

Bog Turtle



Kingdom: Animalia
Phylum: Chordata
Subphylum: Vertebrata
Class: Reptilia
Order: Testudines
Family: Emydidae
Genus: *Clemmys*
Species: *muhlenbergii*



Photo courtesy of Tony Wisneski

Habitat

- **In the Wild:** Bog turtles are found in scattered colonies throughout the eastern United States from New York and Massachusetts south to Tennessee and Georgia. Bog turtles are mostly found in shallow wetland habitats that fit into the “three S rule”: sunny, spring-fed, and soggy. The turtles are most often found in saturated spring-fed wetlands (bogs, marshes, wet meadows and spruce swamps). A slowly flowing stream housing grassy vegetation and a soft, muddy bottom is ideal.
- **Exhibit Location:** USS Antiquities

Characteristics

- The bog turtle is one of the smallest turtles in the world, with lengths of 3.1- 4.5 inches. The carapace (the upper shell) is dark brown or black and becomes smoother (losing light radiating lines and blotches) as the turtle ages.
- The head, neck and limbs are dark brown and a large red or orange band sometimes merges into a continuous ring around the neck.
- The distinguishing characteristic of the bog turtle is the yellow or orange blotch on the side of the head. The male turtle has a concave plastron, or bottom of the shell, while the female’s plastron is flat.
- **Lifespan: In the Wild** 30 years **In Captivity:** 40 years

Behaviors

- The bog turtle is primarily diurnal, meaning it is active during the day; however, nesting usually occurs at night.
- The turtles like to lie in the sun by shallow water but during hot weather, will hide under vegetation or in moss burrows. They are inactive on chilly mornings.
- Winter hibernation finds the turtles in mud or vegetation beneath shallow waters of bogs. In New York State, bog turtles often hibernate together with other bog turtles and with spotted turtles.
- **Enrichments at the Zoo:** food variation, furniture variation

Reproduction

- Bog turtles reach reproductive maturity at 5-8 years of age.
- The turtles mate from April to early June, after emerging from hibernation. Courtship involves the male nudging and biting the female’s head, leg, and shell.
- Nests are placed in areas of higher grass, sedge, or mounds of sphagnum moss. The nests are always built above the water’s surface and in sunny areas.
- Two to five eggs are laid and are left alone to develop and hatch. The eggs are long and white and average about 1.2 inches in length.
- Incubation lasts from 45-65 days in an open sunny nest site. Hatching occurs from July through early September. The young are about 1 inch long at hatching.

Diet

- **In the Wild:** seeds, berries, insects, slugs, snails, crayfish, worms, green vegetation

- **At the Zoo:** Aquatic carnivore diet, fruit, crickets, pinkies (baby mice)

Conservation Status

- **IUCN status:** Endangered; **CITES Appendix:** I
- Development in bog turtle habitat has caused draining and filling of many wetlands. The bog turtle population has become extremely fragmented and populations are unable to mix, decreasing genetic variability and the longevity of the species as a whole.
- Conservation strategies include finding critical habitats for the turtles and protecting the turtles from collection and trade. Planned captive breeding and release programs may help in some cases; however greater public support is needed as well as voluntary management of private land.
- Plants such as purple loosestrife and reed can quickly invade the bog turtle habitat resulting in the loss of basking and nesting areas. Contamination by pesticides, agricultural run-off, and industrial waste also affect the bog turtle's habitat in a negative way.
- The New York State Department of Environmental Conservation has been conducting surveys since 1976 on historic and potential bog turtle sites. Some sites are under the ownership of the State or conservation organizations. Efforts are being made to acquire those under private ownership.
- Animal tracking is also being done in New York State through the use of transmitters on tagged animals. Since the bog turtle is sensitive to habitat changes, studies are being done to monitor their responses to habitat manipulations.
- Techniques for breeding and raising bog turtles in captivity have been developed and a study has begun to investigate the effectiveness of releasing young or adult turtles into the wild.
- Predators: Adults - skunks, raccoons, foxes, dogs; Hatchlings - variety of local birds and mammals; Eggs - skunks, raccoons.

Did You Know?/Fun Facts

- Bog turtles hibernate in underwater bogs in mud 6-18 inches deep but not until they reach the age of 2.
- Collection of bog turtles is illegal without a permit.
- Bog turtles eat both in and out of the water.
- The bog turtle is New York State's smallest turtle.

Sources:

- Connecticut Department of Environmental Protection, (2000). Wildlife in connecticut - endangered and threatened species series: bog turtle. Retrieved Jun. 16, 2005, from Connecticut Department of Environmental Protection Web site: <http://www.dep.state.ct.us/burnatr/wildlife/factshts/bogttl.htm>.
- Harding, J. 2002. "Clemmys muhlenbergii" (on-line), Animal Diversity Web. Accessed June 16, 2005 at http://animaldiversity.ummz.umich.edu/site/accounts/information/Clemmys_muhlenbergii.html.
- New York State Department of Environmental Conservation, (n.d.). Bog turtle fact sheet. Retrieved Mar. 09, 2006, from New York State Department of Environmental Conservation Web site: <http://www.dec.state.ny.us/website/dfwmr/wildlife/endspec/botufs.html>.