

Species: Spotted Turtle (*Clemmys guttata*)

Global Rank: G5

State Rank: S3

State Wildlife Action Plan: Immediate Concern Species - Responsibility Species

Climate Change Vulnerability: Moderately Vulnerable

Confidence: Moderate

Habitat:

Spotted turtles use a wide variety of wetland habitats with soft bottoms and aquatic vegetation (Ernst et al. 1994; Hulse et al. 2001; NatureServe 2010). Spotted turtles use mostly unpolluted, small, shallow bodies of water such as small marshes, marshy pastures, bogs, fens, woodland streams, swamps, small ponds, and vernal pools. They may also use brackish tidal streams. Ponds surrounded by relatively undisturbed meadow or undergrowth are most favorable. Spotted turtles often bask along the water's edge, on brush piles in water, and on logs or vegetation clumps. When inactive, they hide in bottom mud and detritus or in muskrat burrows. The species range extends from southern Maine, southern Ontario, lower peninsula of Michigan, and northeastern Illinois, south to central Indiana, central Ohio, and Pennsylvania, and southward along the U.S. east coast from New England to northern or northcentral Florida (Ernst et al. 1994; NatureServe 2010). In Pennsylvania, spotted turtles occur both in the southeastern Coastal Plain and Piedmont and in the west. They are absent from most of the Ridge and Valley Providence and north-central and northeastern portions of the state (Hulse et al. 2001).

Current Threats:

Primary threats to this species are habitat fragmentation and alteration, livestock grazing, draining and filling of wetlands, road mortality, collecting, artificial manipulation of water levels, and pollution (NatureServe 2010).

Main Factors Contributing to Vulnerability Rank:

Distribution relative to anthropogenic barriers: Portions of the current distribution of spotted turtles in Pennsylvania is bordered by significant urbanization which would make movement in response to climate change very difficult.

Dispersal and movements: The species is characterized by limited to moderate dispersal capability to new sites. Ernst et al. (1994) reported several studies with spotted turtle movement ranging from 20 m to under 500 m within their home range. Movement beyond a home range may be limited by habitat availability.

Predicted macro sensitivity to changes in precipitation, hydrology, or moisture regime: Considering the species range within Pennsylvania, the species has experienced a slightly lower than average precipitation variation in the past 50 years.

Predicted micro sensitivity to changes in precipitation, hydrology, or moisture regime: Spotted turtles are seasonally dependent on wetland/aquatic habitats that may likely be drier due to climate change effects.

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.