Species Status Assessment

Common Name	early blue grass	**Date Updated:**	2024-03-11
Scientific Name	*Poa cuspidata*	**Updated By:**	Rachael A. Renzi
Family	Poaceae		

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

Early blue grass (*Poa cuspidata*) is a rhizomatous perennial graminoid in the grass family in the section Madropoda (FNA 2021). It is one of 15 species of *Poa* found in NY, and one of eight that are native to the state (Werier et al. 2023). It is at the northernmost extent of its range in NY, which extends west to IL, and south to FL (NatureServe 2023). The plant was considered historic in NY until 2014, when one population was discovered (NYNHP 2023). There were only two other populations in NY: one, last seen in 1909, was extirpated by development, and the other, from 1897, grew in the Bronx (NYNHP 2023). The third, extant population, consists of about 1700 clumps, but there may be more plants in the vicinity (NYNHP 2023). This population grows in a small, disturbed limestone woodland in Monroe County (NYNHP 2023). More research is needed to determine the threats to this plant, as well as its preferences for growth and reproduction.

I. Status

a. Current legal protected Status

i. Federal: **Candidate:**

ii. New York: Endangered

b. Natural Heritage Program

i. Global: G5

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:

Poa cuspidata is Endangered in New York (Ring 2023). There is one verified occurrence, which changed the status from historical to endangered in NY in 2014 (NYNHP 2023). There is one historical occurrence, and one extirpated (NYNHP 2023, 2024).

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	Yes	Unknown	Unknown	Unknown	S4	
Pennsylvania	Yes	Unknown	Unknown	Unknown	SNR	
Vermont	No	-	-	-		
Ontario	No	-	-	-		
Quebec	No	-	-	-		

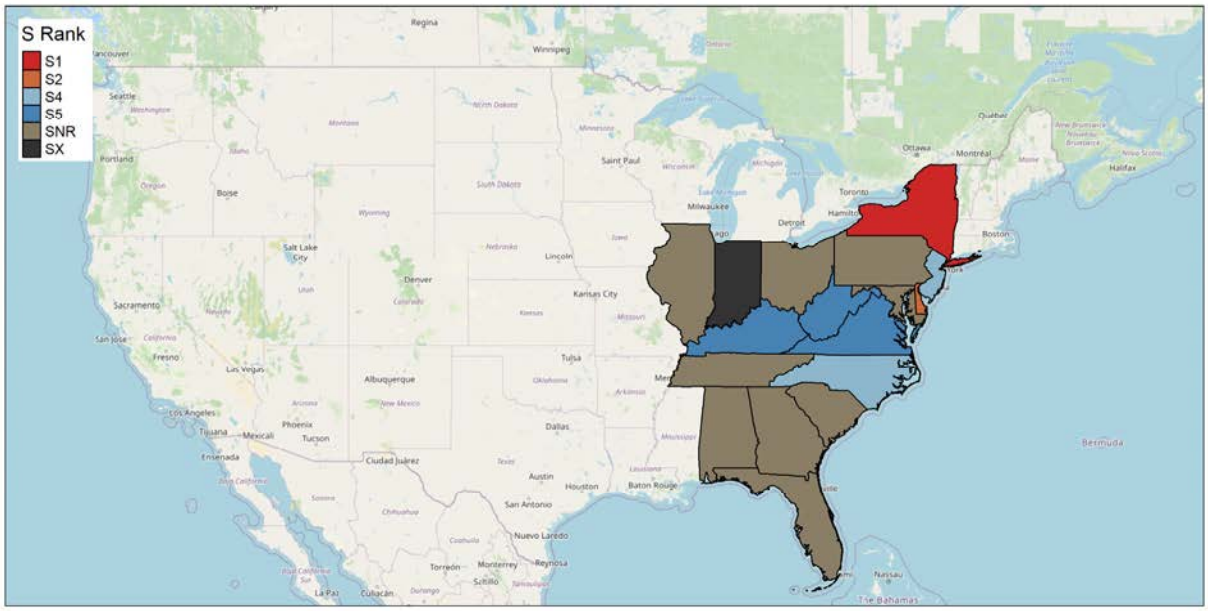

Figure 1: Poa cuspidata North American distribution.

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

Poa cuspidata was likely never common in NY. Before the one extant population was found in 2014, the plant was last known to be in NY in 1909 (NYNHP 2023, 2024). There is one historical population and another extirpated population, which was displaced by development (NYNHP 2023). Due to the small number of documented occurrences in the state, it is difficult to determine if more than one population existed at one time (NYNHP 2023).

Details of historic and current occurrence

One population in New York county is historical; one population has been extirpated from Richmond County (NYNHP 2023). Another unconfirmed record has been reported from Yates County (NYNHP 2023). The one extant occurrence is in Monroe County (NYNHP 2023). There are about 1700 clumps reported in that one population, but there may be more plants in the vicinity (NYNHP 2023). Its range is bounded by NY in the north, IL at the western extent, and FL in the south (NatureServe 2023).

