

Species Status Assessment

Class:	Insecta
Family:	Cicindelidae
Scientific Name:	<i>Cicindela hirticollis</i>
Common Name:	Hairy-necked tiger beetle

Species synopsis:

The hairy-necked tiger beetle has declined in many parts of its range, mainly due to habitat alteration and recreational pressure on its sandy habitats. This beetle occurs on sandy beaches associated with large lakes (Ontario and Champlain) and the ocean. Beaches can be narrow or wide, with varying amounts of dune vegetation, but usually with some associated dunes intact. Approximately 13 of 40 historical occurrences on Long Island appear still to be occupied, with most having been surveyed recently. Three occurrences along Lake Ontario and two along Lake Champlain are known. No historical information is available for New York's Great Lakes populations. A primary research need is further description of the morphology, habitat use, and distribution of *C. h. hirticollis* and *C. h. rugifrons*, which apparently overlap at several locations in New York (Mawdsley et al. 2013, Schlesinger and Novak 2011).

Status:

a. Current and Legal Protected Status

- i. Federal Not listed Candidate? No
- ii. New York Not listed

b. Natural Heritage Program Rank

- i. Global G5
- ii. New York S1S2 Tracked by NYNHP? Yes___

Other Rank:

Status Discussion:

This species has a limited state distribution, narrow habitat requirements, and is declining in much of its range, including New York, due to beach front development and overuse of beaches.

I. Abundance and Distribution Trends

a. North America

i. Abundance

X declining ___ increasing ___ stable ___ unknown

ii. Distribution:

X declining ___ increasing ___ stable ___ unknown

Time frame considered: Last 100 years

Moderate decline

b. Regional

i. Abundance

declining increasing stable unknown

ii. Distribution:

declining increasing stable unknown

Regional Unit Considered: Northeast

Time Frame Considered: Last 100 years

Moderate decline

c. Adjacent States and Provinces

CONNECTICUT Not Present No data

i. Abundance

declining increasing stable unknown

ii. Distribution:

declining increasing stable unknown

Time frame considered: _____

Listing Status: SC SGCN? Y

Moderate decline

MASSACHUSETTS Not Present No data

i. Abundance

declining increasing stable unknown

ii. Distribution:

declining increasing stable unknown

Time frame considered: _____

Listing Status: Not listed SGCN? N

NEW JERSEY Not Present _____ No data X

i. Abundance

____ declining ____increasing ____stable X unknown

ii. Distribution:

____ declining ____increasing ____stable X unknown

Time frame considered: _____

Listing Status: Not listed SGCN? N

ONTARIO Not Present _____ No data X

i. Abundance

____ declining ____increasing ____stable X unknown

ii. Distribution:

____ declining ____increasing ____stable X unknown

Time frame considered: _____

Listing Status: Not listed

PENNSYLVANIA Not Present _____ No data X

i. Abundance

____ declining ____increasing ____stable X unknown

ii. Distribution:

____ declining ____increasing ____stable X unknown

Time frame considered: _____

Listing Status: Not listed SGCN? N

d. NEW YORK

No data _____

i. Abundance

___ declining ___ increasing ___ stable ___ X unknown

ii. Distribution:

