Species Status Assessment

Common Name	olive green water nymph	**Date Updated:**	2024-01-30
Scientific Name	*Najas olivacea*	**Updated By:**	Rachael A. Renzi
Family	Hydrocharitaceae		

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

Olive green water nymph is an aquatic annual forb in the tape grass, or frog's-bit, family (Hydrocharitaceae). *Najas olivacea* is one of 8 species of the same genus in New York, though it is not the only listed as a species of concern (Werier et al. 2023). *Najas marina* and *N. muenshceri* are state endangered. There is only one extant occurrence of *Najas olivacea* in New York and one historical location (NYNHP 2023). It occurs in the shallow, marly water of Cayuga Lake and historically in a nearby marsh. Its entire range appears to be throughout the Great Lakes region in the northern United States and Southern Canada (NatureServe 2023). Data on the abundance and distribution of *Najas olivacea* throughout its range are lacking, though it is listed as vulnerable in Minnesota and imperiled in southern Canada (NatureServe 2023). Because of a lack of current and historic data, it is difficult to discern any trends related to the distribution or abundance of the plant. Likewise, little is known about the biology or related threats to *Najas olivacea*. Field research is needed to confirm population occurrences, establish trends, and identify potential threats in New York and throughout its native range.

I. Status

a. Current legal protected Status

i. Federal: **Candidate:**

ii. New York: Endangered

b. Natural Heritage Program

i. Global: G5T4?

ii. New York: S1 **Tracked by NYNHP?** On Active Tracking List

Other Ranks:

COSEWIC: Not listed in Canada
IUCN Red List: Not assessed by IUCN Red List

Status Discussion:

There is one verified extant occurrence and one historical occurrence in New York. The extant population contains over 10,000 plants in shallow water within Cayuga Lake (NYNHP 2023). The extant population was recorded as being abundant in the late 1970s as well as in 2006 (NYNHP 2023). *Najas olivacea* appears to anchor its range around the Great Lakes region, but abundance and populations distribution data throughout much of its range is lacking (NatureServe 2023).

II. Abundance and Distribution

Region	Present?	Abundance	Distribution	Time Frame	Listing status or S-Rank	SGCN?
North America	Yes	Unknown	Unknown	Unknown		
Northeastern US	Yes	Unknown	Unknown	Unknown		
New York	Yes	Unknown	Unknown	Unknown	E	
Connecticut	No	-	-	-		
Massachusetts	No	-	-	-		
New Jersey	No	-	-	-		
Pennsylvania	No	-	-	-		
Vermont	No	-	-	-		
Ontario	Yes	Unknown	Unknown	Unknown	S2	
Quebec	No	-	-	-		