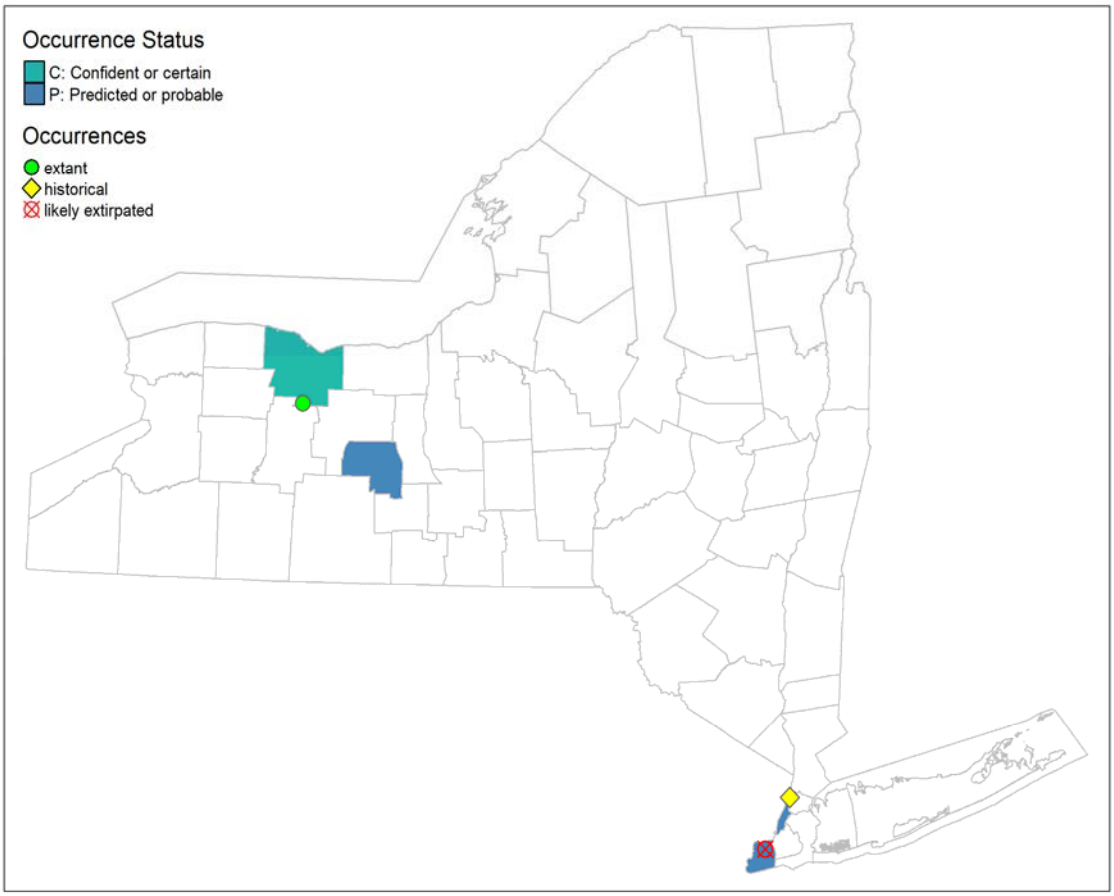

Figure 2: *NYS distribution for Poa cuspidata.*

Table 1*. Number of records (element occurrences) of* Poa cuspidata *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	3	0.3
1995-2004	0	0	0.0
2005-2014	1	1	0.1
2015-2023	0	0	0.0

Monitoring in New York

This population is in a Unique Area, owned and managed by the DEC (NYNHP 2023). It has been surveyed in 2014, 2018, and 2019 (NYNHP 2023).

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

Northeastern Habitat Classification Macrogroup: Northern Hardwood and Conifer Forest.

NY Ecological Community: Limestone woodland (Edinger et al. 2014, NYNHP 2023).

Habitat or Community Type Trend in New York

Declining:	**Stable:**	**Increasing:**	**Unknown:** ✓
Time Frame of Decline/Increase:			
Habitat Specialist	**Yes:** ✓	**No:**	

Habitat Discussion:

In NY, the plants are growing in a small, disturbed forest (NYNHP 2023). In the past, the plant has been found in rocky woods along a creek (NYNHP 2023). In North America, it is found in moist woods and rich or rocky wooded slopes (Fernald 1950; Gleason & Cronquist 1991). Associated species of the one extant population in NY include *Acer nigrum, Quercus rubra, Fagus grandifolia, Ostrya virginiana, Prunus virginiana, Carpinus carolianiana, Mainthemum canadense, Eurybia divaricata, Carex pensylvanica, Trillium grandiflorum, Podophyllum peltatum, Carex pedunculata,* and *Viola* sp.

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):*

Poa cuspidata is a short-rhizomatous perennial graminoid (FNA 2021). It blooms in spring, and fruits as early as April through June (NYNHP 2023). Florets undergo sequentially adjusted gynomonoecy (FNA 2021; Giussani et al. 2016). This system is described as an increase in the percentage of pistillate-only flowers as the growing season progresses (Soreng & Madrono 2003; Giussani et all. 2016). It is thought that the loss of male function is generally countered by the production of better-quality seeds (Mammut et al. 2013). In addition, gynomonoecy allows flexible resource allocation (Yang 2006). This system may have arisen as a means of avoiding inbreeding depression when a diversity of traits was favored (Giussani et al. 2003). However, the need for such strategies may have changed since the early Pliocene (Giussani et al. 2016). In contrast to pistillate-only flowers, perfect flowers may be more attractive to pollinators, or may also allow self-fertilization (Mammut et al. 2013; Giussani et al. 2016). However well sequentially adjusted gynomonoecy remains adapted for *P. cuspidata*'s isolated condition in NY needs to be studied.

Table 2. *Phenology of* Poa cuspidata *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?

Yes:	No:	✓	Unknown:

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

Prescribed burns of the area, particularly in spring, could be detrimental (NYNHP 2023). The spread of the invasive plants, swallowwort, and garlic mustard into the population from elsewhere on the site is another threat (NYNHP 2023).

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

Conduct burns outside of *Poa cuspidata* growing season, and manage invasive plants.

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* Poa cuspidata.

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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