

## Species Status Assessment

**Class:** Insecta  
**Family:** Lycaenidae  
**Scientific Name:** *Callophrys henrici*  
**Common Name:** Henry's elfin

### Species synopsis:

The primary range of Henry's elfin is coastal New England to Florida west to southern Iowa, much of Texas, and barely into New Mexico. Populations also occur in the Great Lakes region and in southern Canada, but the species seems to be absent from most parts of New England, New York, and Pennsylvania, and in much of the Midwest (Butterflies and Moths of North America 2012)

The range in New York is not well understood. Henry's elfin has been found mainly in the Albany area, but there are a few other records in the region stretching from Tompkins to Westchester counties. Glassberg (1993) indicates there are no recent records from the New York City area. With the habitat unknown and elfin collectors concentrating on the wrong habitats in the past, this butterfly could be widely overlooked. Considering that Henry's elfin is widespread in other regions occurring with evergreen hollies from Sandy Hook, New Jersey south into Florida, it is expected to occur with American holly (*Ilex opaca*) on Long Island. Similarly the species occurs widely in the St. Lawrence region of Canada and should turn up in northern New York. Henry's elfin will probably eventually become more widespread in New York, as it has in both Massachusetts and Ontario as buckthorn (*Rhamnus* spp.) feeding strains spread (New York Natural Heritage Program 2011).

Tim McCabe recorded the species in the Albany Pine Bush in 2012 (SGCN Expert Meeting, November 2013).

### I. Status

#### a. Current and Legal Protected Status

i. Federal Not listed Candidate? No

ii. New York Special Concern

#### b. Natural Heritage Program Rank

i. Global G5

ii. New York SH Tracked by NYNHP? Yes

**Other Rank:**

None

**Status Discussion:**

The status of this species is poorly known in New York. There are former records from the Albany Pine Bush from the late 1800s until the late 1970s, and one record from 1984, but there is little chance that a population of this species is there now, especially since this is not a pine barrens species and the actual location for the 1984 observation was not made in appropriate habitat. With no additional records in such a commonly visited location, plus the fact that fires may impact the species, it is considered historical at that site and therefore in the state. This species cannot adequately be inventoried until the specific habitat requirements are identified for New York and it is possible that populations may be found in northern New York and on Long Island in the future. If this species is rediscovered in New York, SU would probably be appropriate (NYNHP 2011).

**II. Abundance and Distribution Trends**

**a. North America**

**i. Abundance**

\_\_\_ declining  X  increasing \_\_\_ stable \_\_\_ unknown

**ii. Distribution:**

\_\_\_ declining  X  increasing \_\_\_ stable \_\_\_ unknown

**Time frame considered:** \_\_\_\_\_

**b. Regional**

**i. Abundance**

\_\_\_ declining  X  increasing \_\_\_ stable \_\_\_ unknown

**ii. Distribution:**

\_\_\_ declining  X  increasing \_\_\_ stable \_\_\_ unknown

**Regional Unit Considered:**  Northeast

**Time Frame Considered:** \_\_\_\_\_

**c. Adjacent States and Provinces**

**CONNECTICUT**                      **Not Present** \_\_\_\_\_                      **No data** \_\_\_\_\_

**i. Abundance**

\_\_\_\_ declining    \_\_\_\_ increasing                      \_\_\_\_ stable                        X   unknown

**ii. Distribution:**

\_\_\_\_ declining    \_\_\_\_ increasing                      \_\_\_\_ stable                        X   unknown

Time frame considered: \_\_\_\_\_

Listing Status: \_\_\_\_\_ Special Concern \_\_\_\_\_ SGCN? Yes \_\_\_\_\_

**MASSACHUSETTS**                      **Not Present** \_\_\_\_\_                      **No data** \_\_\_\_\_

**i. Abundance**

\_\_\_\_ declining      X   increasing                      \_\_\_\_ stable                      \_\_\_\_ unknown

**ii. Distribution:**

\_\_\_\_ declining      X   increasing                      \_\_\_\_ stable                      \_\_\_\_ unknown

Time frame considered: \_\_\_\_\_

Listing Status: \_\_\_\_\_ Not listed \_\_\_\_\_ SGCN? No \_\_\_\_\_

**NEW JERSEY**                      **Not Present** \_\_\_\_\_                      **No data**   X   \_\_\_\_\_

**i. Abundance**

\_\_\_\_ declining    \_\_\_\_ increasing                        X   stable                      \_\_\_\_ unknown

**ii. Distribution:**

\_\_\_\_ declining    \_\_\_\_ increasing                        X   stable                      \_\_\_\_ unknown

Time frame considered: \_\_\_\_\_

Listing Status: \_\_\_\_\_ Not listed \_\_\_\_\_ SGCN? No \_\_\_\_\_

ONTARIO                                 Not Present \_\_\_\_\_                                 No data \_\_\_\_\_

i. Abundance

\_\_\_\_ declining   X   increasing                                 \_\_\_\_\_ stable     \_\_\_\_ unknown

ii. Distribution:

