Species Status Assessment

Common Name: Southern sprite **Date Updated:** April 2025

Scientific Name: *Nehalennia integricollis* **Minor Edits By:** NYSDEC Wildlife Section

Class: Insecta

Family: Coenagrionidae

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

The range of the southern sprite (*Nehalennia integricollis*) begins in Texas and Oklahoma and stretches eastward across the southern United States, then northward along the Atlantic Coast to Rhode Island (Donnelly 2004, Abbott 2010). In New York, there are four older Roy Latham records for *N. integricollis* , all from Suffolk County (Donnelly 1999). There are two extant locations in Suffolk County, one from 1995 and one from 2005 (Donnelly 1999, New York Natural Heritage Program 2012).

N. integricollis occurs on northeastern coastal plains at grassy ponds, lakes, marshes, and bogs (Lam 2004, Bangma and Barlow 2010). In New York, known habitats are coastal plain ponds on Long Island (New York Natural Heritage Program 2010).

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 to indicate a need for change in SGCN status.

I. Status

a. Current legal protected Status

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

ii. **New York:** Special Concern

b. Natural Heritage Program

i. **Global:** G5

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

Other Ranks:

-NYS 2025 SGCN Status: SGCN

-IUCN Red List: Least Concern

-Northeast Regional SGCN: Not listed

Status Discussion:

White *et al.* (2010) suggests that the status remain S1 (5 or fewer occurrences, or few remaining acres or miles of stream, or factors demonstrably making it especially vulnerable to extinction rangewide or in New York State).

II. Abundance and Distribution Trends

Region	Present?	Abundance	Distribution	Time Frame	Listing status	SGCN?
North America	Yes	Unknown	Unknown	1990		-
Northeastern US	Yes	Unknown	Stable	1990		-
New York	Yes	Unknown	Unknown	1990-2015		Yes
Connecticut	No	-	-			-
Massachusetts	No	-	-			-
New Jersey	No data	-	-			-
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):*

The New York State Dragonfly and Damselfly Survey was conducted from 2005-2009, but there are no organized, regular monitoring or survey activities directed toward this species or to sites where it has been documented.

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

Records for this species are too few and infrequent and lacking repeated surveys at extant sites, such that detecting a population trend is not possible (Paul Novak, pers. comm.)

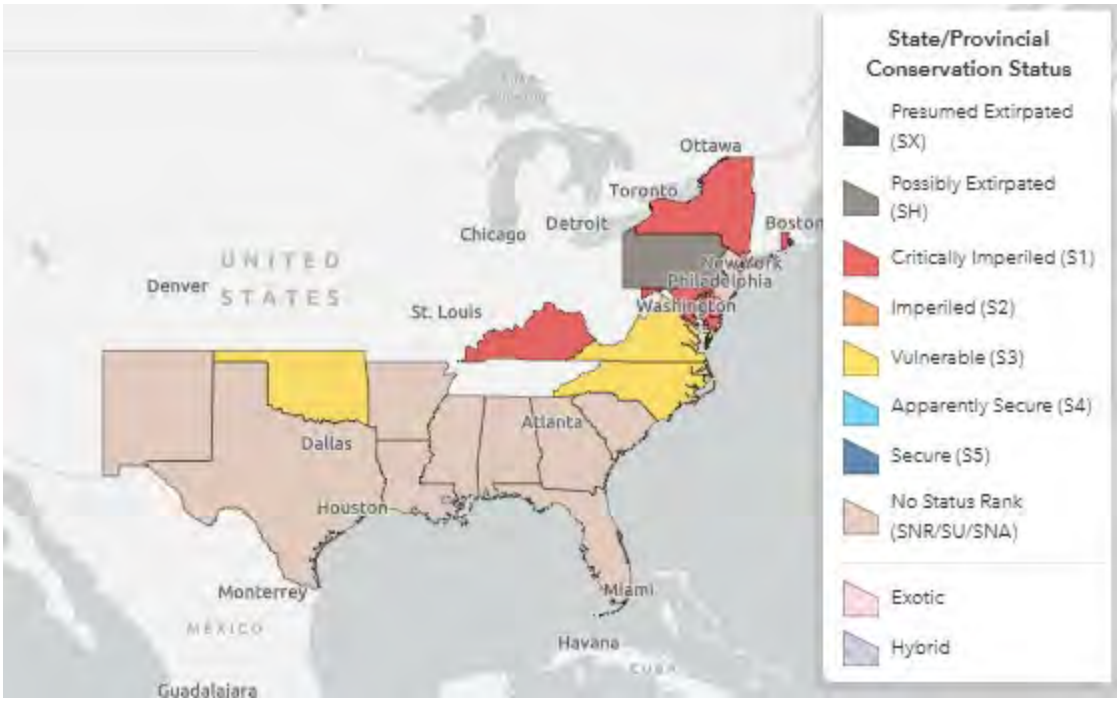

Figure 1. Conservation status of *Nehalennia integricollis* in North America (NatureServe 2025).

