Species Status Assessment

Common Name: Waxed sallow **Date Updated:** 18 October 2024

Scientific Name: *Chaetaglaea cerata* **Updated By:** Annie Stupik

Class: Insecta

Family: Noctuidae

Species Synopsis

Waxed sallow moths are distributed from Maine westward to Manitoba and southward to West Virginia. This moth requires an extensive habitat of pitch pine-scrub oak barrens and heathland, associated with dry sandy soils. It can also be found in non-barrens habitat in New Hampshire, Ohio and Pennsylvania. In New York, populations are restricted to Long Island and the Albany Pine Bush. Populations in Long Island are thought to have expanded since wildfires in the 1990s, while populations in the Albany Pine Bush are thought to be in decline and possibly extirpated. Long term trends for waxed sallow moths show a decline of 50-70% due to extensive habitat loss (Nelson 2007, New York Natural Heritage Program 2009, NatureServe 2011).

There is one current occurrence in Hither Hills State Park, Suffolk County in 2007(New York Nature Explorer 2009). The Albany Pine Bush population was last confirmed in 1990 and may now be extirpated (NYSDEC SGCN Experts Meeting).

I. Status

a. Current legal protected Status

i. **Federal:** Not Listed **Candidate:** No

ii. **New York:** Not Listed; SGCN

b. Natural Heritage Program

i. **Global:** G3G4

ii. **New York:** S1S3 **Tracked by NYNHP?:** Yes

Other Ranks:

-IUCN Red List:

-Northeast Regional SGCN:

-United States and Canada National Status: NNR

Status Discussion:

Waxed sallow moths are neither globally imperiled nor secure; however, there is evidence of historic decline. Less than 100 metapopulations are estimated to exist, with the possibility that some isolated populations are not viable in the long term. This species is of special concern in Connecticut and Massachusetts. This species is listed as possibly extirpated in Maine; critically imperiled in West Virginia, Connecticut, New Hampshire and Ontario, Canada; and imperiled in New York, Massachusetts and Pennsylvania (NatureServe 2012).

II. Abundance and Distribution Trends

Region	Present?	Abundance	Distribution	Time Frame	Listing status	SGCN?
North America	Yes	Stable	Stable			(blank)
Northeastern US	Yes	Stable	Stable			(blank)
New York	Yes	Declining	Declining			(blank)
Connecticut	Unknown	Declining	Declining	2005	Special concern (extirpated)	Yes
Massachusetts	Yes	Stable	Stable	2012	Special concern	Yes
New Jersey	No	N/A	N/A			(blank)
Pennsylvania	Yes	Unknown	Unknown		Not listed	Yes
Vermont	No	N/A	N/A			(blank)
Ontario	No data	Unknown	Unknown	2009	Not listed	(blank)
Quebec	No	N/A	N/A			(blank)

Column options
Present?: Yes; No; Unknown; No data; (blank) or Choose an Item
Abundance and Distribution: Declining; Increasing; Stable; Unknown; Extirpated; N/A; (blank) or Choose an item
SGCN?: Yes; No; Unknown; (blank) or Choose an item

Monitoring in New York *(specify any monitoring activities or regular surveys that are conducted in New York):*

There has not been any black light monitoring in prime habitat since 1980s (New York Natural Heritage Program 2011).

Trends Discussion *(insert map of North American/regional distribution and status):*

Short term population trends for this species are thought to be stable throughout its range. In Long Island, extant populations are thought to have increased due to wildfires in the 1990s. Populations may be in decline (NatureServe 2012, New York Natural Heritage Program 2011Long term population trends have declined 50-70% throughout its range. Populations have disappeared from some areas, primarily Maine, where suitable habitat remains (NatureServe 2012). The most recent New York record of this species was from 2014 in the Albany Pine Bush.

