

# Species Status Assessment

**Common Name:** Umber Underwing Moth

**Date:** 3/14/2025

**Scientific Name:** *Catocala umbrosa*

**By:** Hollie Shaw

**Class:** Insecta

**Family:** Erebidae

**Species Synopsis** (a short paragraph which describes species taxonomy, distribution, recent trends, and habitat in New York):

*Catocala umbrosa* populations are considered somewhat disjunct with three areas represented in the United States. In the northeast, this species is found from Massachusetts to Delaware. The southern range is from Florida to Texas. Finally, the west range extends from Illinois to Missouri to Oklahoma (NatureServe 2025).

Range wide, there are indications of range contraction in the northeast and south. The trends in New York are unknown. This species is considered a habitat specialist in the northeastern United States and habitat loss plays a role in the declines (NatureServe 2025).

This species is generally found in xeric habitats. In the northeast, it is found in sandy barrens with oaks. The larval food plant is unknown but is likely oaks (*Quercus* spp) (NatureServe 2025).

## I. Status

### a. Current legal protected Status

i. **Federal:** not protected **Candidate:** No

ii. **New York:** not protected

### b. Natural Heritage Program

i. **Global:** G4G5

ii. **New York:** S1 **Tracked by NYNHP?:** Yes

### Other Ranks:

-NYS 2025 SGCN Status: Species of Greatest Conservation Need

-IUCN Red List: Not listed

-Northeast Regional SGCN: Not listed

### Status Discussion:

Until recently, this species was considered historically present (SH) by the New York Natural Heritage Program (2025). Review of records available on iNaturalist (2025) indicates that this species is present, and the rank was changed to S1. It is proposed to be SGCN.

## II. Abundance and Distribution Trends

Region	Present?	Abundance	Distribution	Time Frame	Listing status	SGCN?
North America	Yes	Unknown	Unknown			-
Northeastern US	Yes	Declining	Unknown			-
New York	Yes	Unknown	Unknown			Yes
Connecticut	Yes	Unknown	Unknown			Choose
Massachusetts	Yes	Unknown	Unknown			No
New Jersey	Yes	Unknown	Unknown			Choose
Pennsylvania	Yes	Unknown	Unknown			Choose
Vermont	No	-	-			-
Ontario	No	-	-			-
Quebec	No	-	-			-

*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 are no known monitoring activities or regular surveys.

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

Range wide, there are indication of range contraction in the northeast and south. The trends in New York are unknown. Recent reports are from 2003 to 2023 (iNaturalist 2025), but there is no indication of population trends. This species is considered a habitat specialist in the northeastern United States and habitat loss plays a role in the declines (NatureServe 2025).

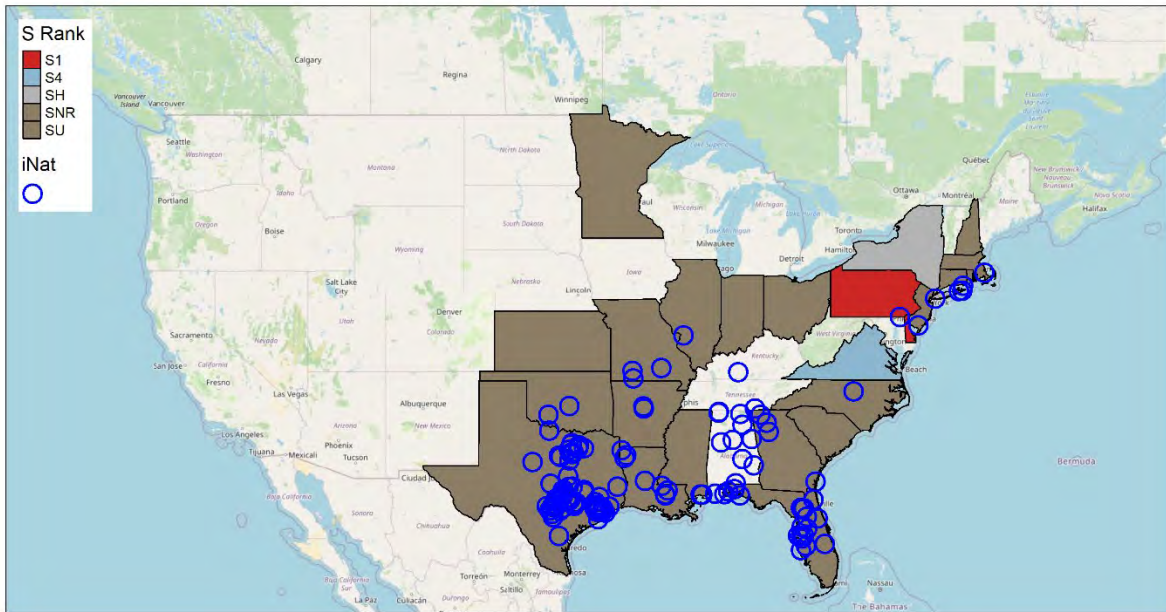


Figure 1. *Catocala umbrosa* distribution status in North America (iNaturalist 2025, NatureServe 2025)

