

Margined Tiger Beetle

Cicindela marginata

Federal Listing	N/A
State Listing	
Global Rank	G5
State Rank	S1
Regional Status	



Photo by Pamela Hunt

Justification (Reason for Concern in NH)

The Margined Tiger Beetle formerly occurred at several sites in NH, but as of 1977 was believed extirpated from the last known site in Rye (Leonard and Bell 1999). However, a specimen (UNH) from Seabrook in 1989 indicates that the species still occurred in the state after 1977. The Seabrook population was confirmed as extant in 2014 (Hunt and Lambert, pers. obs.). The potential for extirpation and vulnerability of this species' habitats justifies its inclusion as a NH SGCN.

Distribution

Occurs along the Atlantic coast from Florida to Maine. Perceptions of a regional decline (Pearson et al. 2006) may be based on limited surveys, and the species appears stable over most of its distribution in the Northeast (Ward and Mays 2015). Apparently formerly more widespread in NH (Leonard and Bell 1999) but now may be restricted to a single site in Seabrook.

Habitat

The Margined Tiger Beetle is distributed along the entire Atlantic coast of the United States, where it inhabits salt pannes, mud flats, and adjacent upland areas of dunes (Leonard and Bell 1999, Pearson et al. 2006). Larvae live in sandy areas within a few meters of the water line (Pearson et al. 2006).

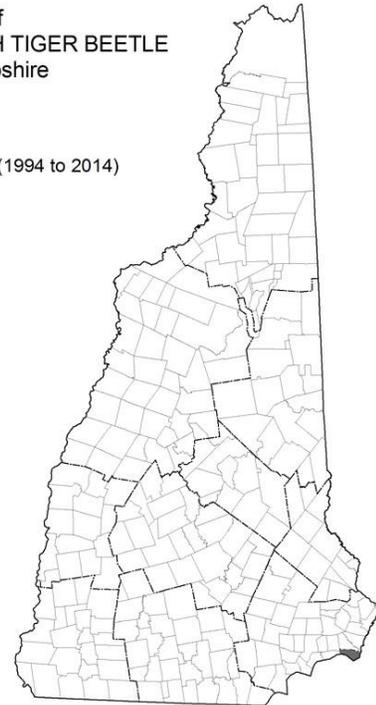
Appendix A: Insects

NH Wildlife Action Plan Habitats

- Dunes
- Salt Marshes

Distribution of
SALTMARSH TIGER BEETLE
in New Hampshire

■ Current (1994 to 2014)



Distribution Map

Current Species and Habitat Condition in New Hampshire

Unknown. Believed extirpated as of 1999 (Dunn 1981, Leonard and Bell 1999), but now known to persist in at least one site.

Population Management Status

Not managed

Regulatory Protection (for explanations, see Appendix I)

- Rivers Mngmt and Protection Program - NHDES

Quality of Habitat

Existing site may be the only remaining example in the state of an intact back-dune saltmarsh system. Most - if not all - other such sites in NH have likely been developed or permanently altered as a result of development.

Habitat Protection Status

The known site is protected by the Town of Seabrook.

Habitat Management Status

No management

Appendix A: Insects

Threats to this Species or Habitat in NH

Threat rankings were calculated by groups of taxonomic or habitat experts using a multistep process (details in Chapter 4). Each threat was ranked for these factors: Spatial Extent, Severity, Immediacy, Certainty, and Reversibility (ability to address the threat). These combined scores produced one overall threat score. Only threats that received a "medium" or "high" score have accompanying text in this profile. Threats that have a low spatial extent, are unlikely to occur in the next ten years, or there is uncertainty in the data will be ranked lower due to these factors.

Habitat conversion and degradation due to sea level rise (Threat Rank: High)

Rising sea levels will flood salt marsh pannes that this species uses for foraging. In extreme cases, lower reaches of dunes could also become inundated, or be more subject to erosion from storms.

Mortality from pesticide application (species is not the intended target) (Threat Rank: High)

The presumed extirpation of this species was believed the result of insecticide spraying, and while current insecticides may be of lower toxicity to non-target insects, the rarity of this species in the state warrants additional caution.

Pesticide application for mosquito control is believed to have caused the extirpation of a population in Rye in 1977 (Dunn 1981, Leonard and Bell 1999).

Habitat conversion due to development (Threat Rank: Medium)

Although the known site is protected, adjacent areas of similar habitat are not, nor is much other potential habitat in the state.

List of Lower Ranking Threats:

None

Actions to benefit this Species or Habitat in NH

Margined Tiger Beetle surveys

Specific Threat (IUCN Threat Levels): None

Specific Action: Research, survey or monitoring - fish and wildlife populations

Objective:

Targeted surveys at the known and potential sites along the NH coast are needed to get an accurate picture of this species' distribution and abundance in the state.

General Strategy:

Survey areas of suitable habitat statewide so as to determine current distribution

Political Location:

Rockingham County

Watershed Location:

Coastal Watershed

Location Description:

Dunes and adjacent salt marsh along the immediate NH coast

References, Data Sources and Authors

Data Sources

Tiger beetle field guides, UNH insect collection, personal observation

Dunn (1981) and Leonard and Bell (1999) both reference population declines and presumed extirpation in NH. However, Perceptions of a regional decline (Pearson et al. 2006) may be based on limited surveys, and the species appears stable over most of its distribution in the Northeast (Ward and Mays 2015).

Data Quality

It is likely that there has been little to no survey effort directed toward this species, with recent records being derived from broad insect surveys (UNH specimen) or specific visits to the site of the UNH specimen. The species could thus occur elsewhere along the NH coast where suitable habitat conditions are present (likely a limited number of sites). Limited to sporadic surveys, no directed data-collection efforts at present.

2015 Authors:

Pamela Hunt, NHA

2005 Authors:

Literature

Dunn, G.A. 1981. Tiger beetles of New Hampshire. *Cicindela* 13: 1-28.

Leonard, J.G., and R.T. Bell. 1999. *Northeastern Tiger Beetles: A field guide to tiger beetles of New England and eastern Canada*. CRC Press, Boca Raton, FL.

Pearson, D.L., C.B. Knisley, and C.J. Kazilek. 2006. *A field guide to the tiger beetles of the United States and Canada*. Oxford University Press, New York.

Schlesinger, M.D., and P.G. Novak. 2011. Status and conservation of an imperiled tiger beetle fauna in New York State, USA. *Journal of Insect Conservation* DOI: 10.1007/s10841-011-9382-y

Ward, M.A., and J.D. Mays. 2015. *Cicindela marginata* (Carabidae: Cicindelinae) in the northeastern United States: A tiger beetle in decline? *Northeastern Naturalist* 22: 192-199.