Species Status Assessment

Common Name: Northern oak hairstreak **Date Updated:** March 2025

Scientific Name: *Satyrium favonius ontario* **Minor Edits By:** NYSDEC Wildlife Section

Class: Insecta

Family: Lycaenidae

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

The original specimen supposedly came from Ontario, Canada. However, since 1900 this subspecies has been found from the vicinity of Boston, Massachusetts (not before about 1980) southward though coastal New England, southeastern New York, and more widely from New Jersey through most of Georgia and west into Texas and Oklahoma. While it does occur in much of the lower Midwest eastward into Ohio and widely in the southeastern states, this species is unknown from the mountains (New York Natural Heritage Program 2012).

In New York this species occurs mostly in the lower Hudson Valley and on Long Island. The distribution also includes the Albany Pine Bush where one was collected in 1979. Historically, it was present in at least the Ithaca area, but according to Robert Dirig there are no records in that area since 1970, after collections in 1890, 1967, and 1970. Since 2000, there have been credible reports from Orange, Westchester, Rockland, and Suffolk Counties (New York Natural Heritage Program 2012). As Shapiro (1974) noted, the habitat is not rare in southeastern New York.

DEC is not aware of any additional data or new information on population trends or threats to this species since the last SWAP revision in 2015. Due to the S2S4 status of this species, indicative of a secure population with few occurrences in New York State, the 2015 HPSGCN status has been changed to SGCN.

I. Status

a. Current legal protected Status

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

ii. **New York:** Not listed

b. Natural Heritage Program

i. **Global:** G4

ii. **New York:** S2S4 **Tracked by NYNHP?:** Yes

Other Ranks:

-NYS 2025 SGCN Status: SGCN

-IUCN Red List: N/A

-Northeast Regional SGCN: Watchlist

Status Discussion:
Since the potential habitat is widespread in southeastern New York, and since the species probably spends most of its time in the canopy, the Northern oak hairstreak is probably much less rare than records indicate. Nevertheless, the habitat is spotty in heavily developed southeastern mainland New York, although the species could be more widespread on outer Long Island (New York Natural Heritage Program 2012).

II. Abundance and Distribution Trends

Region	Present?	Abundance	Distribution	Time Frame	Listing status	SGCN?
North America	Yes	Stable	Stable			-
Northeastern US	Yes	Stable	Stable			-
New York	Yes	Unknown	Unknown			Yes
Connecticut	No data	-	-			-
Massachusetts	No	-	-			-
New Jersey	Yes	Stable	Stable			-
Pennsylvania	No data	-	-			-
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):*
None

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

The long-term and short-term trends are unknown, but this species may be increasing with climate change and warming (New York Natural Heritage Program 2012).

No maps is available. Distribution data for U.S. states and Canadian provinces is known to be incomplete or has not been reviewed for this taxon.