\_\_\_\_ declining   X   increasing                                 \_\_\_\_\_ stable     \_\_\_\_ unknown

Time frame considered: \_\_\_\_\_

Listing Status: \_\_\_\_\_ Not listed \_\_\_\_\_

PENNSYLVANIA                                 Not Present \_\_\_\_\_                                 No data   X   \_\_\_\_\_

i. Abundance

\_\_\_\_ declining     \_\_\_\_ increasing                                   X   stable     \_\_\_\_ unknown

ii. Distribution:

\_\_\_\_ declining     \_\_\_\_ increasing                                   X   stable     \_\_\_\_ unknown

Time frame considered: \_\_\_\_\_

Listing Status: \_\_\_\_\_ Not listed \_\_\_\_\_ SGCN?   No   \_\_\_\_\_

QUEBEC   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 \_\_\_\_\_

VERMONT   Not Present   X   \_\_\_\_\_                                 No data \_\_\_\_\_

**d. NEW YORK**

No data \_\_\_\_\_

**i. Abundance**

\_\_\_ declining \_\_\_ increasing \_\_\_ X stable \_\_\_ unknown

**ii. Distribution:**

\_\_\_ declining \_\_\_ increasing \_\_\_ X stable \_\_\_ unknown

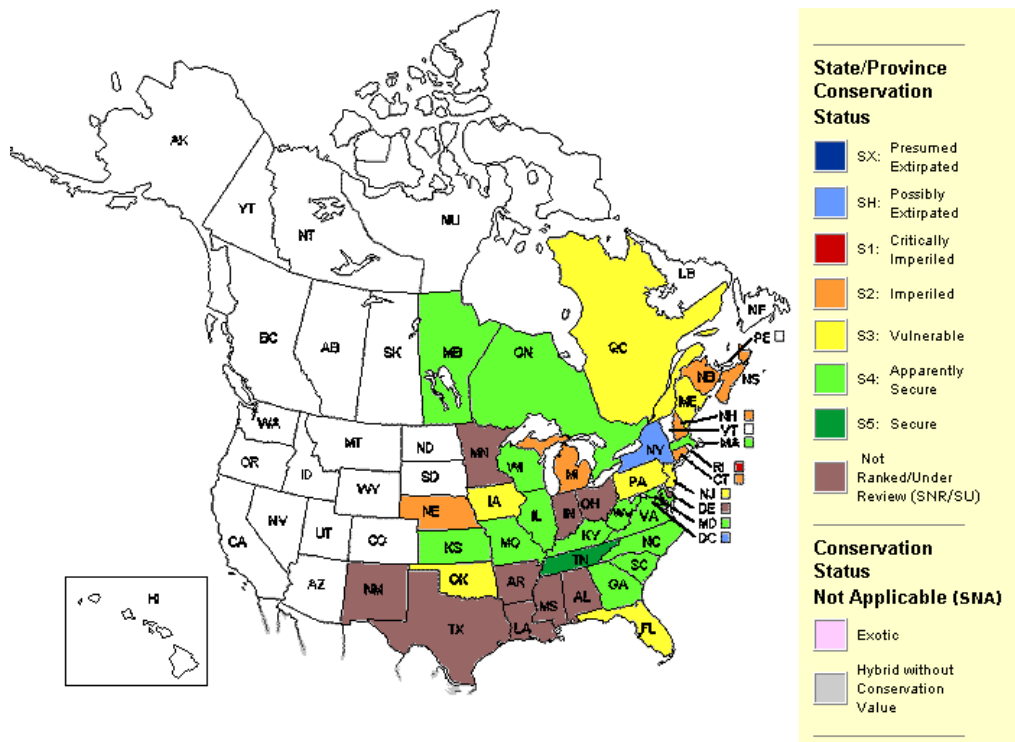
Time frame considered: \_\_\_\_\_

**Monitoring in New York.**

None

**Trends Discussion:**

Both short-term and long-term trends are unknown (New York Natural Heritage Program 2011).



**Figure 1.** Conservation status of Henry's elfin in North America (NatureServe 2012).



**Figure 2.** Occurrence of Henry's elfin in New York (New York Nature Explorer 2009).

**III. New York Rarity, if known:**

<b>Historic</b>	<b><u># of Animals</u></b>	<b><u># of Locations</u></b>	<b><u>% of State</u></b>
prior to 1970	_____	_____	_____
prior to 1980	_____	_____	_____
prior to 1990	_____	1 site	_____

**Details of historic occurrence:**

Albany County – 1989

<b>Current</b>	<b><u># of Animals</u></b>	<b><u># of Locations</u></b>	<b><u>% of State</u></b>
	_____	_____	_____

**Details of current occurrence:**

Tim McCabe recorded this species in the Albany Pine Bush, Albany County in 2012 (Expert meeting).

