

Species Status Assessment

Common Name:	Wild Cherry Sphinx Moth	Date Updated:	2024-12-19
Scientific Name:	<i>Sphinx drupiferarum</i>	Updated By:	Hollie Shaw
Class:	Insecta		
Family:	Sphingidae		

Species Synopsis

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

Sphinx drupiferarum is a large, slender blackish/gray-brown moth. The forewing has a light gray margin and blackish brown elsewhere. The distal forewing is yellow-orange and light gray stripes with a dark brown margin. The hindwing is small in comparison to the forewing and has brown and light gray striping with a tan outer margin and brown fringe (Pacific Northwest Moths 2024).

This species is widely distributed across North America (Tuttle 2007, NatureServe 2024). It is found throughout New England, the Great Lake Region, the Rocky Mountain states, and along the Pacific Coast northward from northern California. Records are more scarce in South Carolina, Georgia, Mississippi, and west-central Texas. Populations are known across Canada with a few exceptions in the Maritime Provinces. It is more common in the more northern portion of its range and records are more scattered in the southern United States (Tuttle 2007). In New York it was once found in 23 counties across the state. Since 2000, it has been reported from three counties (Essex, Franklin, and Suffolk) (White et al. 2022).

Declines are noted, especially in the eastern portion of the range for reasons that are not completely understood. This species appears to have declined severely or disappeared more widely than any other sphingid. It is no longer common in most of the eastern range and a 30% range reduction is estimated. (NatureServe 2024). *Compsilura concinnata* was introduced to control spongy moth (*Lymantria dispar*) populations and likely contributed to the some of the eastern declines of this species as well as other Sphinx and other large moths. The first generation of this tachinid parasitizes spongy moth larvae. After that, it parasitized native larvae (Wagner 2012).

Open habitats with numerous larval food plants as sprouts, shrubs, or small trees are generally preferred (NatureServe 2024). Food plants are typically Rosaceae, especially *Prunus* spp. (cherry), *Malus* spp. (apple), or *Amelanchier* spp. (serviceberry) (Tuttle 2007, NatureServe 2024). There appears to be some regional habitat differences. In Vermont, New York, Pennsylvania, and West Virginia, this species' larval foodplant appears to be *Prunus serotina* or other *Prunus* spp. (NatureServe 2024).

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: G3G5

ii. New York: S1S2 Tracked by NYNHP? On Active Tracking List

Other Ranks:

COSEWIC: Not listed in Canada

IUCN Red List: Not assessed by IUCN Red List

Northeast Regional SGCN: Not listed

Status Discussion:

The species was ranked an S1S2 as part of the ESNPS (White et al. 2022) based on rarity, trend, and threat information. Historically, it was found in approximately 23 counties in New York. It was found in Albany County in 1982, Franklin and Essex Counties in 2011, and at three locations in Suffolk County in 2004, 2020, and 2023 (White et al. 2022, iNaturalist 2024).

II. Abundance and Distribution Trends

Region	Present?	Abundance	Distribution	Time Frame	Listing status or S-Rank	SGCN?
North America	Yes	Unknown	Unknown	Unknown		
Northeastern US	Yes	Unknown	Unknown	Unknown		no
New York	Yes	Unknown	Unknown	Unknown	S1S2	Yes
Connecticut	No	Unknown	Unknown	Unknown	SH	2025 SAPS*
Massachusetts	No	Unknown	Unknown	Unknown	SU	No
New Jersey	No	Unknown	Unknown	Unknown	SU	No

Region	Present?	Abundance	Distribution	Time Frame	Listing status or S-Rank	SGCN?
Pennsylvania	No	Unknown	Unknown	Unknown	SNR	no
Vermont	No	Unknown	Unknown	Unknown	SH	Yes
Ontario	No	Unknown	Unknown	Unknown	S4	n/a
Quebec	No	Unknown	Unknown	Unknown	SNR	n/a

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

* SAPS are species that we need more information on to understand their status, trends, level of conservation concern, and whether or not they should be classified as SGCN.

Monitoring in New York

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

The Empire State Native Pollinator Survey (ESNPS) was conducted from 2017-2021, but there are no organized, regular monitoring or survey activities directed toward this species or to sites where they have been documented. Some regular monitoring may occur at protected sites that Heritage staff revisit if they occur on state properties, as part of OPRHP or State Lands inventory work.

