

Species Status Assessment

Common Name: Green-faced clubtail

Date Updated: April 2025

Scientific Name: *Hylogomphus viridifrons* **Minor Edits By:** NYSDEC Wildlife Section

Class: Insecta

Family: Gomphidae

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

The green-faced clubtail (*Gomphus viridifrons*) is rare throughout its range (Walker 1958). The center of its distribution lies in the southern Great Lakes forest ecoregion, along the northern Ohio/Indiana border, ranging north to northern Minnesota and south to central Alabama (Donnelly 2004, White *et al.* 2010). A cluster of three records from the Delaware River in New York (Sullivan, Orange Counties) and New Jersey (Sussex County) constitute the northeasternmost occurrence of this species (New York Natural Heritage Program 2011). Here, adults have not been observed since 1940 and just a single larva collected from Port Jervis was reared to emergence in 1994, while only exuviae have been found in nearby New Jersey (Bangma and Barlow 2010). This species inhabits clean medium-sized rocky forest streams and small rivers with gravel/sand substrates and lightly silted rocks (Dunkle 2000). In New York, a single larva was dredged from a sandy, pool-like backwater on the back side of an island in the Delaware River near Port Jervis. The main flow of the river is west of the island and the river is rapid, shallow, rocky and about 100 meters wide (White *et al.* 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:** Not listed

b. Natural Heritage Program

i. **Global:** G3G4

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

Other Ranks:

-NYS 2025 SGCN Status: HPSGCN

-IUCN Red List: Least Concern

-Northeast Regional SGCN: Watchlist

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	Declining	Declining	US: 1998 Canada: 2012		-
Northeastern US	Yes	Declining	Declining	1998		-
New York	Yes	Unknown	Unknown	1994- 2009		-
Connecticut	No	-	-			-
Massachusetts	No	-	-			-
New Jersey	Yes	Unknown	Unknown			Yes
Pennsylvania	No data	-	-			-
Vermont	No	-	-			-
Ontario	No data	-	-			-
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. Some efforts have been made to relocate this species at Port Jervis and elsewhere on the Delaware River, but these would not be described as regular surveys or regular monitoring.

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

One recent observation of *G. viridifrons* is from a larvae collected at Port Jervis in Orange County and reared in May 1994 and one specimen was collected at Barryville in Sullivan County in 1940, New York (Donnelly 2004, New York Natural Heritage Program 2007). Since there is limited historical information, only one recent record, and the full extent and size of the populations have not been determined, it is not possible to speculate on long-term trends in New York.

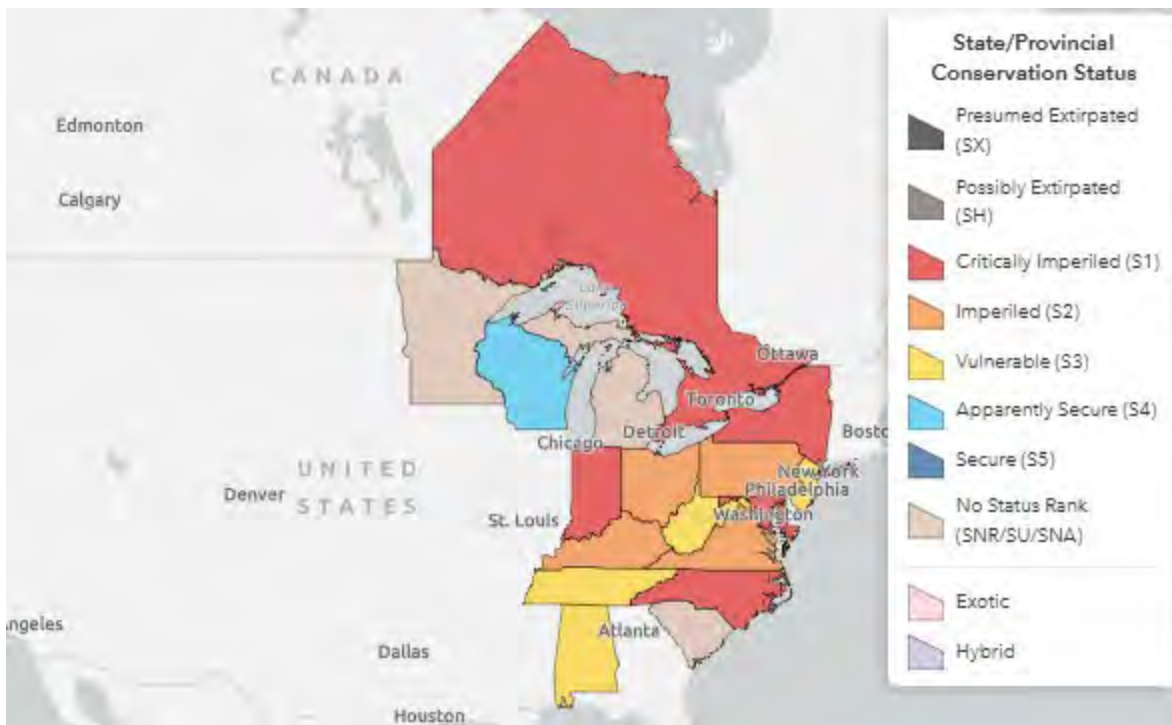


Figure 1. Conservation status of *Hylogomphus viridifrons* in North America (NatureServe 2025).

