

# Species Status Assessment

<b>Common Name</b>	thick-fruited sedge	<b>Date Updated:</b>	2024-02-02
<b>Scientific Name</b>	<i>Carex adusta</i>	<b>Updated By:</b>	Richard M Ring
<b>Family</b>	Cyperaceae		

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

*Carex adusta* is a perennial graminoid (grass-like) in the sedge family, part of the genus *Carex* and the section *Ovales*. It is a boreal species reaching the southern limit of its overall range in northern New York. It is a recent addition to the flora of New York, having been first documented in the state in 2020, so population trends are unknown (NYNHP 2023). In New York it was discovered in a sandstone pavement barren in the years following a large wildfire. It is known as a short-lived, disturbance-dependent species throughout its range (Reznicek *et al* 2011). It can persist in the seed bank for many years, emerging after fires or other disturbance.

## I. Status

### a. Current legal protected Status

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

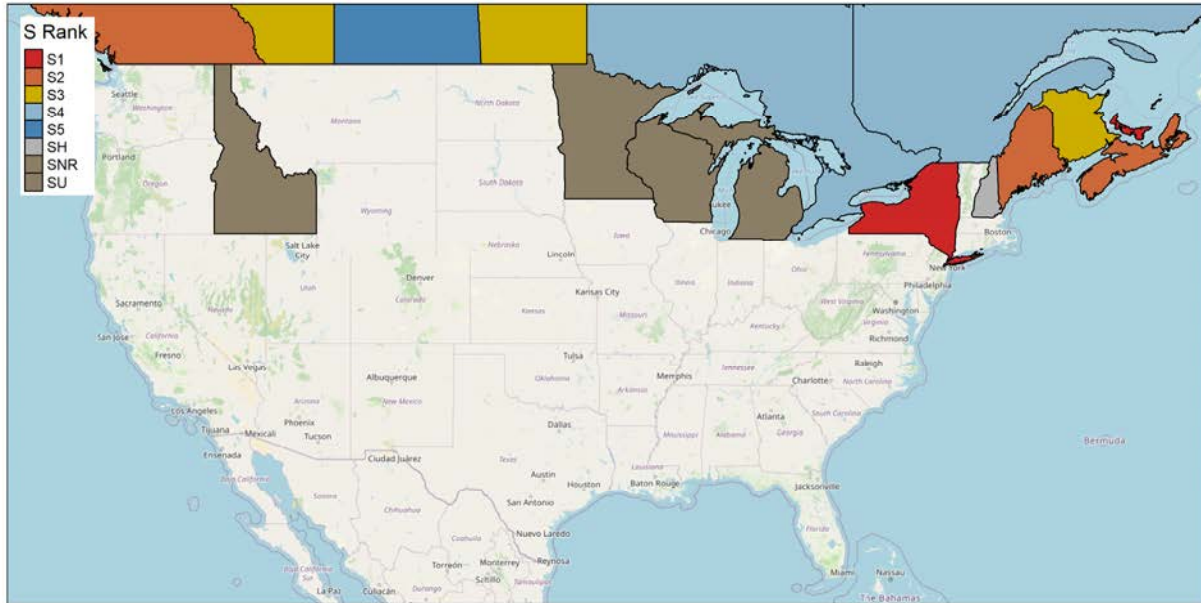
COSEWIC: Not listed in Canada  
IUCN Red List: Not assessed by IUCN Red List

### Status Discussion:

There is only one extant occurrence of this sedge species in NY state, and no confirmed historical records. The occurrence is small, but at a protected site with abundant habitat. The species requires disturbance in the form of fire, and seeds may persist in the soil for many years, so other barrens in northern NY should be searched in years following fire events.

