



# Bog Turtle

## North Carolina Wildlife Profiles



Jeff Hall

## Bog Turtle

*Glyptemys (Clemmys) muhlenbergii*

The bog turtle is the smallest turtle in North America, reaching an adult length of only 4 to 5 inches in length. Because they spend most of their time under water, buried in mud or hiding in thick vegetation, bog turtles are difficult to see, making their population numbers difficult for N.C. Wildlife Resources Commission biologists to estimate. Fewer than 100 bog turtle populations have been documented in North Carolina.

## Description

Bog turtles have a light or dark brown carapace (top shell) with with scutes that have a light center or pattern of lines radiating outward. There is a distinctive red, orange or yellow marking on either side of the neck. The plastron (bottom shell) is typically dark brown with black patches and no hinge. Male bog turtles have longer and thicker tails than females, as well as a slightly concave plastron.

## History and Status

Due to population declines and threats to the species and its habitat, the U. S. Fish and Wildlife Service federally listed the northern population (from Maryland through New England) of the bog turtle as a threatened species in 1997. The southern population (from southwest Virginia through Georgia) received a status of “threatened due to similarity of appearance” because they were believed to be less threatened in the south. This status does not afford bog turtles (and especially their habitats) in the south the same level of protection as those in the north. Bog turtles are state-listed as threatened in North Carolina and identified as a Species of Greatest Conservation Need in the [N.C. Wildlife Action Plan](#).

Habitat destruction is probably the greatest threat to bog turtle populations. The draining and filling of wetlands for development have destroyed or fragmented large wetland areas and suitable bog turtle habitat. Due to unchecked vegetative succession, many bogs are overgrown with trees, which can dry out the bog and shade out the sphagnum moss, sedge, rush, and scattered shrub habitats bog turtles prefer. Other significant threats include changes in the watershed, vehicles, changes to hydrology, and pressures from illegal collection and over-abundant predators.

## Habitats & Habits

The bog turtle inhabits wetland areas, such as wet meadows and bogs, including some in cattle pastures and beaver complexes in western North Carolina. It is an omnivorous reptile that feeds on worms, beetles, and snails along with various plant

At only 4 to 5 inches, the bog turtle is the smallest turtle in North America and one of the smallest in the world.



Gabrielle Graeter, a Wildlife Diversity Biologist with the N.C. Wildlife Resources Commission, holds an adult bog turtle found during an annual survey. (Photo by Lori Williams)

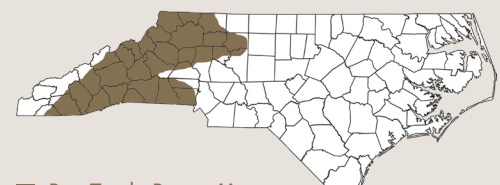


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## Range and Distribution

The southern population comprises turtles from southwest Virginia through Georgia, while the northern population consists of turtles from Maryland through New England. Bog turtles have been documented in 24 counties in western North Carolina.

## Range Map



■ Bog Turtle Range Map

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## Habitats & Habits (continued)

parts, including small berries. It is diurnal, meaning that it is active during the day and sleeps at night.

Bog turtles typically become sexually mature at 6 to 7 years old and breed in the late spring or early summer. Females lay one to six eggs that hatch in August, September or October. Nest sites are generally located on elevated patches of sphagnum moss or sedges in a sunny area.

## NCWRC Interactions

The Commission began surveys for bog turtles in North Carolina in the early 1990s to determine their range. Since then, Commission biologists have conducted surveys every year and recorded important information on each bog turtle that is captured such as gender, age, shell length and the capture location.

Additionally, Project Bog Turtle is a conservation initiative of the N. C. Herpetological Society that began in the mid-1970s with a bog turtle distribution study in North Carolina. The objectives of this project focus on educating the public and landowners about bog turtle conservation, surveying for bog turtle populations and monitoring them for illegal collections, and protecting and restoring suitable bog turtle habitat in our state. The Commission, along with many different conservation organizations and individuals are involved in Project Bog Turtle.

The Commission is working in collaboration with Project Bog Turtle to tag bog turtles across the turtle's range in the Southeast. Each bog turtle captured during surveys is implanted with a harmless PIT-tag (Passive Integrated Transponder tag). These tags are unique identifiers that allow biologists to individually identify the turtle if it is captured again, which allows for estimating population sizes, measuring growth and other vital rates, helping prevent the illegal collection of bog turtles.

## Human Interactions

Although some human interactions are a threat to wild bog turtle populations in North Carolina, most people will never encounter a bog turtle unless it is trying to cross a road between wetlands. Ways you can help protect bog turtles in North Carolina are:

- Support the work of partners, including the Commission, to conserve bog turtles and their habitat.  
<http://ncwildlife.org/Give-Donate>  
<http://projectbogturtle.org/>  
[http://www.fws.gov/refuge/mountain\\_bogs](http://www.fws.gov/refuge/mountain_bogs)
- Do not collect bog turtles from the wild without receiving special permits from the Commission. If you are in the range of the bog turtle and have wetlands, consider having them surveyed and managed for bog turtles. Contact [gabrielle.graeter@ncwildlife.org](mailto:gabrielle.graeter@ncwildlife.org).
- Report bog turtle observations to [gabrielle.graeter@ncwildlife.org](mailto:gabrielle.graeter@ncwildlife.org).
- Report any illegal bog turtle collections to the Commission at 1-800-662-7137.

### Credits

Updated by Gabrielle Graeter and Kendrick Weeks, NCWRC. Updated 2018.

## Wild Facts

### Classification

Class: Reptilia

Order: Cryptodeira

Family: Emydidae

### Average Size

Length: 4 to 5 inches; males are typically larger than females

### Food

Omnivorous. Worms, beetles, snails, plants

### Breeding/Young

Sexually mature at 6 to 7 years old and breed in the late spring or early summer. Females lay one to six eggs that hatch in August, September or October. Nest sites are generally located on elevated patches of sphagnum moss or sedges in a sunny area.

### Life Expectancy

Typically between six to 10 years but can live up to 50 or 60 in protected habitats.



Bog turtle hatchling (Photo: Jonathan Mays)



Bog turtle hatchling (Photo: Gabrielle Graeter)