

Species: Bog Turtle (*Glyptemys muhlenbergii*)

Global Rank: G3

State Rank: S2

State Wildlife Action Plan: Immediate Concern Species - Responsibility Species, also PA Endangered and Federally Threatened

Climate Change Vulnerability: Highly Vulnerable

Confidence: High

#### Habitat:

Bog turtles inhabit calcareous fens, sphagnum bogs, and wet, grassy pastures that are characterized by soft, muddy substrates and perennial groundwater seepage (NJDEP 2010). Bog turtle habitats are usually well-drained with very shallow surface waters (PNHP 2007). The species requires open areas for basking and nesting surrounded by early successional wetland vegetation. The range of the bog turtle is discontinuous and confined to the eastern United States. The main range is from western Massachusetts, Connecticut, and eastern New York southward through eastern Pennsylvania and New Jersey to northern Delaware and northern Maryland (Ernst et al. 1994). The bog turtle occurs in very low numbers in southeastern Pennsylvania (PNHP 2007).

#### Current Threats:

Spotty distribution and specialized habitat requirements make this species vulnerable to local extirpation. Decline is primarily due to loss, degradation, and fragmentation of habitat and excessive (and illegal) collecting for the pet trade (Ernst et al. 1994). Bog turtle populations may suffer from low new recruitment due to predation by raccoon and trampling by humans walking through the habitat. The species is vulnerable to the usual problems associated with small population sizes.

#### Main Factors Contributing to Vulnerability Rank:

*Distribution relative to natural barriers:* Natural barriers between suitable habitat, such as large forest tracts and mountains, could greatly limit this species ability to move northward in response to climate change.

*Distribution relative to anthropogenic barriers:* Much of the current and potential habitat to the north is already heavily impacted by man thus limiting dispersal opportunities.

*Dispersal and movements:* Bog turtles tend to remain within suitable habitat patches, and rarely move more than 100 m in a year, making potential movement to a new habitat patch unlikely (NatureServe 2010).

*Physical habitat specificity:* The species is moderately to highly specialized in its habitat requirements.

*Dependence on other species to generate habitat:* Bog turtle habitat is created and maintained largely by two species, beaver and man. Livestock grazing also helps to maintain vegetation succession and softens the ground, thus creating favorable conditions for bog turtles (NJDEP 2010).

References:

Ernst, C.H., J.E. Lovich, and R.W. Barbour. 1994. Turtles of the United States and Canada. Smithsonian Institution Press, Washington and London.

Hulse, A.C., C.J. McCoy, and E. Censky. 2001. Amphibians and reptiles of Pennsylvania and the Northeast. Comstock Publishing Associates. Cornell University Press, Ithaca. 419 pp.

NatureServe. 2010. NatureServe Central Databases. Arlington, Virginia, USA.

New Jersey Department of Environmental Protection – Division of Fish and Wildlife. (accessed 3/2010). Fact Sheet – Bog turtle  
<http://www.njfishandwildlife.com/ensp/pdf/end-thrtened/bogtrtl.pdf>.

Pennsylvania Natural Heritage Program. 2007. Fact Sheet – Bog Turtle.