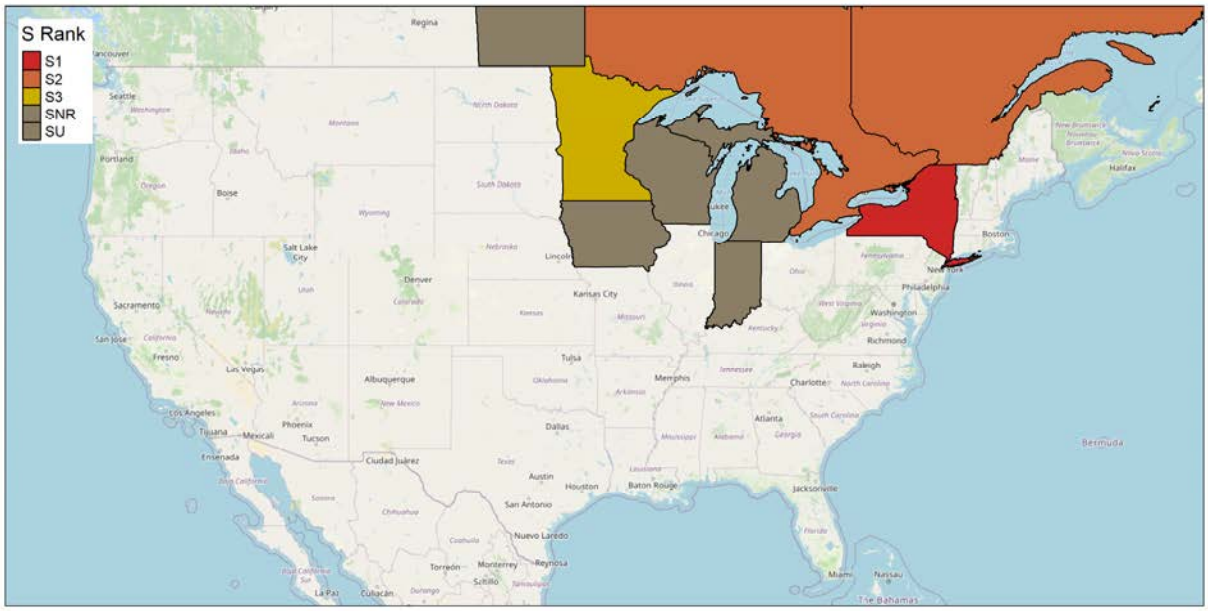

Figure 1: Najas olivacea North American distribution.

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

III. NY Rarity and Trends

Trends Discussion

More data and consistent field surveys are needed to determine short term trends. Likewise, long term trend of *Najas olivacea* are difficult to assess given the lack of pre-1900s data. However, the one extant population seems to have remained stable over 30 years (NYNHP 2023). Surveys to the extant population and near the historical location are needed.

Details of historic and current occurrence

Both the historic and extant populations were found in Seneca County, New York. The current range in New York is restricted to Cayuga Lake. As of 2006, there were an estimated 10,000 plants in that one population (NYNHP 2023). Surveys to the historic location and in other suitable habitat may help expand the extant range. Quantitative and qualitative data throughout much of the plant's North American range is lacking. It is, however, listed as imperiled in southern Canada and vulnerable in Minnesota (NatureServe 2023).

