sunny (drop down box)

rainy

cloudy

Temp:

Location of sighting:

Street:

Exact Address:

City:

Closest Cross Roads:

Parcel # if Known:

GPS if possible

Lat:

Long:

Number of Gopher Tortoises seen:

Tortoise:

Hatchlings:

Burrows :

Number seen:

Size: (if known):

Eggs seen:  Y/N

If eggs seen how many:  #

Describe Gophers Behavior:    Traveling  
   Feeding  
   Digging  
   Other


Photos Taken:

Yes/No
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If yes please attach them to email

[kabrahamson@volusia.org](mailto:kabrahamson@volusia.org)

Comments:

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Submit
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<p style="text-align: center;"><b>Do Not Disturb</b></p> <p style="text-align: center;"><b>Gopher Tortoise Burrow</b></p> <p style="text-align: center;">It is illegal to take, harm, or harass this species under rule 68A – 27.005 of the Florida Administration Code. The destruction of gopher tortoise burrows constitutes taking under the law.</p> <p style="text-align: center;">Any person who violates this provision is guilty of a misdemeanor of the second degree under Florida Law Chapter 372.0725.</p> <p style="text-align: center;"><b>Should you witness a violation please contact Florida Fish and Wildlife Conservation Commission at 1-888-404-FWCC.</b></p>
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# Other animal Identification and burrow I.D.

This is a Florida Box Turtle



**Burrowing owl burrows are commonly round in shape and may have a sandy apron around the burrow entrance. They may also decorate the entrance area with feathers, bug parts, grass clippings and owl pellets(manure). Burrowing owls will sometimes use abandoned Gopher tortoise burrows.**



**Armadillo Shelter Burrow-conical**

# Do I need a permit, if I have Gopher tortoise burrows in my construction area?

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- Gopher tortoises are legally protected throughout their range. Their presence does not exclude development, so permits are needed for either incidental take or relocation efforts. Permits are also required for possession and/or research purposes.
- The new Gopher Tortoise Management Plan that the Florida Fish and Wildlife Commission (FWC) approved does not allow the entombment of gopher tortoise.
- What we need citizens to do is to make sure this does not happen. If you see a gopher tortoise being harassed or its burrow being destroyed please call/e-mail VCEM or FWC.
- If the construction can not avoid the Gopher tortoise burrow by 25 ft. then a permit for relocation is necessary from the FWC.

For more information contact: 1-888-404-FWCC.

# Glossary

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- **Endemic** – exclusively native to a particular area.
- **Habitat** – the place where a gopher tortoise lives that provides all it's needs for food and shelter.
- **Keystone species** – a plant or animal that increases or decreases the diversity of an ecosystem, depending on its abundance or rarity. The gopher tortoise is a keystone species in upland habitats in Florida.
- **Predation** – hunting and killing another animal for food.
- **Threatened species** - a species likely, in the near future, to become an endangered species within all or much of its range.
- **Commensal** – living in a relationship in which one animal derives food, refuge or other benefits from another animal without hurting or helping it.

# For more information...

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- <http://www.gophertortoisecouncil.org/>
- <http://www.nbbd.com/godo/ef/gtortoise/>
- [http://www.wildflorida.org/critters/gopher\\_tortoise.asp](http://www.wildflorida.org/critters/gopher_tortoise.asp)
- <http://edis.ifas.ufl.edu/pdffiles/UW/UW04800.pdf>
- <http://www.nwf.org/keepthewildalive/gophertortoise.cfm>



# Gopher Tracker

## Certificate of Appreciation

This certificate is awarded to:

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*In recognition of your volunteer participation  
and valuable contribution to the  
protection of the Gopher Tortoise*