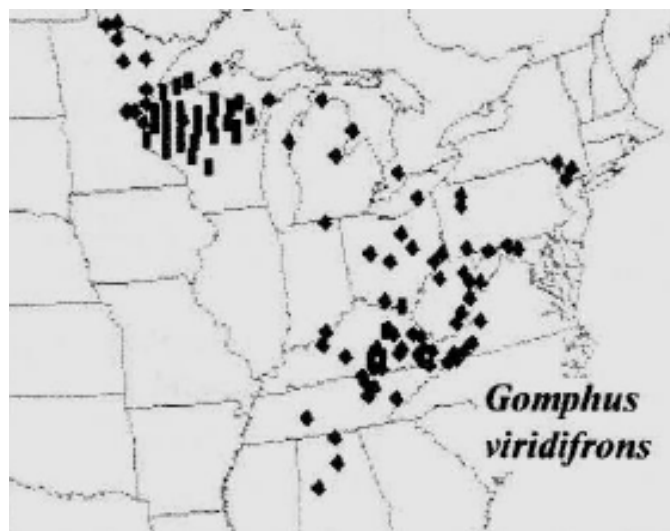


Figure 2. Distribution of *Gomphus viridifrons* in the United States (Donnelly 2004).

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

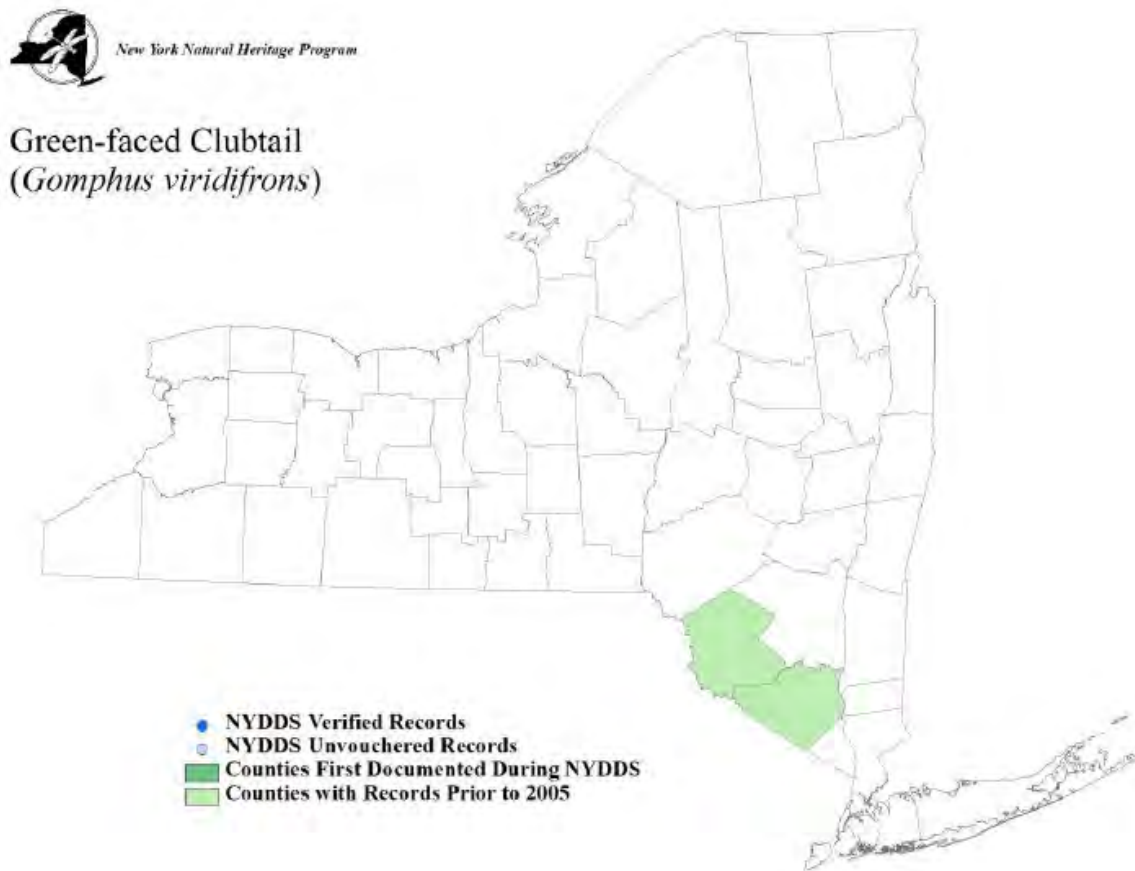


Figure 3. Occurrence records of green-faced clubtail in New York (White et al. 2010).