___ X declining ___ increasing ___ stable ___ unknown

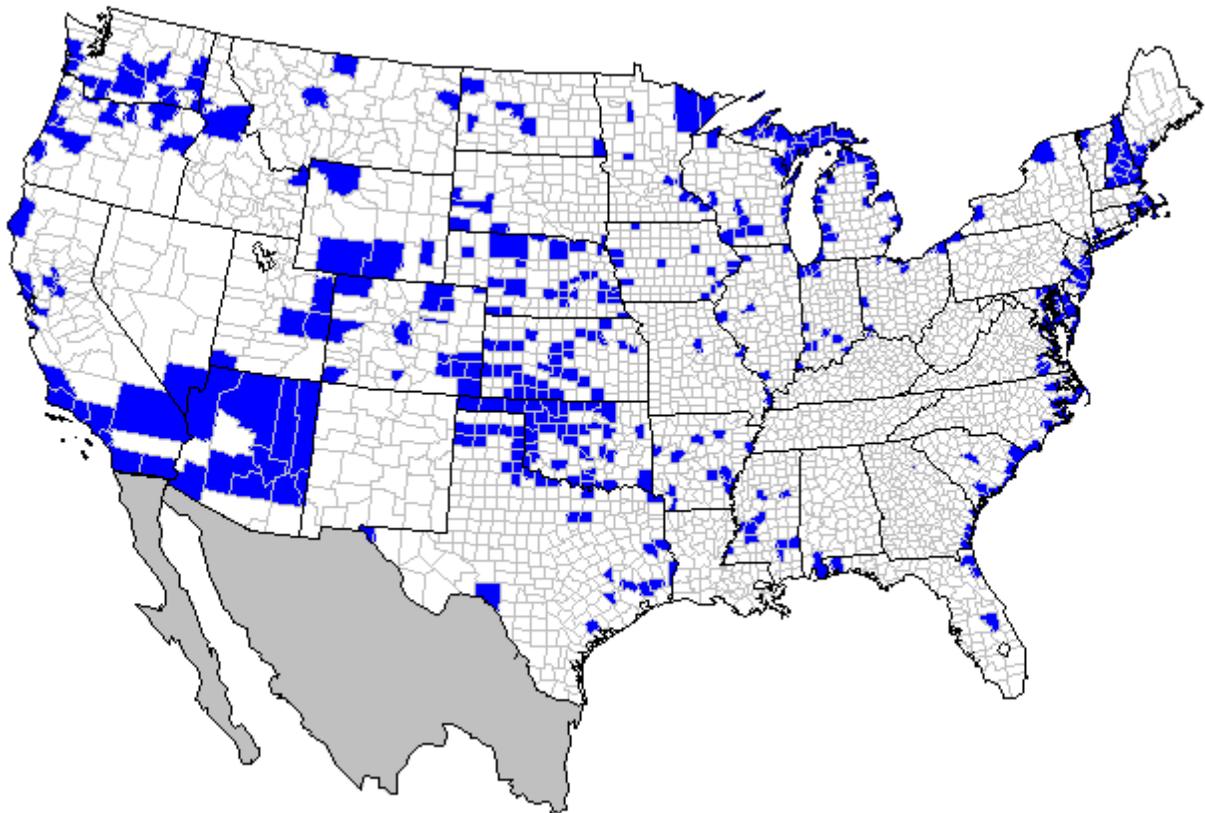
Time frame considered: Last 100 years

Severe decline

Monitoring in New York.

