

# Species Status Assessment

<b>Common Name</b>	yellow flat sedge	<b>Date Updated:</b>	2024-02-26
<b>Scientific Name</b>	<i>Cyperus flavescens</i>	<b>Updated By:</b>	Kyle J. Webster
<b>Family</b>	Cyperaceae		

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

Yellow flat sedge (*Cyperus flavescens*) is an annual graminoid in the Sedge Family (Cyperaceae). It occurs along the Gulf of Mexico, through the central US and Atlantic coastal plain north to Massachusetts, New York, Ontario, and Michigan (NatureServe 2023). *Cyperus* has a global distribution throughout tropical and temperate areas and consists of approximately 600 species, 96 of which occur in North America (Flora North America 2002). There are 32 species of *Cyperus* in New York, 19 of which are native (Werier et al. 2023).

In New York, *Cyperus flavescens* occurs on wet sandy sites in high salt marshes, coastal plain pond shores, and wet sandy roadsides (Edinger et al. 2014, NYNHP 2023). It primarily occurs on Long Island but can also be found along the lower Hudson River. It is currently extant in Kings, Nassau, Queens, Rockland, and Suffolk Counties, but was also historically known from Brox, New York, and Westchester Counties (NYNHP 2023, Werier et al. 2023).

The short- and long-term trends of *Cyperus flavescens* in New York are not known, though it has likely declined in the state given the number of known extirpated populations and development pressure around New York City. More surveys of extant and historical populations are needed.

## I. Status

### a. Current legal protected Status

<b>i. Federal:</b>		<b>Candidate:</b>	
<b>ii. New York:</b>	<u>Endangered</u>		

### b. Natural Heritage Program

<b>i. Global:</b>	<u>G5</u>		
<b>ii. New York:</b>	<u>S1</u>	<b>Tracked by NYNHP?</b>	On Active Tracking List

### Other Ranks:

COSEWIC: Not listed in Canada  
IUCN Red List: Least Concern

### Status Discussion:

*Cyperus flavescens* is Endangered in New York (Ring 2023). There are 23 populations known statewide, of which eight are extant, eight are historical, and seven are confirmed extirpated. Most extant populations have not been surveyed more than once and only three populations have been censused. All the censused populations contained fewer than 30 individuals. The number of individuals statewide is unknown.

## 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	Yes	Unknown	Unknown	Unknown	SNR	
New Jersey	Yes	Unknown	Unknown	Unknown	S4	
Pennsylvania	Yes	Unknown	Unknown	Unknown	SNR	
Vermont	No	-	-	-		
Ontario	Yes	Unknown	Unknown	Unknown	S2	
Quebec	No	-	-	-		