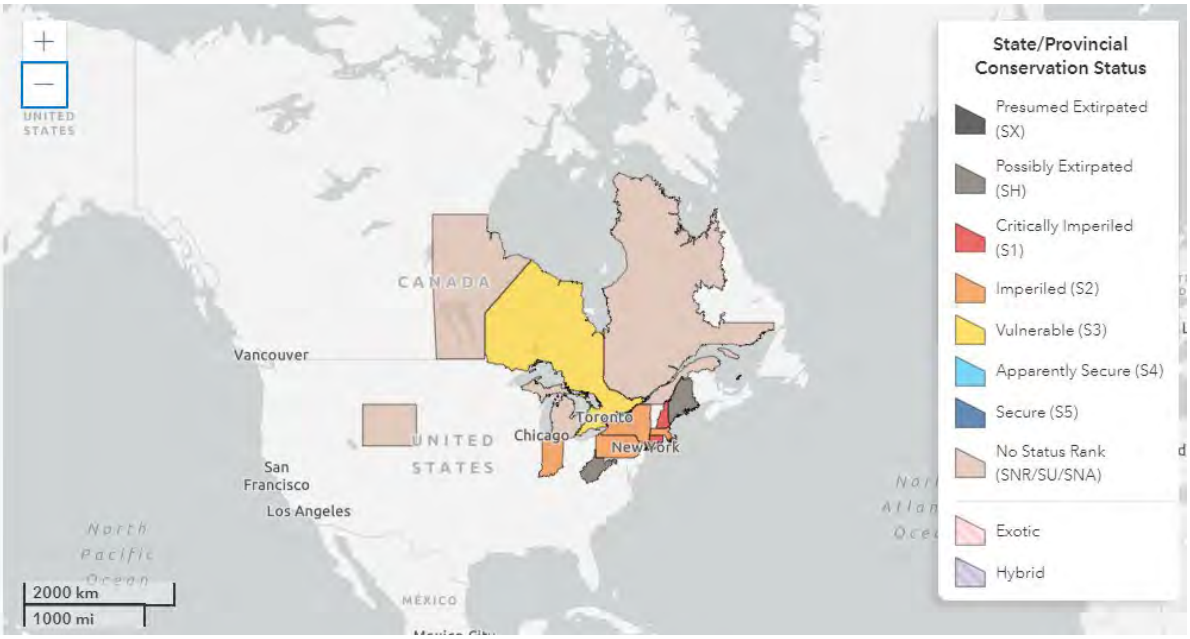

Figure 1. Conservation status of *Chaetaglaea cerata* (NatureServe 2024).

Figure 2. Occurrences of *Chaetaglaea cerata* in New York (NYNHP 2024).

III. New York Rarity *(provide map, numbers, and percent of state occupied)*

Years	# of Records	# of Distinct Waterbodies/Locations	% of State
Pre-2000	6	5	<1
2000- 2023	2	1	<1

Table 1. Records of *Chaetaglaea cerata* in New York.

Details of historic and current occurrence:

This species was first documented in the Pine Bush Preserve, Albany County, NY in 1979, and again in 1980, 1986 and 1990. This species was first documented in the Long Island Dwarf Pine Barrens Suffolk County, NY in 1975 and again in 1986 (New York Nature Explorer 2009). One specimen at North Carolina University had been collected in Poughkeepsie, Dutchess County, NY in 1960s (New York Natural Heritage Program 2011). Historically this species distribution included the Lower New England Piedmont and Great Lakes ecoregions (NYSDEC 2005).

There was one occurrence in Hither Hills State Park, Suffolk County in 2007 (New York Nature Explorer 2009). The most recent NY occurrence was in Albany Pine Bush in 2014.