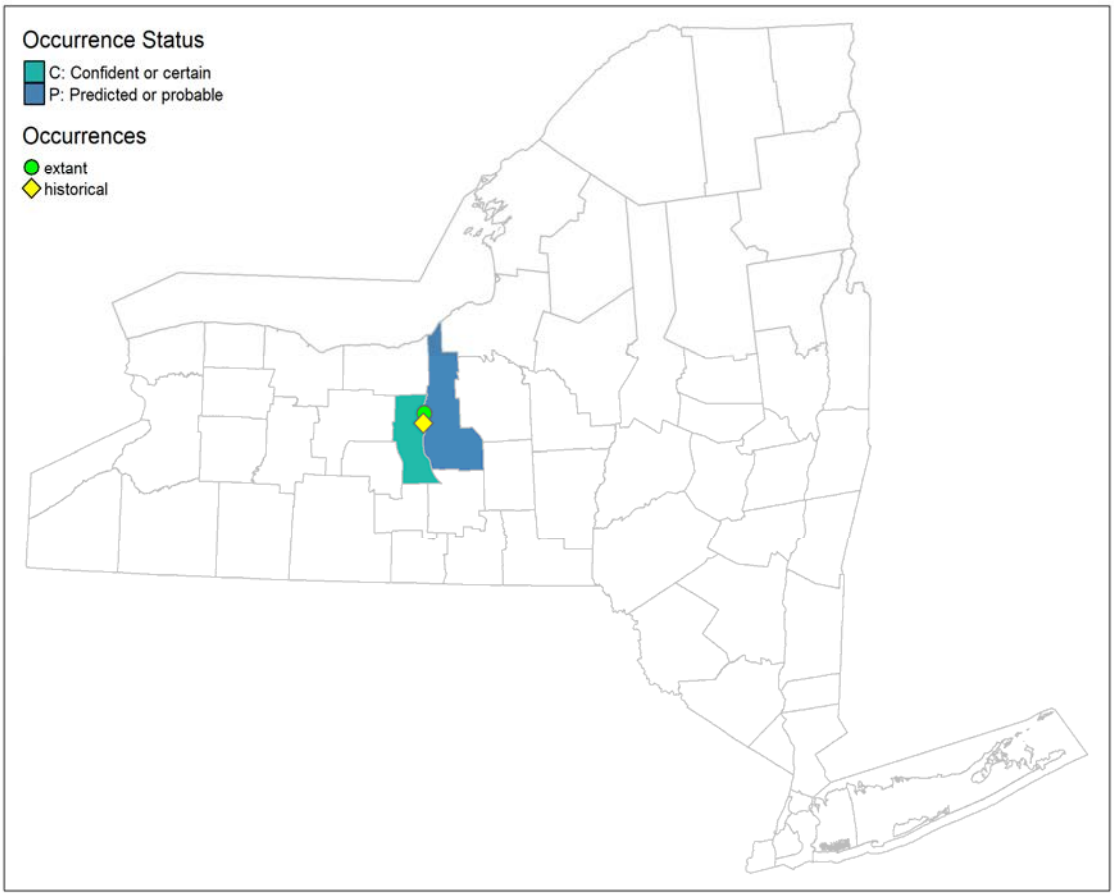

Figure 2: *NYS distribution for* Najas olivacea*.*

Table 1*. Number of records (element occurrences) of* Najas olivacea *grouped by the dates known to be extant (the years spanning first observation to last observation) and the number and percent of total of USGS 7.5 minute map quadrangles these observations fall within for New York State.*

Years	# of Records	# of distinct quads	% of quads in State
Pre-1995	2	2	0.2
1995-2004	1	1	0.1
2005-2014	1	1	0.1
2015-2023	0	0	0.0

Monitoring in New York

The extant population was last surveyed in 2006, while the historic occurrence was last documented in 1938 (NYNHP 2023). No estimates of the number of plants were recorded at the historical location (NYNHP 2023). As the extant population has only been surveyed twice, quantitative surveys are necessary to discern trends (NYNHP 2023). Additionally, targeted surveys may help verify the number of extant populations in New York.

IV. Primary Habitat or Community Type *(from NY crosswalk of NE Aquatic, Marine, or Terrestrial Habitat Classification Systems):*

Northeastern Habitat Classification Macrogroups: Lakes and Ponds, Freshwater marsh

NY Ecological Community: Oligotrophic pond, Marl pond (Edinger et al. 2014, NYNHP 2024).

Habitat or Community Type Trend in New York

Declining: **Stable:** **Increasing:** **Unknown:** ✓

Time Frame of Decline/Increase:

Habitat Specialist **Yes:** ✓ **No:**

Habitat Discussion:

In New York, *Najas olivacea* occurs in shallow waters along lake shores, in marl on lake bottoms near marshes, and historically, in or near marshes around lakes (NYNHP 2023).

V. Species Demographics and Life History *(include information about species life span, reproductive longevity, reproductive capacity, age to maturity, and ability to disperse and colonize):*

Najas olivacea is an annual aquatic forb. Little is known about the biology of this taxon. Other species of *Najas* flowers bloom in summer, then seeds are dispersed via water (DiTomaso et al. n.d.).

Table 2. *Phenology of* Najas olivacea *in New York State (NYNHP 2023).*

Phenology	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Fruiting												

VI. Threats

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

Development in the habitat of *Najas olivacea* is a minor threat in NY. Little is known about the threats to *Najas olivacea* (NYNHP 2023).

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:

Protect shoreline and habitat for *Najas olivacea*.

Complete Conservation Actions table using IUCN conservation actions taxonomy at link below. Use headings 1-6 for Action Category (e.g., Land/Water Protection) and associated subcategories for Action (e.g., Site/Area Protection) - https://www.iucnredlist.org/resources/conservation-actions-classification-scheme

Table 3. Recommended conservation actions for *Najas olivacea*.

Conservation Actions	
Action Category	**Action**
Land/water protection	1.1. Site/area protection
Land/water protection	1.2. Resource & habitat protection
Land/water management	2.1. Site/area management
Land/water management	2.2. Invasive/problematic species control
Land/water management	2.3. Habitat & natural process restoration

VII. References

This SSA drew heavily from these resources:

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Ring, Richard M. 2023. New York Rare Plant Status Lists. New York Natural Heritage Program, State University of New York College of Environmental Science and Forestry, Albany, NY. December 2023. 108 pp.