

Species: Eastern small-footed bat (*Myotis leibii*)

Global Rank: G3

State Rank: S1B, S1N

State Wildlife Action Plan: Species of Immediate Concern, and Pennsylvania

Responsibility Species

Climate Change Vulnerability: Extremely Vulnerable

Confidence: Very High

Habitat:

Eastern small-footed bat usually occur in mountainous regions, in or near deciduous or evergreen forests. Warm season roosts include caves, coal mines, buildings, bridges, and spaces in rocks and tree cavities. Winter hibernacula include caves and mine tunnels (NatureServe 2010). This species has been found in very cold caves and can tolerate lower temperatures than other bat species (Whitaker and Hamilton 1998). The eastern small-footed bat occurs from northern New England through New York to North Carolina, Tennessee, and northern Georgia, Alabama, and Mississippi west into Arkansas and southeastern Oklahoma (Whitaker and Hamilton 1998). Within the known range, distribution is spotty and the bat is considered rare to uncommon (Choate et al. 1994).

Threats:

The main threats to this species are destruction of habitat (both natural and artificial), white-nose syndrome, pollution (especially water), and human disturbance during hibernation (NatureServe 2010).

Main factors Contributing to Vulnerability Rank:

Predicted impact of land use changes designed to mitigate against climate change: The development and operation of wind farms may negatively affect bat populations.

Predicted micro sensitivity to changes in temperature: The species shows a strong preference for local microsites/microhabitats (caves) toward the cooler end of the spectrum.

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

Physical habitat specificity: Eastern small-footed bat is highly specialized in its habitat use for winter hibernacula (caves and mines).

Migration: This species makes only local migrations and express philopatry to their hibernaculum.

Literature Cited:

Choate, J.R., J.K. Jones Jr., and C. Jones. 1994. Handbook of mammals of the south-central states. Louisiana State University Press, Baton Rouge and London. pp 84-85.

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

Whitaker, J.O. and W.J. Hamilton (editors). 1998. Mammals of the eastern United States. Third Edition. Cornell University Press, Ithaca, New York. 583 pp.