

Species Status Assessment

Common Name	Slender Spike Grass	Date Updated:	2024-01-11
Scientific Name	<i>Chasmanthium laxum</i>	Updated By:	Kyle J. Webster
Family	Poaceae		

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

Slender spike grass (*Chasmanthium laxum*) is a perennial graminoid in the Grass Family (Poaceae). The genus *Chasmanthium* contains five species and is endemic to North America (FNA 2003). The genus is most common in the southeastern and south-central US. *Chasmanthium laxum* occurs from Texas east to Florida and north to Missouri, Kentucky, and southern New York (FNA 2003). There are two species of *Chasmanthium* in NY, *C. laxum* and *C. latifolium* (Werier et al. 2023). *Chasmanthium laxum* represents the only native species in the state (Werier et al. 2023).

In New York, *Chasmanthium laxum* occurs in red maple-black gum swamps and coastal plain poor fens on Long Island and Staten Island (Edinger et al. 2014, NYNHP 2023, 2024). It was historically also known from bogs on Long Island (NYNHP 2024).

Chasmanthium laxum has declined in New York over the last 100 years and only three populations, totaling fewer than 75 plants, are currently known in the state. Despite surveys for them, none of the historical records have been rediscovered to date. Additionally, three populations have been extirpated due to development. The extant populations have only been surveyed once so short-term trends are unknown. More surveys are needed to assess the short-term trends of this species.

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:

Chasmanthium laxum is Endangered in New York (Ring 2023). There are three extant, two historical, and three extirpated populations in New York. The three extant populations total fewer 70 plants. The largest population supports approximately 50 individuals, while the other two populations support fewer than 10 individuals. Both historical occurrences have been surveyed for, but no plants were found. The extirpated populations were destroyed by development in western Long Island.

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	-	-	-		

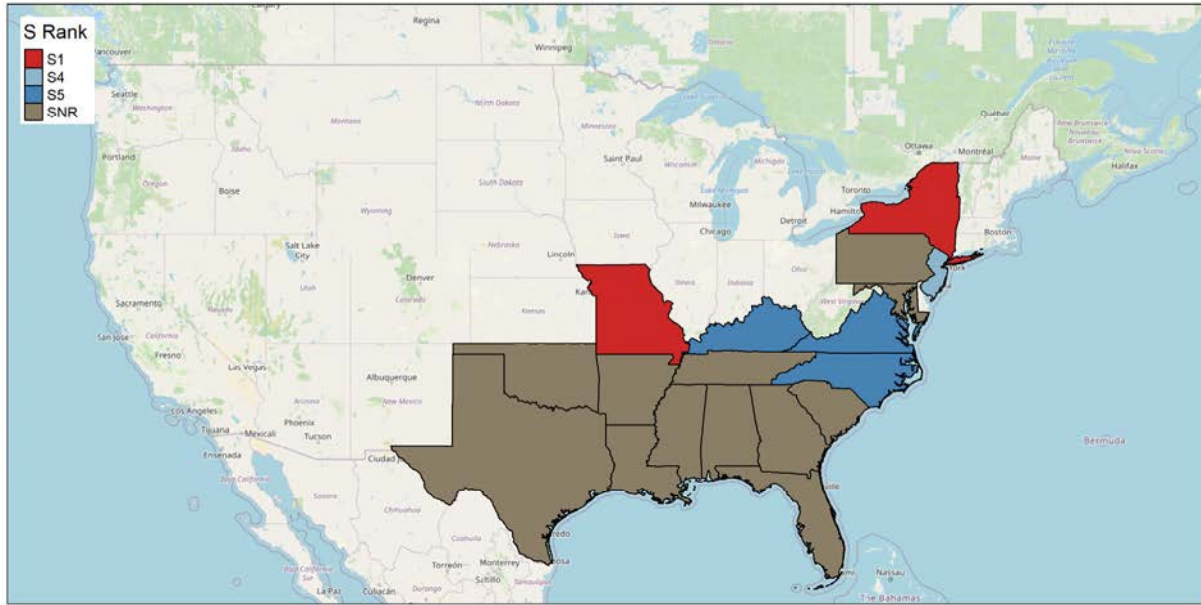


Figure 11: *Chasmanthium laxum* North American distribution.

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

Trends Discussion

Chasmanthium laxum has declined in New York over the last 100 years. This species was always very rare in the state and none of the historical records have been rediscovered to date. Three populations have been extirpated due to development. Currently only three extant populations are known. These have only been surveyed once (NYNHP 2023) and the short-term trends are unknown. More surveys are needed to assess the short-term trends of this species.

Details of historic and current occurrence

Chasmanthium laxum has only ever been documented on Long Island and Staten Island in NY state. It is currently only known from Staten Island in Richmond County and eastern Suffolk County. It is considered extirpated from western Long Island. There are an estimated 50-75 individuals extant in NY.