Details of historic and current occurrence:

The sole historical record for this species in New York is from Barryville on the Delaware River in 1940 (Donnelly 1992).

While the species has not been relocated at Barryville (some, but not a great deal of effort expended there in recent years), it was found at a second location on the Delaware River, Port Jervis, in 1994 (Donnelly 1999). While some unsuccessful search effort has been made to duplicate the Port Jervis location, it is still considered an extant occurrence.

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	~1,000 miles

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. Small River, Low-Moderate Gradient
- b. Riverine, coldwater stream, sand and gravel bottom**

Habitat or Community Type Trend in New York

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

G. viridifrons inhabits clean medium-sized rocky forest streams and small rivers with gravel/sand substrates and lightly silted rocks (Dunkle 2000). Adults fly 1-3 meters above the water surface, about 3-10 meters out from the shore often hovering near the head of riffles and rapids, or perching on shoreline vegetation and exposed rocks (Evans 2002). In New York, a single larva was dredged from a sandy, pool-like backwater on the back side of an island in the Delaware River near Port Jervis. The main flow of the river is west of the island and the river is rapid, shallow, rocky and about 100 meters wide (White *et al.* 2010).

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):

Adults fly 1- 3 meters above the water surface, about 3-10 meters out from the shore, often hovering near the head of riffles and rapids, or perching on shoreline vegetation and exposed rocks (Evans 2002). Females their eggs in fast-moving water while tapping their abdomens onto the water's surface (Mead 2003). *G. viridifrons* larvae feed on smaller aquatic invertebrates. Adults are active almost exclusively over water or up in the trees where they hunt insects (New York Natural Heritage Program 2011).

The adult specimen for New York was from late July, while the reared larval specimen was collected in May. These records ,and flight periods of related species on the Delaware River, would suggest a June/July flight period for this species in New York.

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.
3. Energy Production & Mining	3.1 Oil & Gas Drilling	(fracking issues)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
5. Biological Resource Use	5.3 Logging & Wood Harvesting	(siltation)	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	Choose an item. (alteration of natural hydrology)	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 (salt runoff from roads)	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.

Table 1. Threats to *Hylogomphus viridifrons*.

Any activity which might lead to water contamination or the alteration of natural hydrology could affect green-faced clubtail populations. Such threats might include agricultural run-off, increases in sedimentation, and changes in dissolved oxygen content of streams and rivers (New York Natural Heritage Program 2011).

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:

Article 15 of Environmental Conservation Law provides some protection of rivers, streams, lakes and ponds through the Protection of Waters Program. National Park Service Wild and Scenic River designation provides considerable protection to the Delaware River.

Any measures to reduce water contamination or hydrological alteration such as chemical contamination from agricultural run-off and increases in sediment load in streams and rivers should be considered when managing for this species (New York Natural Heritage Program 2011).

There is some indication that the substrate on the Delaware River has become modified by the construction of dams on river tributaries which have altered natural flow regimes and result in reduction of fine sediments needed for some aquatic species for burrowing. Removal of smaller, dams located on tributaries which are no longer serving a function, could provide some addition of finer sediments to at least some reaches of the river which may benefit this species

Further research is required to understand the habitat requirements of and threats to this species, and to create appropriate management guidelines for its persistence in known locations (New York Natural Heritage Program 2011).

Additional surveys are needed on the Delaware River in New York to clarify the species status and presence. This clubtail occurs in northwestern Pennsylvania which suggests the possibility that it could exist in the Allegany drainage in southwestern New York so additional inventory there is warranted (White *et al.* 2010).

Action Category	Action	Description
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	

Table 2. Recommended conservation actions for *Hylogomphus viridifrons*

The Comprehensive Wildlife Conservation Strategy (NYSDEC 2005) includes recommendations for the following actions for odonates of rivers and streams, and for green-faced clubtail 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 concrete action. Four of the species are currently listed as Special Concern, but it is possible a change in their listing status may be warranted following additional surveys.

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).

Statewide baseline survey:

_____ 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 Heritage Program and other staff to conduct surveys for these species at potential sites throughout the state.

VII. References

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Originally prepared by	Jenny Murtaugh
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Latest revision	