Trends Discussion

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

Declines are noted, especially in the eastern portion of the range for reasons that are not completely understood. This species appears to have declined severely or disappeared more widely than any other eastern sphingid. It is no longer common in most of the eastern range and a 30% range reduction is estimated (NatureServe 2024). In New York, it was historically known from 23 counties throughout much of the state. It is currently (since 2000) known from three counties (Essex, Franklin, and Suffolk). It was found in Albany County in 1982 (White et al. 2022). Most declines likely occurred between the 1950s and 1980s (NatureServe 2024).

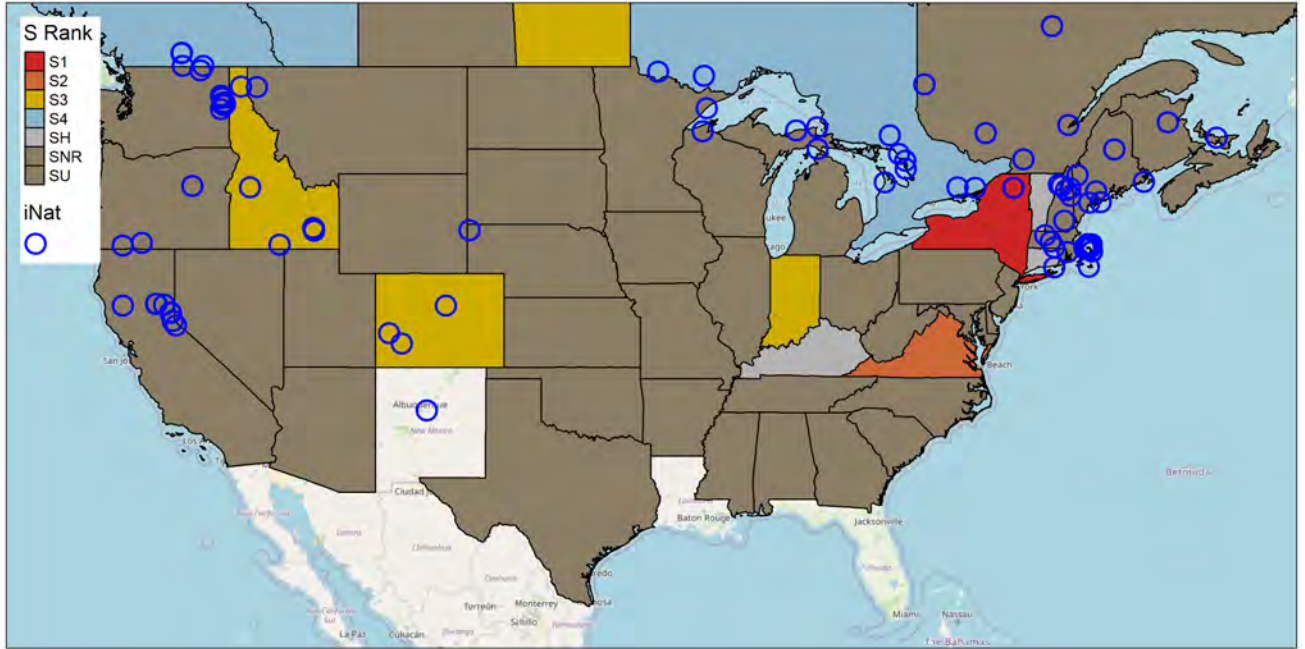


Figure 1. *Sphinx drupiferarum* North American distribution. Points show research-grade iNaturalist observations.



Figure 2. *Sphinx drupiferarum* regional distribution as reported at <https://northeastwildlifediversity.org/rsgcn>.

III. New York Rarity

(provide map, numbers, and percent of state occupied)

Historically, this species was more widespread in New York with locations in 23 counties. Since 2000, it has been found in four counties (Albany, Essex, Franklin, and Suffolk (White et al. 2022)).

Years	Observations	# of Counties	% of counties in State
Pre-2000	53	23	16.1
2000-2023	8	3	4.8

Table 1. Number of observations of *Sphinx drupiferarum* grouped by the dates known to be extant (repeat observations (element occurrences) include the years spanning first observation to last observation) and the number and percent of total of counties these observations fall within for New York State.