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

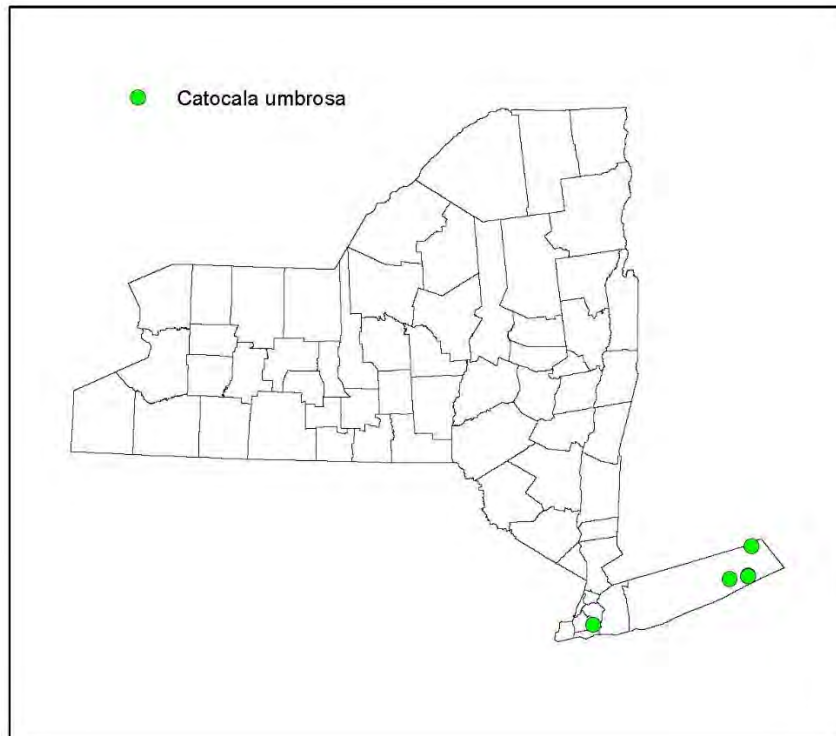


Figure 2. Records of *Catocala umbrosa* in New York (iNaturalist 2025)

Years	# of Records	# of Counties	% of State
Pre-2000	unknown	unknown	_____
2000- 2023	11	2	3%

Table 1. Records of *Catocala umbrosa* in New York.

**Details of historic and current occurrence:**

Historical records for *Catocala umbrosa* are not documented because it was considered a variant of *Catocala illia*. Since 2003, this species has been found 11 times at six locations in two counties (Queens and Suffolk) (iNaturalist 2025). It is considered uncommon in the northeast United States (NatureServe 2025).

**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. North Atlantic Coastal Plain Pitch Pine Barrens

**Habitat or Community Type Trend in New York**

Habitat Specialist?	Indicator Species?	Pollinator Species?	Habitat/Community Trend	Time frame of Decline/Increase
Yes	Unknown	No	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:**

*C. umbrosa* is generally found in xeric habitats. In the northeast, it is found in sandy barrens with oaks (*Quercus spp.*). Examples include pine and scrub oak barrens. The larval food plant is unknown but is likely oaks (NatureServe 2025).

## V. Species Demographic, and Life History

Breeder in NY?	Non-breeder in NY?	Migratory Only?	Summer Resident?	Winter Resident?	Anadromous/Catadromous?
Yes	Choose an item.	No	Yes	Yes	Choose an item.

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):

In New York, adults are typically present from July through mid-September (iNaturalist 2025). Larvae can be indistinguishable from *C. ilia* (Wagner 2011).

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

*C. umbrosa* is a habitat specialist that is typically found in sandy habitats with oaks, typically barrens in the northeast US. This habitat is increasing rare and is threatened by development and lack of fire management. Light pollution, insecticide use, invasive species, and climate change are also threats. Spongy moth (*Lymantria dispar*) infestations may be a threat to this species assuming that the *C. umbrosa* also relies on oaks as a larval food plant.