New York's Contribution to Species North American Range:

Percent of North American Range in NY	Classification of NY Range	Distance to core population, if not in NY
1-25%	Peripheral	

Column options
Percent of North American Range in NY: 100% (endemic); 76-99%; 51-75%; 26-50%; 1-25%; 0%; Choose an item
Classification of NY Range: Core; Peripheral; Disjunct; (blank) or Choose an item

IV. Primary Habitat or Community Type *(from NY crosswalk of NE Aquatic, Marine, or Terrestrial Habitat Classification Systems):*

a. Pine Barrens

b. Oak-Pine Forest

c. Coastal Hardwoods

d. Coastal Coniferous Barrens

Habitat or Community Type Trend in New York

Habitat Specialist?	Indicator Species?	Pollinator Species?	Habitat/ Community Trend	Time frame of Decline/Increase
Yes	No	(blank)	Declining	

Column options
Habitat Specialist, Indicator Species and Pollinator Species: Yes; No; Unknown; (blank) or Choose an item
Habitat/Community Trend: Declining; Stable; Increasing; Unknown; (blank) or Choose an item

Habitat Discussion:

This species is most often found in barrens or heathlands of some sort. In the upper Midwest this species inhabits jack pine (Pinus banksiana) and oak barrens. In New England and New York, the preferred habitat is pitch pine (Pinus rigida) and scrub oak (Quercus ilicifolia) barrens, as well as coastal heathlands. Populations found in New Hampshire, Ohio and Pennsylvania inhabit non-barrens habitats. Other occupied habitats can be described as brush prairie or scrub oak thickets (Nelson 2007, NatureServe 2012). This species requires large patches of high quality barrens in some parts of its range (New York Natural Heritage Program 2009).

V. Species Demographic, and Life History:

Breeder in NY?	Non-breeder in NY?	Migratory Only?	Summer Resident?	Winter Resident?	Anadromous/ Catadromous?
Yes	(blank)	(blank)	Yes	Yes	(blank)

Column options
First 5 fields: Yes; No; Unknown; (blank) or Choose an item
Anadromous/Catadromous: Anadromous; Catadromous; (blank) or Choose an item

Species Demographics and Life History Discussion *(include information about species life span, reproductive longevity, reproductive capacity, age to maturity, and ability to disperse and colonize):*

Eggs overwinter and emerge on new growth in the spring. Larvae are facultatively oligophagous, feeding readily on huckleberry (Gaylussacia baccata), lowbush blueberries (Vaccinium angustifolium and V. pallidum), and scrub oak (Quercus ilicifolia). Larvae mature around June and spend the remainder of the summer months aestivating underground. Adult moths can be seen flying from October to November. Adults prefer to oviposit their eggs near the edge of dead leaves (NatureServe 2012).

Waxed sallow moths are localized, with disjunct distributions throughout the northeastern United States. Fewer than 100 metapopulations are known and there are an estimated 10,000-1,000,000 individuals thought to exist. There can be greater than 10,000 individuals in large, suitable habitat patches such as the Nantucket heathlands. C. cerata is thought to be rare within Albany, NY area (NatureServe 2012).

VI. Threats *(from NY 2015 SWAP or newly described):*

Habitat loss is major factor affecting C. cerata. Poor fire management and/or wildlife could destroy suitable habitat. Fires that occur in occupied areas at any time of the year other than mid-July-September could kill most or all of the individuals within the area. Fires within the period of mid-July-September would most likely not harm the aestivating larvae. Insecticide spraying for gypsy moths (Lymantria dispar) can harm native Lepidoptera larvae. Older larvae are thought to be more tolerant to the sprays (Peacock et al. 1998, Schweitzer 2004, NatureServe 2012). General threats identified to affect moth species include land clearing; coastal erosion; and sea level rise. Introduced parasitoid flies have been known to negatively affect native Lepidoptera (Boettner et al. 2000). Other threats may include invasive species, light pollution affecting reproductive success, over grazing of host plants by wild deer populations, and off-road vehicle use (NYSDEC 2005).