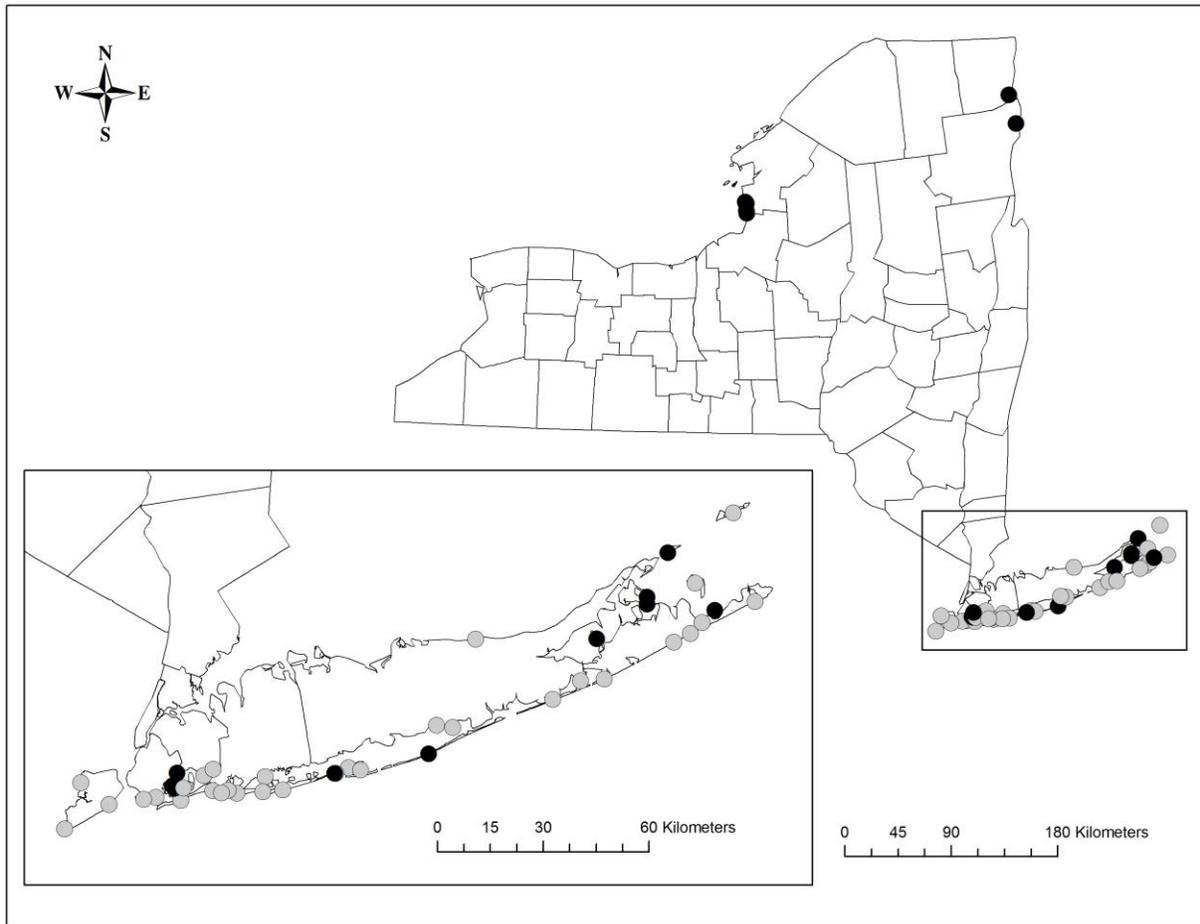
NY Natural Heritage completed a 5-year status assessment of this and other tiger beetles in 2010. Scattered surveys have happened since, particularly on NYS Parks properties.