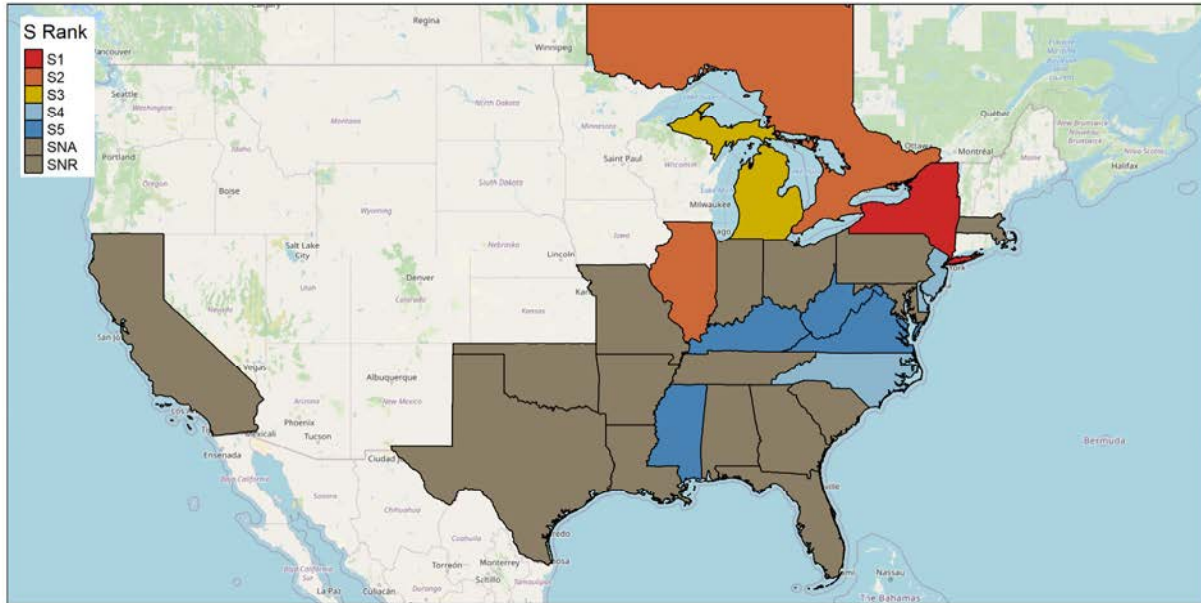


Figure 11: *Cyperus flavescens* North American distribution.

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

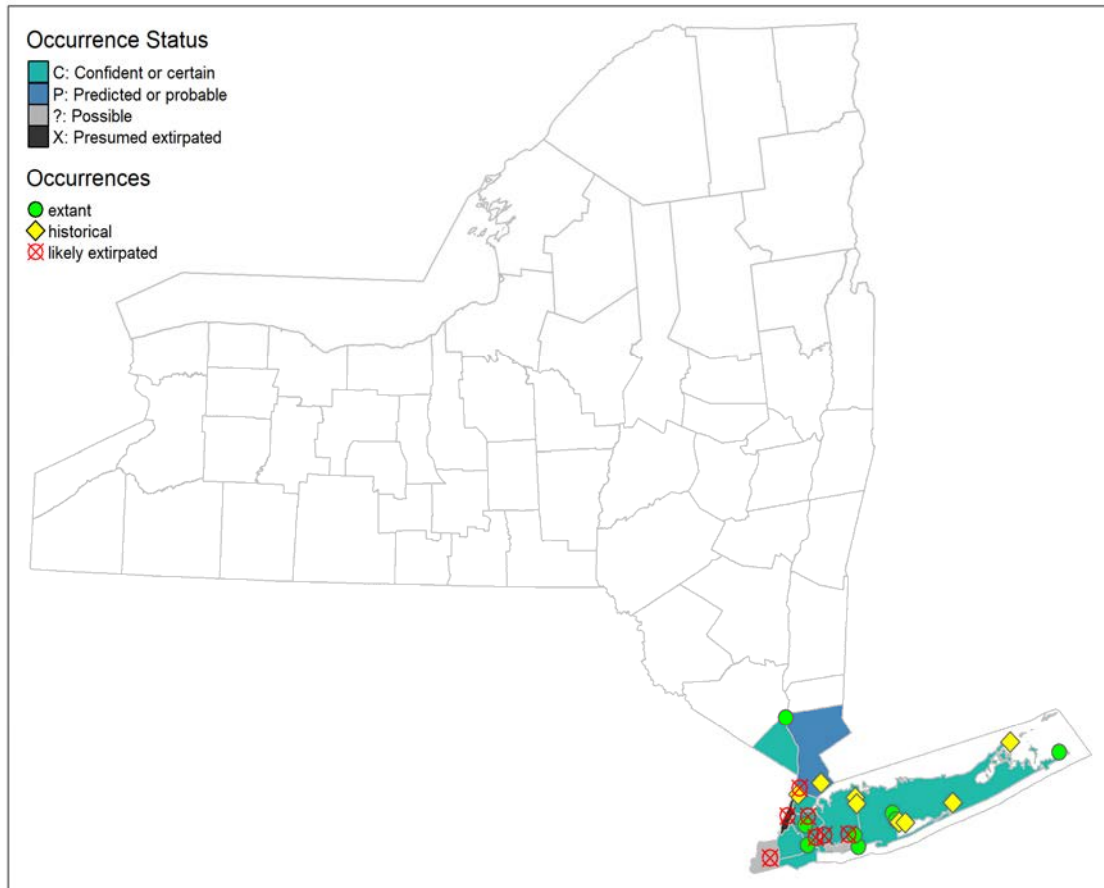
### III. NY Rarity and Trends

#### Trends Discussion

The short- and long-term trends of *Cyperus flavescens* in New York are not known, though it has likely declined in the state (NYNHP 2023). More surveys of extant and historical populations are needed.