Threat Level 1	Threat Level 2	Threat Level 3	Spatial Extent	Severity	Immediacy	Trend	Certainty
1. Residential and Commercial	1.1 Housing & Urban Areas	(habitat loss/ degradation)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
7. Natural System Modifications	7.1 Fire & Fire Suppression	-	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
7. Natural System Modifications	7.3 Other Ecosystem Modifications	7.3.3 Natural erosion & sedimentation (coastal erosion)					
9. Pollution	9.3 Agricultural & Forestry Effluents	9.3.3 Herbicides & pesticides (insecticide for gypsy moths)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.

Table 2. Threats to *Chaetaglaea cerata.*

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

Yes: **No:** ✓ **Unknown:**

If yes, describe mechanism and whether adequate to protect species/habitat:

The population confirmed in Hilter Hills State Park, is on state-owned property and is protected from development, however is exposed to recreational activities.

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

Monitoring of this species requires the use of black lights and mercury lights in order to attract individuals. Previous monitoring using baits likely overlooked this species (New York Natural Heritage Program 2011). There is likely less than 1000 acres of good habitat left for C. cerata in the Albany Pine Bush, however the area is state-owned and protected from development (NatureServe 2012). The New York Natural Heritage Program (2011) notes that this species should occur in barrens habitats on the Shawangunk Ridge and possibly other ridges in southeastern New York. In western New York, populations in sandy oak barrens seem unlikely, but are possible.

Action Category	Action	Description
A.1 Direct Habitat Management	A.1.0.0.0 Direct Habitat Management	Site Management
A.2 Direct Species Management	A.2.0.0.0 Direct Species Management	Invasive/problematic species control
B.3 Outreach	B.3.0.0.0 Outreach	Awareness and Communications
C.6 Design and Plan Conservation	C.6.0.0.0 Design and Plan Conservation	Site/Area Protection
C.6 Design and Plan Conservation	C.6.0.0.0 Design and Plan Conservation	Resource/Habitat Protection
C.7 Legislative and Regulatory Framework or Tools	C.7.0.0.0 Legislative and Regulatory Framework or Tools	Policies and Regulations

Table 3. Recommended conservation actions for *C. cerata.*

VII. References

Boettner, G.H., J.S. Elkington, and C.J. Boettner. 2000. Impacts of an introduced generalist parasitoid on three native species of saturniid moths. Conservation Biology 14: 1798–1806

NatureServe. 2012. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. <http://www.natureserve.org/explorer>. Accessed 20 February 2013.

NatureServe. 2024. 4 October 2024. https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.116339/Chaetaglaea_cerata. Accessed 18 October 2024.

New York Natural Heritage Program. 2011. Online Conservation Guide for *Chaetaglaea cerata*. Available from: http://www.acris.nynhp.org/guide.php?id=8138. Accessed February 21st, 2013.

New York State Department of Environmental Conservation. 2005. New York State Comprehensive Wildlife Conservation Strategy. http://www.dec.ny.gov/index.html.

New York State Department of Environmental Conservation. 2009. New York Nature Explorer. <http://www.dec.ny.gov/natureexplorer/app/>. Accessed 20 February 2013.

Nelson, M.W. 2007. Massachusetts rare species fact sheets. Massachusetts Division of Fisheries & Wildlife, Westborough, MA. <http://www.mass.gov/dfwele/dfw/nhesp/species_info/fact_sheets.htm>. Accessed 22 February 2013.

Peacock, J. W., D. F. Schweitzer, J. L. Carter, and N. R. Dubois. 1998. Laboratory Assessment of the effects of *Bacillus thuringiensis* on native Lepidoptera. Environmental Entomology 27(2):450-457.

Schweitzer, D.F. 2004. Gypsy Moth (*Lymantria dispar*): Impacts and Options for Biodiversity-Oriented Land Managers. NatureServe: Arlington, Virginia. 59 pp.

Originally prepared by	Shawn Ferdinand
Date first prepared	20 February 2013
First revision	10 February 2014 (Samantha Hoff)
Last revision	18 October 2024 (Annie Stupik)