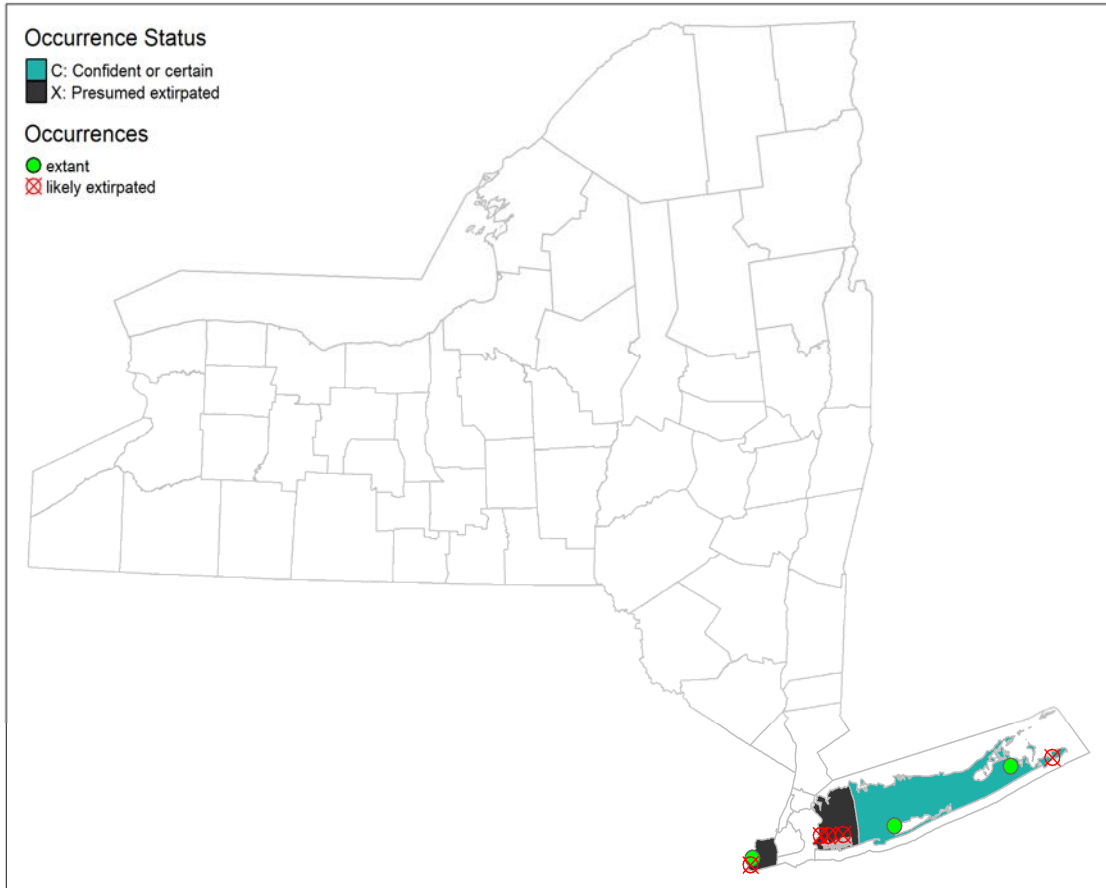


Figure 12: NYS distribution of *Chasmanthium laxum*.

Table 1. Number of records (element occurrences) of *Chasmanthium laxum* 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	5	4	0.4
1995-2004	1	1	0.1
2005-2014	1	1	0.1
2015-2023	1	1	0.1

Monitoring in New York

There are eight populations known statewide, of which three are extant, two are historical, and three have been extirpated. Two populations occur on NYS Park lands and are monitored on a ten-year rotation. None of the other populations have been regularly monitored. The three extant populations were last seen in 1996, 2014, and 2021 respectively.

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

NY Natural Heritage Communities: Red maple-blackgum swamp, Coastal plain poor fen.

Habitat or Community Type Trend in New York

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

Habitat Discussion:

Slender spike grass occurs in red maple-black gum swamps and coastal plain poor fens on Long Island and Staten Island (Edinger et al. 2014, NYNHP 2023, 2024). Historically this species was also known from bogs (NYNHP 2024). Woods, meadows and swamps (Fernald 1970). Further south where the species is more common, it occurs in savanna-pocosin ecotones, sandhill-pocosin ecotones, moist hardwood swamps, other moist habitats (Weakly 2020).

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):

Chasmanthium laxum is a rhizomatous perennial graminoid (NYNHP 2023, USDA 2024, Werier et al. 2023). The plants are wind pollinated and bloom in August (NYNHP 2023, 2024). The seeds mature in Late September into October and are dispersed by wind and gravity (NYNHP 2023, 2024, USDA 2024). It is browsed by white-tail deer (Thill 1984).

Very little natural history or demographic information is available for this species and more research is needed.

Table 2. Phenology of Chasmanthium laxum in New York State.

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

VI. Threats

Slender spike grass is threatened by the establishment and spread of common reed (*Phragmites australis*) within its habitat. The direct disturbance of wetlands through ditching also threatens this species. At least three NY populations have been extirpated due to development.

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:

Remaining populations need to be protected from direct disturbance, alterations of wetland hydrology, and the impacts of *Phragmites australis* establishment and spread.

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 *Chasmanthium laxum*.

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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