#### Details of historic and current occurrence

*Cyperus flavescens* primarily occurs on Long Island, but it can also be found along the lower Hudson River. It is currently extant in Kings, Nassau, Queens, Rockland, and Suffolk County. It is historically known from Brox, New York, and Westchester County (NYNHP 2023, Werier et al. 2023). There are two reports of *Cyperus flavescens* occurring on the Lake Ontario Plain in Monroe County and Niagara County, but these have not been confirmed and are not show in Figure 2 or Table 1 (Werier et al. 2023).



**Figure 22:** NYS distribution of *Cyperus flavescens*.

**Table 1.** Number of records (element occurrences) of *Cyperus flavescens* 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	18	21	2.1
1995-2004	2	2	0.2
2005-2014	1	1	0.1
2015-2023	2	2	0.2

### Monitoring in New York

There are 23 populations known statewide, of which eight are extant, eight are historical, and seven are extirpated. Two populations occur on NYS Parks lands and are monitored on a ten-year rotation. None of the other populations have been regularly monitored. Of the extant populations, two were last seen in 1992 and 1993, three were last seen between 2000 and 2003, and three were last seen between 2017 and 2020. Most extant populations have not been surveyed more than once, and only three populations have ever been fully censused.

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

NY Natural Heritage Communities: Coastal plain pond shore, Mowed roadside/pathway, Unpaved road/path, High salt marsh (Edinger et al. 2014).

#### **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, *Cyperus flavescens* occurs on wet sandy sites in high salt marshes, coastal plain pond shores, and wet sandy roadsides (Edinger et al. 2014, NYNHP 2023). Wet soil (Gleason & Cronquist 1991). Low fields, ditches, marshes, especially where seasonally flooded (Weakley 2015).

#### **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):

*Cyperus flavescens* is a perennial sedge. In New York, the wind pollinated flowers bloom in mid-summer. Each flower develops into a single seed (achene). The seeds develop throughout summer and disperse when mature, typically in early autumn (NYNHP 2023). In addition to falling directly from the inflorescence, seeds may be dispersed short distances by wind and water (Lew-Smith 2003). However, little published information is available regarding the seed dispersal of *Cyperus*.

Justice (1975) found that the seeds of *Cyperus flavescens* were dormant at maturity and for a short time after dispersal. While some dormant seeds were able to germinate under a combination of light exposure and cold stratification, after-ripening (maturation of the seed after dispersal) was found to reduce those requirements and increase germination rates over time (Justice 1957). Seeds stored in moist conditions with temperatures alternating daily between 2 and 20 degrees Celsius attained a germination rate of 99 percent after 15 weeks whereas seeds stored dry at room temperature attained a peak germination rate of 86 percent after 24 months (Justice 1957). In dry storage conditions after seven years the germination rate fell to 10 percent (Justice 1957).

Baskin and Baskin (1971a, 1971b) found that the seeds of the related *Cyperus squarrosus* could be forced to germinate through a combination of stratification, scarification, and exposure to light. Baskin and Baskin (1971b) concluded that the duration and intensity of light was a critical factor to initiating germination of *Cyperus squarrosus* seeds and likely limited the species habitat. The combination of these factors being required for germination may indicate that disturbance is required to induce germination in the field.

Most *Cyperus* species, including *Cyperus flavescens*, occur in open habitats and are assumed to be disturbance-adapted. Disturbance is often required to prevent shading by perennial woody plants and to initiate germination. In New England, the severity and frequency of disturbance are important to the growth and persistence of *Cyperus houghtonii* populations (Lew-Smith

2003). Given *Cyperus flavescens* occupies similar habitats, similar conclusions might be drawn. Unfortunately, little published information regarding the specific natural history, demographics, or ecology of *Cyperus flavescens* is available. More research is needed.

**Table 2.** Phenology of *Cyperus flavescens* in New York State (NYNHP 2023).

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

## VI. Threats

At least one population is threatened by roadside management activities, another by the impacts of Phragmites (*Phragmites australis*). The threats of the remaining populations are unknown because they have not been surveyed in detail.

**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:**

Management of Phragmites within the saltmarsh habitat where these populations occur may help preserve the habitat of yellow flat sedge. The timing and frequency of roadside maintenance should be conducted in a way to avoid negatively impacting the population.

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 *Cyperus flavescens*.

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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