Trends Discussion:

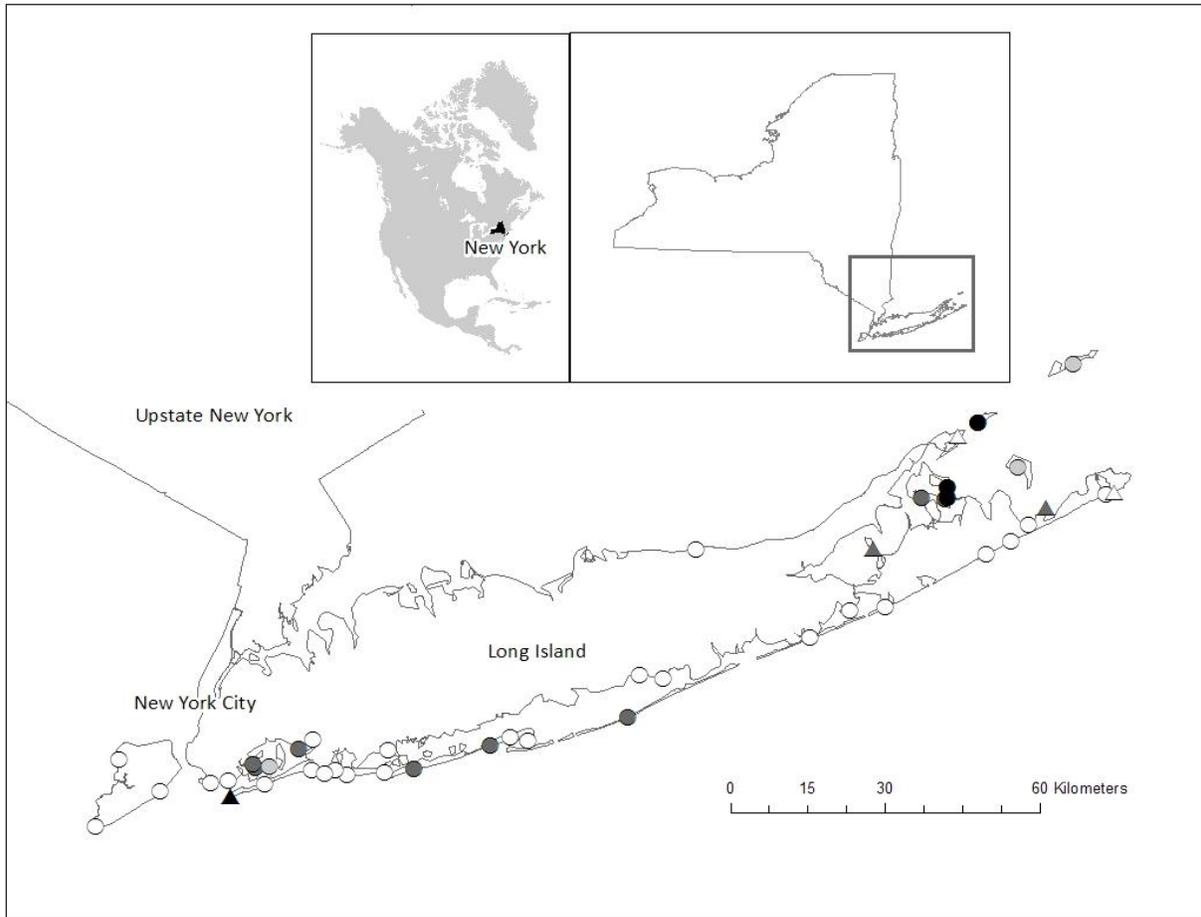


Map source: USGS

(2006)



Map source: Schlesinger and Novak (2011). Current (black dots) and approximate former (gray dots) distribution of *Cicindela hirticollis* in New York.



Map source: Mawdsley et al. (2013), adapted from Schlesinger and Novak (2011). Figure 1: Historical (circles) and *de novo* (triangles) survey sites for the tiger beetle *Cicindela hirticollis* Say in New York City and on Long Island, New York. Open symbols indicate no detection, light gray circles indicate sites not surveyed, and dark symbols indicate that at least one adult was detected. Symbols in black indicate large populations (> 40 individuals detected).

II. New York Rarity, if known:

Historic (select one)	<u># of Animals</u>	<u># of Occurrences</u>	<u>% of State</u>
prior to 1970	_____	<u>~40</u>	_____
prior to 1980	_____	_____	_____
prior to 1990	_____	_____	_____

Details of historic occurrence:

Detailed in Schlesinger (2010).

Current	<u># of Animals</u>	<u># of Occurrences</u>	<u>% of State</u>
	_____	<u>13</u>	_____

Details of current occurrence:

Approximately 13 of 40 historical occurrences on Long Island appear still to be occupied, with most having been surveyed recently. No historical information is available for New York's Great Lakes populations (Detailed in Schlesinger (2010), Schlesinger and Novak (2011), and Mawdsley et al. (2013)).

New York's Contribution to Species North American Range:

Distribution (percent of NY where species occurs)

- X 0-5%
- ___ 6-10%
- ___ 11-25%
- ___ 26-50%
- ___ >50%

Abundance (within NY distribution)

- ___ abundant
- ___ common
- ___ fairly common
- X uncommon
- ___ rare

NY's Contribution to North American range

- 0-5%
- 6-10%
- 11-25%
- 26-50%
- >50%

Classification of New York Range

- Core
- Peripheral
- Disjunct

Distance to core population:

V. New York Species Demographics and Life History

- Breeder in New York
 - Summer Resident
 - Winter Resident
 - Anadromous
- Non-breeder in New York
 - Summer Resident
 - Winter Resident
 - Catadromous
- Migratory only
- Unknown

Species Demographics and Life History Discussion:

The females oviposit in late June or July and the larvae reach the third instar during late September at which point they seal their burrows by mid (?) October and hibernate ([Hamilton 1925](#)). The burrows open in May of the following year and pupation occurs during June or July. The adults eclose in August, overwinter and become sexually mature the following spring (*loc. cit.*).

VI. Threats:

Beachfront development and overuse of beaches are major threats. In particular, vehicle traffic that crushes larval burrows is a chief cause of decline.

Are there regulatory mechanisms that protect the species or its habitat in New York?

- No Unknown

_____ Yes

Describe knowledge of management/conservation actions that are needed for recovery/conservation, or to eliminate, minimize, or compensate for the identified threats:

The most critical management need for the hairy-necked tiger beetle is the control and/or elimination of vehicle and other recreational traffic on occupied beaches, which can crush larval burrows. Beach grooming and stabilization measures also adversely affect larval and adult beetles.

VII. References

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