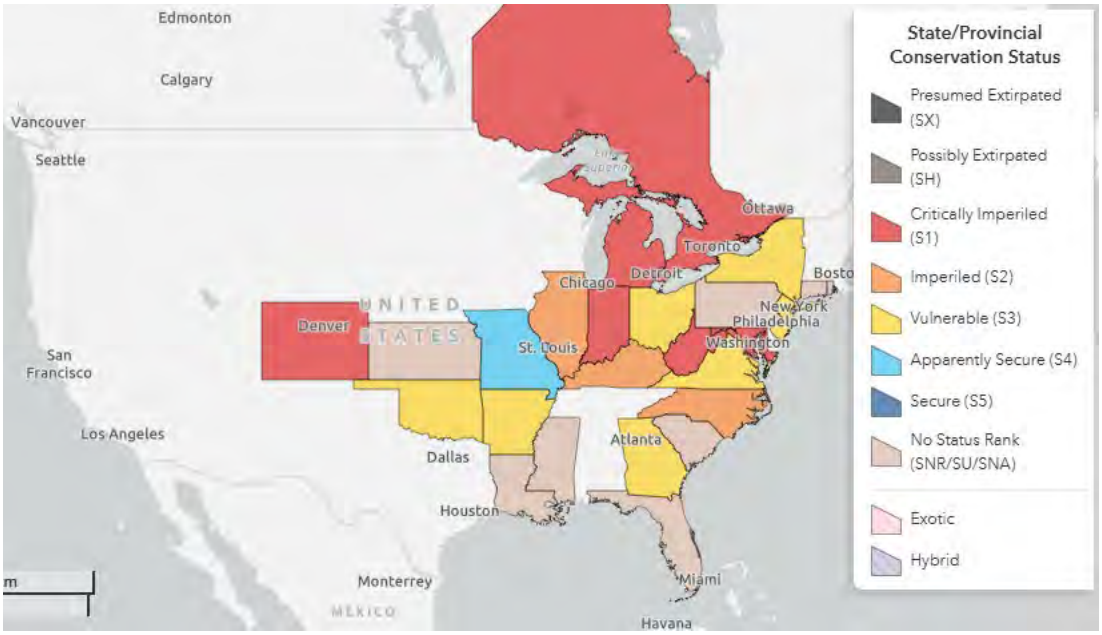

Figure 1. Conservation status of *Satyrium favonius Ontario* in North America (NatureServe 2024).

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

Details of historic and current occurrence:

Ulster County – 1989; Westchester County – 1989

Possible but unconfirmed records from Orange, Suffolk, Rockland, and Tompkins counties; no date given (Nature Serve Explorer 2009).

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. Oak-pine forest

b. 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	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:

This species is most often found on dry rocky or sandy oak or oak-pine forest. Pitch pine and scrub oak may be present, but this butterfly is not generally found in classic pine barrens habitats. It may also turn up around more mixed forests (New York Natural Heritage Program 2012).

V. Species Demographic, and Life History:

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

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):*

Life history information for this species is unknown.

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

The main threat is habitat loss. Gyspy moth (*Lymantria dispar*) spraying with chemical biocides such as Dimilin would severely threaten any occurrence. It is likely, but not known for sure, that Bt (*Bacillus thuringiensis* - a bacterial biological control used on gypsy moth caterpillars) would also be lethal to the larvae, but it is likely that Bt mortality would be lower than from Dimilin. The larvae normally complete feeding well before defoliation of oaks by gypsy moth larvae would be a threat. Collecting is not a threat, as it would be nearly impossible to overcollect this secretive species.

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.
9. Pollution	9.5 Air-Borne Pollutants	(gypsy moth spraying)	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 (gypsy moth / other species competing for food)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.

Table 1. Threats to *Satyrium favonius Ontario.*

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

Yes:_____ No:_X__ 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:

In some cases managers might want to consider making sure there are nectar sources available. Milkweeds and dogbanes should not be mowed during their flowering period, but otherwise the habitat is generally forest that probably needs little management. Unless documented otherwise, it must be assumed that Bt is highly lethal to the larvae and therefore gypsy moth spraying could eradicate populations.

More reserach is needed that would identify which species of oaks the larvae eat and whether or not they have any other special needs. It would also be very useful to document the sensitivity of the larvae to realistic doses of Bt (Bacillus thuringiensis - a bacterial biological control used on gypsy moth caterpillars) such as are applied for gypsy moth suppression. The available evidence for other butterflies in the subfamily Theclinae suggests that this species would be sensitive to Bt (Schweitzer 2004; Wagner et al. 1996), but sensitivity of caterpillars to Bt is very variable, even among species in the same genus (Peacock et al. 1998).

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.7 Legislative and Regulatory Framework or Tools	C.7.1.3.0 Create, amend, or influence regulation	

Action Category	Action	Description
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 *Satyrium favonius Ontario* (add more lines as needed).

The Comprehensive Wildlife Conservation Strategy (NYSDEC 2005) includes recommendations for the following actions for other butterflies, and for the Northern oak hairstreak in particular.

Fact sheet:

____ Develop fact sheets and other outreach material to educate the public about species at risk Lepidoptera.

Habitat management:

____ Determine best management regimes for species in each locality.

Habitat research:

____ Determine precise habitat needs of all life stages.

____ Ascertain food plants.

____ Determine the relationship between food availability and species numbers.

Invasive species control:

____ Identify species which impact negatively on butterfly populations.

____ Determine the best control method for those exotic species with minimal repercussions for butterfly populations.

Life history research:

____ Investigate the metapopulation dynamics of those species which appear to have distinct populations.

____ Establish the duration of all life stages.

____ Taxonomic research for related species.

Other action:

____ Determine the actual sensitivity of species to chemical formulations, particularly diflubenzuron and other commonly used agricultural pesticides.

____ Determine the effect of Bacillus thuringiensis kurstaki (BTK) used in Gypsy moth sprayings on various species.

Population monitoring:

____ Inventory of species within historical range.

Statewide baseline survey:

____ Survey all species to more adequately define the list of species that need to be addressed.

VII. References

NatureServe. 2024. NatureServe Explorer. Page last published 11/1/24. https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.115135/Satyrium_favonius_ontario. Accessed December 6, 2024.

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