<b>Threat Level 1</b>	<b>Threat Level 2</b>	<b>Threat Level 3</b>	<b>Spatial Extent</b>	<b>Severity</b>	<b>Immediacy</b>	<b>Trend</b>	<b>Certainty</b>
7. Natural System Modifications	7.1 Fire & Fire Suppression	(lack of fire management)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
8. Invasive & Other Problematic Species	8.1 Invasive Non-Native Plants & Animals	-	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
9. Pollution	9.3 Agricultural & Forestry Effluents	9.3.3 Herbicides & pesticides	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
9. Pollution	9.6 Excess Energy	9.6.1 Light pollution	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
11. Climate Change	-	-	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.

**Table 1.** Threats of *Catocala umbrosa*

**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:**

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

The best management strategy for this species is the management of the natural community, or habitat, where this species occurs. If populations occur in pine barrens habitats, maintaining the full suite of plant and animal species requires frequent (every few decades) disturbance to maintain open-canopy, shrub-dominated communities and to prevent succession to a closed-canopy hardwood forest (Jordan et al. 2003). Researchers have determined that "an active fire management program utilizing prescribed fire with appropriate mechanical treatments" is the preferred method (Jordan et al. 2003). Researchers have also determined that the size, type, intensity, and timing of fires (pyrodiversity) needs to be evaluated for each site to maximize benefits to the natural community and the species it supports (Jordan et al. 2003). The entire occupied habitat for a population should not be burned in a single year. For example, in places where prescribed burning is used, refugia (unburned areas) are needed for many species to ensure that any life stage can survive a fire.

In addition, minimizing lighting to maintain dark sky conditions would be beneficial. When lighting is necessary, it's best to use lights that emit red or yellow light because insects are generally not attracted to those colors. However, many sodium lights, which emit yellow light, are so bright that they do attract some insects. The best lighting appears to be low pressure sodium lights which have little effect on flying insects (Schweitzer et al. 2018).

More research is needed to gain a better understanding of this species' biology. The larval food plant has not been confirmed but is assumed to be oaks. More information is needed about life stages and fire tolerance.

Insecticide use should be avoided when possible if rare species are present. When insecticide use cannot be avoided, careful planning along with consistent rare species monitoring, can result in successful eradication of the target species without eliminating rare species. Attempt to control spongy moth populations to avoid extreme oak defoliation. A biocontrol alternative is *Bacillus thuringiensis* (Btk) for some target species, such as spongy moths. Sensitivity varies between species, and it appears that most species are not sensitive to Btk approximately two weeks post-application. There are two other spongy moth biocontrols that appear to be very effective at eliminating or slowing the spread of spongy moths with little effect on non-target species: Gypchek (Reardon et al. 2016) and *Entomophaga maimaiga* (a fungus). *E. maimaiga* was introduced in 1910 and 1911 and was rediscovered in 1989 in the northeast it can be highly variable (Shelton 2025).

Protect areas with the food plant, especially those where the moth is present. Prevent or reduce the impact from invasive species in areas with the foodplant. Consider maintaining a diversity of

native vegetation to increase resiliency and monitor for significant changes in the habitat quality. Prepare sites for extreme weather events.

Action Category	Action	Description
A.1 Direct Habitat Management	A.1.0.0.0 Direct habitat management	Site/Area management
A.1 Direct Habitat Management	A.1.1.0.0 Manage plants, animals, fungi, or bacteria	Invasive/Problematic species control
B.3 Outreach	B.3.1.4.0 Public outreach and information	Awareness & Communications
C.6 Design and Plan Conservation	C.6.5.0.0 Conservation planning	Site/Area Protection
C.6 Design and Plan Conservation	C.6.5.0.0 Conservation planning	Resource/Habitat Protection
C.6 Design and Plan Conservation	C.6.5.1.3 Develop a conservation, management, or restoration plan for protected private lands	Habitat/Natural process restoration
C.7 Legislative and Regulatory Framework or Tools	C.7.1.3.0 Create, amend, or influence regulation	
C.7 Legislative and Regulatory Framework or Tools	C.7.2.1.0 Create or amend policies	
C.9 Education and Training	C.9.2.0.0 Training and individual skill development	Training

**Table 2.** Recommended conservation actions for *Catocala umbrosa*.

## VII. References

iNaturalist.org. 2025. *Catocala umbrosa* records in North America. California Academy of Sciences, San Francisco, CA. <http://www.inaturalist.org>. Accessed March 11, 2025.

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