



Bog Turtle Fact Sheet

Bog Turtle

Clemmys muhlenbergii

New York Status: **Endangered**

Federal Status: **Threatened**

Description

The bog turtle is New York's smallest turtle, reaching a maximum length of 4.5 inches. It is one of seventeen species of turtles found in New York State, including marine turtles. A bright yellow or orange blotch on each side of its head and neck are a distinctive feature of this species. The body color is dark with an orange-red wash on the inside of the legs of some individuals. The carapace (upper shell) is domed and somewhat rectangular, often with prominent rings on the shell plates (scutes). In some older individuals, or those that burrow frequently in coarse substrates, the shell may become quite smooth and polished. Although generally black, the carapace is sometimes highlighted by a chestnut sunburst pattern in each scute. The plastron (lower shell) is hingeless, with a pattern of cream and black blotches. As with most turtles, the plastron of the male is slightly concave while the female's is flat.



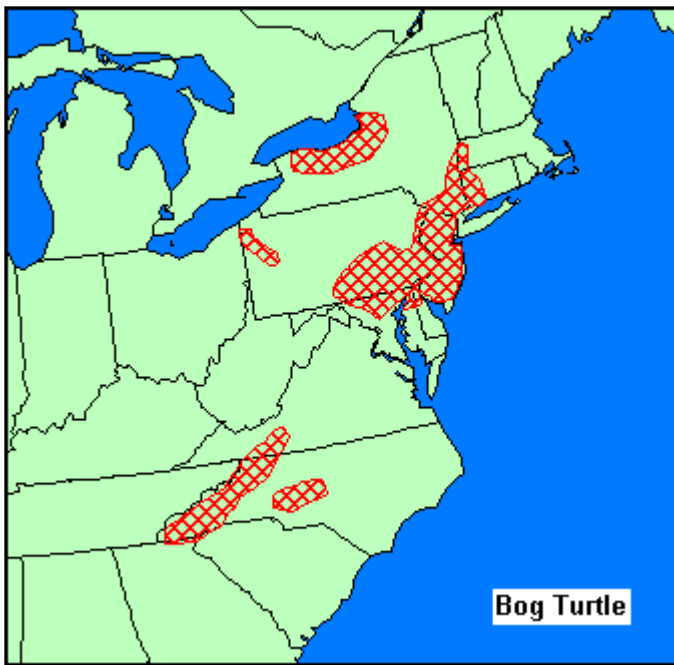
Life History

In New York, the bog turtle emerges from hibernation, often spent in an abandoned muskrat lodge or other burrow, by mid-April. In New York bog turtles often hibernate communally with other bog turtles and with spotted turtles (*Clemmys guttata*). Generally both the air and water temperature must exceed 50 degrees F for the turtle to become active. Mating occurs primarily in the spring but may also occur in the fall and may be focused in or near the hibernaculum (winter shelter). In early to mid-June, a clutch of two to four eggs is laid in a nest which is generally located inside the upper part of an unshaded tussock. The eggs hatch around mid-September. Some young turtles spend the winter in the nest, emerging the following spring. The adults enter hibernation in late October. Sexual maturity may be reached at eight years or as late as eleven. A bog turtle may live for more than 30 years.

Although generally very secretive, the bog turtle can be seen basking in the open, especially in the early spring just after emerging from hibernation. It is an opportunistic feeder, eating what it can get, although it prefers invertebrates such as slugs, worms, and insects. Seeds, plant leaves, and carrion are also included in its diet.

Distribution and Habitat

The bog turtle is found in the eastern United States scattered in disjunct colonies from New York and Massachusetts south to southern Tennessee and Georgia. This is a semi-aquatic species, preferring habitat with cool, shallow, slow-moving water, deep soft muck soils, and tussock-forming herbaceous vegetation. In New York, the bog turtle is generally found in open, early successional types of habitats such as wet meadows or open calcareous boggy areas generally dominated by sedges (*Carex spp.*) or sphagnum moss. Like other cold-blooded



or ectothermic species, it requires habitats with a good deal of solar penetration for basking and nesting. Plants such as purple loosestrife (*Lythrum salicaria*) and reed (*Phragmites australis*) can quickly invade such areas resulting in the loss of basking and nesting habitat.

Status

More than half of the 74 historic bog turtle locations in New York still contain apparently suitable habitat. Only one quarter of these sites, however, are known to support extant populations, primarily in southeastern New York.

The primary threats to this species are loss or degradation of habitat and illegal collecting. In New York, development and natural succession are the major threat to bog turtle habitat. As sites deteriorate, bog turtles normally move out of their old sites to new areas where fire, beavers agriculture or other causes have created an open wet meadow type habitat. Development, especially roads,

residential, commercial and reservoir construction inhibits the species' ability to move to new, potential habitat. Consequently new populations are not being established as old sites deteriorate.

Collection of the bog turtle without a permit is prohibited in all states where it occurs. It was listed as threatened in 1997 by the U. S. Fish and Wildlife Service, and has been listed in CITES Appendix I, (Convention of International Trade in Endangered Species) since 1975. Unfortunately, illegal collection still goes on threatening this long-lived, slow reproducing turtle.

Contamination by pesticides, agricultural run-off and industrial discharge may negatively affect the bog turtle and its habitat directly. Contaminates may also accumulate in or adversely affect the turtle's invertebrate food supply.

Management and Research Needs

Since 1976, the New York State Department of Environmental Conservation has been conducting field surveys of historic and potential bog turtle sites to document current populations and habitat suitability. Some currently inhabited bog turtle sites and some historic sites are under the ownership of the State or conservation organizations. Many of the best remaining sites are still in private ownership and efforts continue to acquire or otherwise protect these areas.

Information is being gathered on reproductive potential, daily and seasonal movements, nesting and hibernation areas, and habitat use through the tracking of animals tagged with radio transmitters. Since the bog turtle is sensitive to habitat changes that are the result of natural succession, studies are underway that will monitor the responses of a bog turtle population 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.

Additional References

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- Map adapted from Conant and Collins (1998), Ernst, Lovich and Barbour (1994) and Harding (1997)