**New York’s Contribution to Species North American Range:**

**Distribution** (percent of NY where species occurs)

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

**Abundance** (within NY distribution)

- abundant
- common
- fairly common
- 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:**

\_\_\_\_\_

**IV. Primary Habitat or Community Type:**

1. Pine barrens

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

Declining

Stable

Increasing

Unknown

**Time frame of decline/increase:** \_\_\_\_\_

**Habitat Specialist?**

**?** Yes

No

**Indicator Species?**

Yes

No

**Habitat Discussion:**

The habitat of Henry’s elfin is essentially unknown in New York, especially for older records or where just a single individual has been observed or collected. Any observation that does not include several adults may not be reflective of the true habitat. Notably some of the Albany Pine Bush records, possibly all, are single individuals. In neighboring states, this species inhabits forests, but the exact habitat depends on the food plant which varies regionally. Tall shrub areas around bogs, or shrub swamps with Mountain Holly (*Nemopanthis mucronatus*) are potential habitat (NYNHP 2011).



**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:**

Adults tend to perch one to several meters high on evergreen or recently expanded foliage. The location of egg deposition on plants varies with the plant species. On American holly (*Ilex opaca*), an egg is laid on the center of an old host leaf just before bud break, while on redbud (*Cercis canadensis*), eggs are laid on flowers and buds. Caterpillars eat buds and young leaves, and pupate in litter at the base of the host plant. Chrysalids overwinter (Butterflies and Moths 2012).

Where redbud is the caterpillar host, its flowers are the main nectar supply for adults. In other places, flowers of plants that are not the caterpillar host are used for nectar including willows (*Salix* spp.), wild plum (*Prunus Americana*) and hawthorn (*Crataegus* spp.), and swamp privet (*Forestiera* spp. )(Butterflies and Moths 2012). The larval food plant in New York is not known. Blueberry (*Vaccinium* spp.) is often reported but has never been documented. Species in the holly family would be the most likely native food plants, but introduced buckthorns will probably eventually become the main food plants. There is only one brood range- wide. The flight season is poorly documented in New York, but is presumably most of May with a few stragglers into June, and probably starts at the end of April in some years southward. The larvae mature within a month unless the weather is still cold (NYNHP 2011).

**VI. Threats:**

Next to habitat loss, gypsy moth (*Lymantria dispar*) spraying is a potential threat, but the severity cannot be assessed. Prescribed burning is also a potential threat because the food plant is unknown, which makes it impossible to design prescribed burns appropriately for this species, leaving survival in locations such as the Albany Pine Bush largely to chance. Survival of pupae in the leaf litter during fire is unlikely. It is also possible that lack of fire could threaten the habitat. Mosquito and black fly spraying in wetlands could threaten bog or swamp populations of this species (NYNHP 2011).

**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 management needs are unknown at this time since food plant is unknown and the habitat requirements are unclear in New York. It is known that the pupae reside in the leaf litter and are vulnerable to fires (NYNHP 2011).

The primary research need is to learn the food plants and habitats in New York in order to effectively inventory this species. Also if new populations are found they should be vouched with a few actual specimens given the possibility of taxonomic issues, and likely food plants noted (NYNHP 2011).

Conservation actions following IUCN taxonomy are categorized in the table.

Conservation Actions	
Action Category	Action
Law and Policy	Policies and Regulations
Education and Awareness	Training
Education and Awareness	Awareness & Communications
Land/Water Protection	Site/Area Protection
Land/Water Protection	Resource/Habitat Protection
Land/Water Management	Site/Area Management
Land/Water Management	Invasive/Problematic Species Control
Land/Water Protection	Site/Area Protection

The Comprehensive Wildlife Conservation Strategy (NYSDEC 2005) includes recommendations for the following actions for other butterflies, and for Henry's elfin 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

Butterflies and Moths of North America. 2012. <<http://www.butterfliesandmoths.org/>>. Accessed 4 January 2013.

Catling, P.M, R.A. Layberry, J.P. Crolla, and P.W. Hall. 1998. Increase in populations of Henry's Elfin, *Callophrys henrici*, (Lepidoptera: Lycaenidae) in Ottawa-Carleton, Ontario, associated with man-made habitats and glossy buckthorn, *Rhamnus frangula*, thickets. Canadian Field-Naturalist 112: 335-337.

Glassberg, J. 1993. Butterflies through binoculars: A field guide to butterflies in the Boston-New York-Washington region. Oxford University Press: New York. 160 pp.

NatureServe. 2012. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. <<http://www.natureserve.org/explorer>>. Accessed 4 January 2013.

New York Natural Heritage Program (NYNHP). 2011. Online Conservation Guide for *Callophrys henrici*. <<http://www.acris.nynhp.org/guide.php?id=7861>>. Accessed 4 January 2013.

New York Natural Heritage Program (NYNHP). 2013. Element Occurrence Database. New York State Department of Environmental Conservation. Albany, NY.

**Date last revised:** \_\_\_\_\_ 11 February 2014 \_\_\_\_\_