Common Name: GOPHER TORTOISE

Scientific Name: *Gopherus polyphemus* Daudin

Other Commonly Used Names: gopher

Previously Used Scientific Names: none

Family: Testudinidae

Rarity Ranks: G3/S2

State Legal Status: Threatened

Federal Legal Status: Candidate for listing in Georgia and eastern part of range; Threatened west of Tombigbee and Mobile Rivers in Alabama, Mississippi, and Louisiana

Description: The official state reptile of Georgia, the gopher tortoise is a relatively large terrestrial turtle, obtaining a maximum carapace length of 38 cm (15 inches), though averaging 23-28 cm (9-11 inches). Its oblong carapace is unkeeled and domed, somewhat flattened, and brown or gray in color. Distinctive growth annuli are evident in juveniles and young adults, usually becoming obscured later in life. The yellowish plastron is hingeless and has conspicuous elongated gular scutes (especially long on males). With the exception of the yellowish limb sockets, the scaly skin of adults is typically dark gray. Perhaps the most characteristic features of gopher tortoises are the elephantine hind limbs and the flattened, shovel-like forelimbs. The head is wide and rounded, with a pair of seasonally swollen mental glands on the chin. Hatchlings have yellowish skin as well as yellow-centered scutes, both of which gradually darken with age. Males have slightly concave plastrons.

Similar Species: No native species should be confused with the gopher tortoise

Habitat: Along with sandy soil for burrowing, sunlight availability and abundant herbaceous vegetation are the key habitat requirements for this reptile. Gopher tortoises are a characteristic species of the rapidly disappearing longleaf pine and wiregrass community, which includes sandhills, dry flatwoods, and turkey oak scrub. Historically, this community was represented by an open-canopied forest that allowed abundant sunlight penetration and conditions favorable for a rich growth of herbaceous vegetation. Unfortunately, very little of this naturally occurring habitat still exists; therefore, many tortoises have been forced into artificial habitats, such as roadsides and old fields, that retain the three key requirements.

Diet: A wide variety of succulent grasses and forbs; fruits, such as those of legumes, are eaten in season. Carrion is occasionally taken.

Life History: Gopher tortoises dig unbranched burrows up to, and sometimes greater than, 10 m (33 feet) long. The burrows are excavated wide enough to allow room for the tortoise to turn around at any point and may have an enlarged terminal chamber. A single tortoise may dig more than one burrow each season, and occupancy of a burrow by more than one tortoise may occur, at least temporarily. These characteristics make population estimates based on burrow counts obviously difficult. Burrows provide winter hibernacula, retreats from the summer heat, and shelter from fire for not only the tortoise, but also for hundreds of invertebrate and vertebrate animal species. Tortoises also benefit plant life by returning leached nutrients to the surface, creating bare, competition-free areas of soil; and by dispersing seeds through fruit consumption and subsequent defecation elsewhere. For these reasons, the gopher tortoise has been termed a "keystone species" of the longleaf pine community, meaning its existence is critical to the existence of many other species. Courtship and mating occur from April through early June. Nesting reaches a peak in early June but may last until mid-July. Females, which may not attain sexual maturity until 19-20 years of age, produce only once clutch each year and usually construct nests in the burrow mounds. An average of six white, nearly spherical eggs are deposited, and hatching follows an incubation period of 97-106 days. Nests and hatchlings are preyed upon by a variety of mammals and snakes, though raccoons are apparently the chief predators at most sites.

Survey Recommendations: Gopher tortoises are best located by conducting pedestrian searches for their distinctive burrows. Burrow openings are half-moon shaped and an apron of excavated sand fans out in front of the opening. Active burrows (those most likely to have a resident tortoise) have aprons mostly devoid of plants and debris, do not have spider webs within, may show tracks or slides from the tortoise, and may have scat in and around them.

Range: Gopher tortoises occur in the Coastal Plain from southern South Carolina south and westward to extreme eastern Louisiana. Extant or historical localities in Georgia are known throughout the southern half of the state below the Fall Line. They are absent from the Okefenokee Swamp and most barrier islands. Documented specimens collected from St. Simons and Cumberland Islands were likely of an introduced origin rather than naturally occurring. In 1994, a large number of tortoises was salvaged from an industrial park development site in Bulloch County and relocated to St. Catherine’s Island, where successful reproduction has

occurred. Tortoises observed or collected from the Piedmont and mountains of Georgia are undoubtedly released or escaped animals.

Threats: The loss and alteration of the longleaf pine-wiregrass community through agricultural and silvicultural activities, urban sprawl, and fire suppression has eliminated many populations and isolated most others. It has been estimated that the average female gopher tortoise in Georgia has an effective rate of reproduction of about 5.8 hatchlings per 10 years, assuming annual egg laying. This naturally low fecundity is only worsened by isolation, unnaturally high populations of certain predators, suboptimal habitat conditions, and other factors. Tortoises forced into roadside habitats due to a lack of suitable surrounding land are obviously more vulnerable to vehicle impacts and collection by humans. In the past, tortoise populations in many areas were heavily decimated by human exploitation for food, a practice now illegal but which may continue in some areas. The introduction of gasoline into the burrows of gopher tortoises ("gassing") is a technique used by some rattlesnake hunters to force the snakes to the surface. This practice is typically fatal to all burrow inhabitants.

Georgia Conservation Status: Gopher tortoise populations are found on many public lands in the Coastal Plain. Those with large populations include Ft. Stewart Military Reservation, Ft. Benning Military Reservation, General Coffee State Park, Seminole State Park, George L. Smith State Park, Reed Bingham State Park, Ohoopee Dunes Natural Area, and Doerun Pitcherplant Bog Natural Area. Other large protected populations are found on several The Nature Conservancy preserves, as well as at Joseph W. Jones Ecological Research Center at Ichauway.

Conservation and Management Recommendations: A priority should be placed upon the protection of remaining natural longleaf pine forests, which will not only benefit the gopher tortoise but a large suite of rare animals and plants as well. The use of periodic controlled burns should be practiced to reduce hardwood vegetation and promote grasses and forbs. Subsidized predators may need to be controlled in areas of high human activity, such as state parks.

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Author of Account: John B. Jensen

Date Compiled or Updated:
J. Jensen, Dec. 2007: original account
K. Owers, Sept. 2009: updated status and ranks, added pictures
G. Krakow, July 2011: update federal status

Hatchling


Burrow