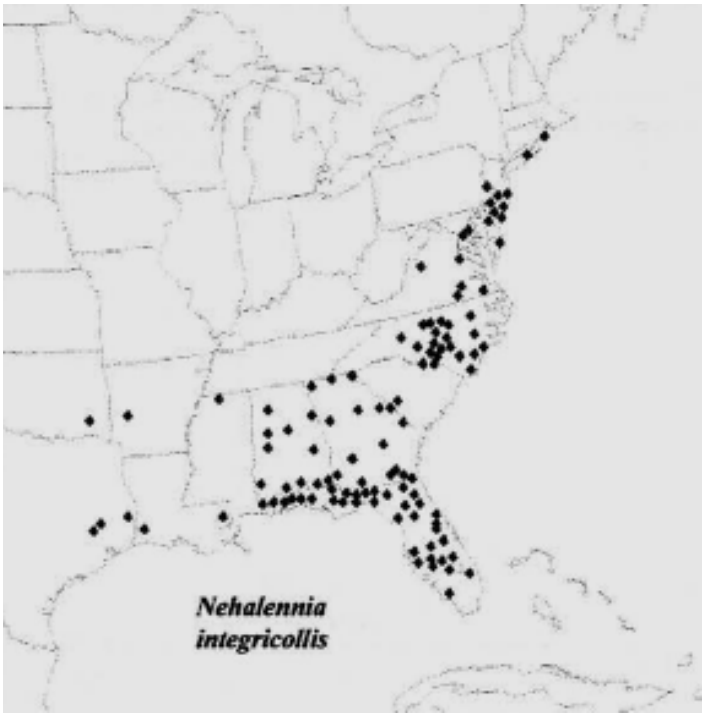

Figure 2. Distribution of the southern sprite in the United States (Donnelly 2004).

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

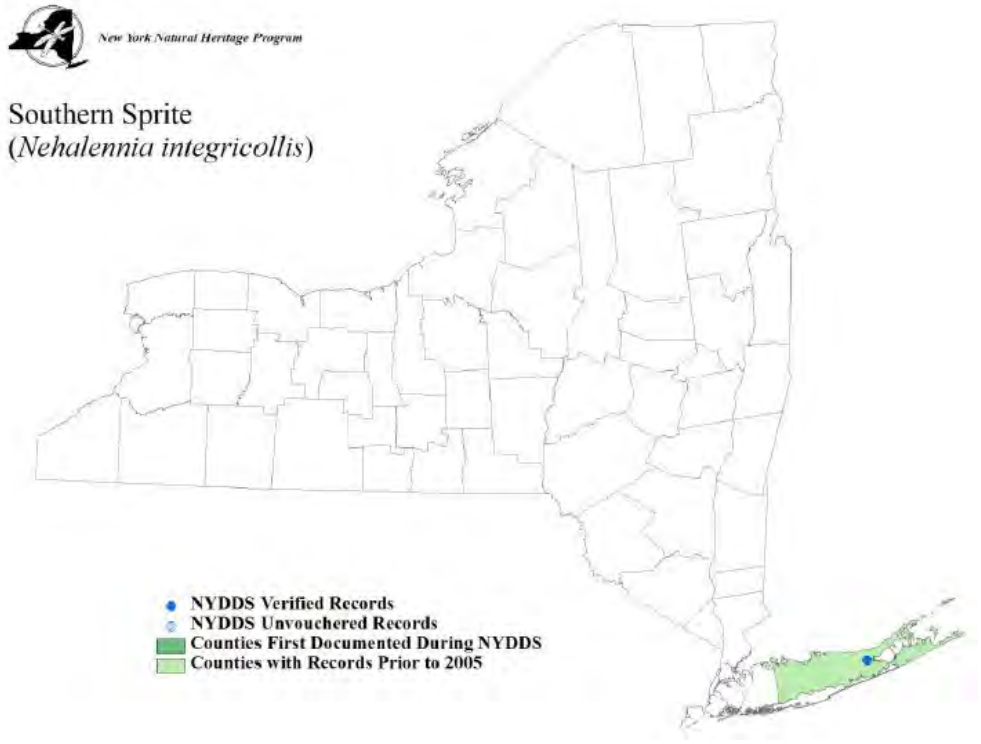

Figure 3. Occurrences of the southern sprite in New York (White *et al.* 2010).