Details of historic and current occurrence:

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

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):

NatureServe broad habitat types: Sand/dune, cropland/hedgerow, suburban/orchard, shrubland/chaparral, savanna, barrens, woodland - hardwood, old field

Habitat or Community Type Trend in New York

Habitat Specialist?	Indicator Species?	Habitat/ Community Trend	Time frame of Decline/ Increase
Unknown	Unknown	Unknown	Unknown

Column options

Habitat Specialist and Indicator Species: Yes; No; Unknown; (blank) or Choose an item.

Habitat/Community Trend: Declining; Stable; Increasing; Unknown; (blank) or Choose an item.

Habitat Discussion:

Open habitats with numerous larval food plants as sprouts, shrubs, or small trees are generally preferred (NatureServe 2024). Food plants are typically Rosaceae, especially *Prunus* spp. (cherry), *Malus* spp. (apple), or *Amelanchier* spp. (serviceberry) (Tuttle 2007, NatureServe 2024). There appears to be some regional habitat differences. In Vermont, New York, Pennsylvania, and West Virginia, this species' larval foodplant appears to be *Prunus serotina* or other *Prunus* spp. (NatureServe 2024). Examples of potential habitats include coastal beach plum thickets, thickets with wild cherries along railroads, and airport approach zones with cherry sprouts are known to be habitats on the east coast. Old fields with a lot of wild cherry were likely ideal habitat for this species. Suburban areas where foodplants are planted may provide suitable habitats, but orchards, other than perhaps organic ones, would be ecological sinks due to heavy insecticide use. Adults likely wander into almost any habitat in search of nectar (NatureServe 2024).

V. Species Demographics and Life History

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

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):

There is typically a single, synchronized brood sometime between May and July. Adults are usually observed for about one month. The egg stage is approximately five to six days. Pupae is found about 10 cm below the surface of the soil. Some pupae may overwinter for two seasons (NatureServe 2024). Larvae hid during the day and feed at night (Lotts and Naberhaus 2024).

VI. Threats

Sphinx moths and other large moth species have been in decline in the Northeast for decades (Wagner 2012). *S. drupiferarum* appears to have declined severely or disappeared more widely than any other eastern sphingid for reasons not completely understood (NatureServe 2024). *Compsilura concinnata* was introduced to control spongy moth (*Lymantria dispar*) populations but contributed to the decline of many native moth species, including this species. The first generation of this tachinid parasitizes spongy moth larvae. After that, it parasitizes native larvae. Other current threats include habitat loss by destruction or succession, over-grazing by deer, and climate change (Wagner 2012).

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)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
7. Natural System Modifications	7.3 Other Ecosystem Modifications	7.3.2 Vegetation succession	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	8.1.1 Terrestrial animals (introduced <i>Compsilura concinnata</i> for spongy moth control)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
11. Climate Change	11.1 Habitat Shifting & Alteration	-	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.

Table 2. Threats to *Sphinx drupiferarum*

Action Category	Action	Description
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.9 Education and Training	C.9.2.0.0 Training and individual skill development	Training

Table 2. Recommended conservation actions for *Sphinx drupiferarum*.

VII. References

- iNaturalist.org. 2024. *Sphinx drupiferarum* records in North America. California Academy of Sciences, San Francisco, CA. <http://www.inaturalist.org>. Accessed December 17, 2024.
- Lotts, Kelly and Thomas Naberhaus, coordinators. 2024. Butterflies and Moths of North America. <http://www.butterfliesandmoths.org/> (Version 12/11/2024).
- NatureServe. 2024. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. <http://www.natureserve.org/explorer>. [Accessed 12/14/2024].
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- Pacific Northwest Moths. 2024. Species fact sheet for *Sphinx drupiferarum*. <<https://pnwmoths.biol.wvu.edu/browse/family-sphingidae/subfamily-sphinginae/sphinx/sphinx-drupiferarum/>>. Accessed 11 December 2024.
- Tuttle, J. P. 2007. The hawk moths of North America: A natural history study of the Sphingidae of the United States and Canada. The Wedge Entomological Research Foundation, Washington, D. C. 253 pp. +23 plates.
- Wagner, D.L. 2012. Moth decline in the northeastern United States. *News of the Lepidopterists' Society* 54(2):52-56.
- White, Erin L., Matthew D. Schlesinger, and Timothy G. Howard. 2022. The Empire State Native Pollinator Survey (2017-2021). New York Natural Heritage Program. Albany, NY.

Originally prepared by	Hollie Shaw
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