Details of historic and current occurrence:

Historically, the species was taken repeatedly by Roy Latham in Suffolk County in 1953 and 1954 and identified by T. Donnelly. Historic locations include: Greenport, Cutchogue, Mattituck, and Sag Harbor (Donnelly 1999).

There are two extant locations for this species, both from Suffolk County. One is from Manorville from 1995 reported in Donnelly 1999 and repeated in White *at al.* 2010, while the second is from Riverhead (White *et al.* 2010, New York Natural Heritage Program 2012).

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	~1,400 mi to core stable pop.

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. Coastal Plain Pond

b. Lacustrine, lake

Habitat or Community Type Trend in New York

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

N. integricollis inhabit ponds and lakes with dense vegetation, usually sedges or grasses, at the shore or throughout the water body (Paulson 2011). The two recent records for New York are from the vicinity of coastal plain ponds while habitat information is not available for the historical records (Paul Novak, pers. comm.).

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):*

Nehalennia integricollis measure about an inch long and are one of the tiniest odonates in New York (Lam 2004). They spend most of their time in dense vegetation. Pairs fly in tandem for oviposition in floating vegetation and grass and sedge stems at water level. While egg-laying, the female holds her abdomen between wings.

NYSDDS and pre-NYSDDS records indicate a flight season on Long Island between 27 June and 27 July (Donnelly 1999, New York Natural Heritage Program 2010), but this is from a very small number of records. The flight season appears longer in other states for which more records are available. In New Jersey, individuals have been documented from 8 June through 11 August (Bangma and Barlow 2010).

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

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	7.2 Dams & Water Management/Use	7.2.1 Water level management using dams (alteration of hydrology)	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	9.1 Domestic & Urban Wastewater	9.1.1 Domestic wastewater (poor water quality)	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 (runoff, pesticides)	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 1. Threats to *Nehalennia integricollis*

Any activity which might lead to water contamination or the alteration of natural hydrology could impact *N. integricollis* populations (Novak 2006). Such threats might include roadway and agricultural run-off, peat mining, ditching and filling, eutrophication, changes in dissolved oxygen content, and development near their habitats (Novak 2006). Groundwater withdrawal is a potential threat in lentic habitats, as are invasive plant species replacing native plants required for oviposition (New York Natural Heritage Program 2010). Both emergence rates and/or species ranges may shift for odonate species as a result of climate change (Kalkman *et al.* 2008).

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

Yes: X **No:** **Unknown:**

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

Article 15 of Environmental Conservation Law provides protection of rivers, streams, lakes and ponds through the Protection of Waters Program. The Freshwater Wetlands Act provides protection for wetlands greater than 12.4 acres in size under Article 24 of the NYS Conservation Law.

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

Any efforts to reduce roadway and agricultural run-off, eutrophication, development of upland borders and resulting increased groundwater withdrawal, and ditching and filling activities should be considered when managing for this species (NYS DEC 2005).

Further research is needed to define the distribution and population size of *N. integricollis*. In addition, research is required to understand the habitat requirements and threats to this species, and to create appropriate management guidelines for its persistence in known locations (NYS DEC 2005). Suitable habitat should be checked on Long Island during the known flight season and threats should be assessed at known sites (White *et al.* 2010).

Action Category	Action	Description
B.3 Outreach	B.3.1.4.0 Public outreach and information	Awareness & Communications
C.9 Education and Training	C.9.2.0.0 Training and individual skill development	Training

Table 2. Recommended conservation actions for *Nehalennia integricollis*

The Comprehensive Wildlife Conservation Strategy (NYSDEC 2005) includes recommendations for the following actions for odonates of bogs, fens, and ponds, and for the southern sprite in particular.

Habitat monitoring:

____ Support and encourage habitat monitoring efforts that would complete the baseline assessment of habitat quality and threats.

Habitat research:

____ Support and encourage research projects that will help define preferred habitat in order to guide future monitoring, restoration and habitat protection efforts.

New regulation:

____ Recommendations for official state endangered, threatened, and special concern listing are an anticipated result of the statewide inventory. It is expected that at least a few species will be recommended for listing and officially adding these species to the list would constitute a specific action.

Population monitoring:

____ Conduct surveys to obtain repeatable, relative abundance estimates for these species at known sites and newly discovered sites where access permission to conduct surveys is obtained (as indicated in the State Wildlife Grant Odonate Inventory Project). **Other action:**

____ Most of these species are known from fewer than 10 locations in the state, but new populations undoubtedly remain to be discovered. A currently approved, but not yet begun State Wildlife Grant Statewide Odonate Inventory Project will utilize volunteers, Natural

VII. References

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