## 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	S4	
Quebec	No	-	-	-		



**Figure 11:** *Carex adusta* 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	600 kilometers

### III. NY Rarity and Trends

#### Trends Discussion

##### Short Term Trends

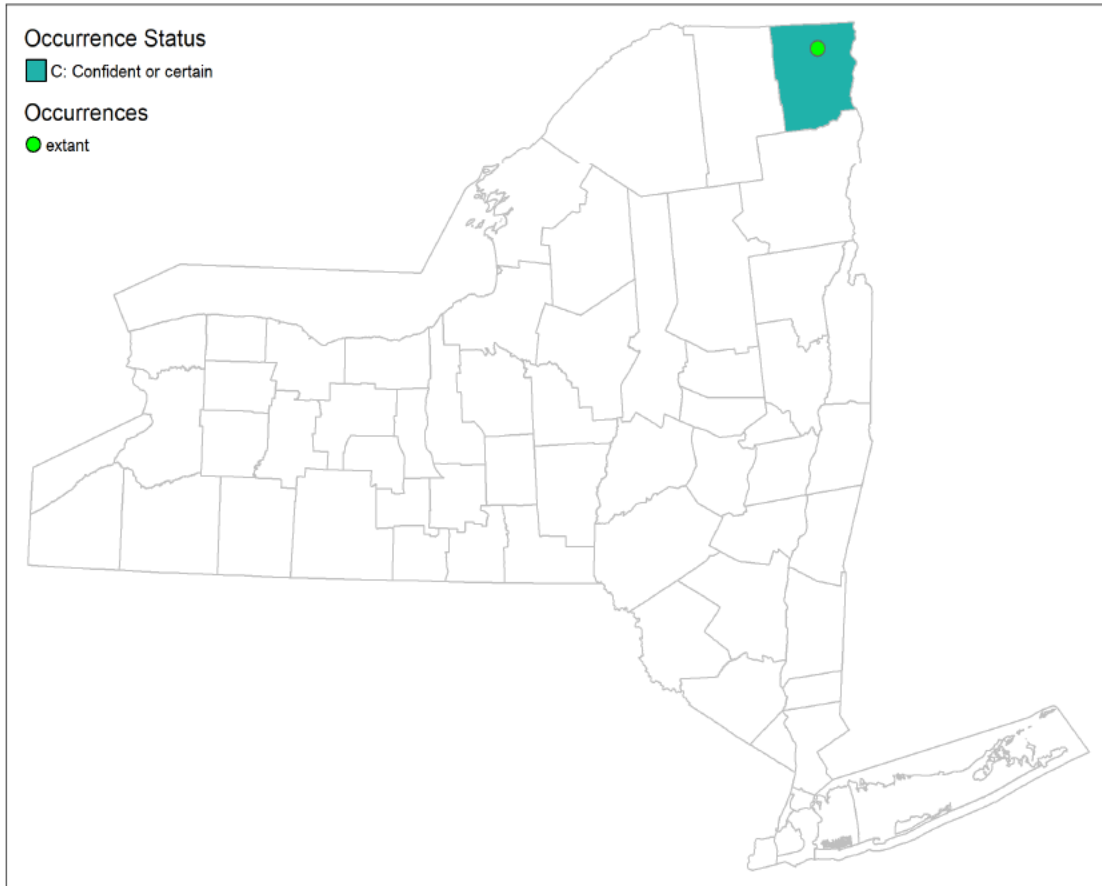
Thick-fruited sedge was first documented from NY in 2020, so no trend data is yet available.

##### Long Term Trends

Thick-fruited sedge was first documented from NY in 2020; in the absence of historical records, the long-term trend is unknown.

##### Details of historic and current occurrence:

Thick-fruited sedge was only recently added to the NY flora, based on a 2020 discovery at a single site. There are no confirmed historical records in the state (NYNHP 2023).



**Figure 22:** NYS distribution for *Carex adusta*.

**Table 1.** Number of records (element occurrences) of *Carex adusta* 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	0	0	0.0
1995-2004	0	0	0.0
2005-2014	0	0	0.0
2015-2023	1	1	0.1

### Monitoring in New York

The one known NY location occurs on a State Forest and is on a 5 to 10 year rotation for population monitoring.

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

NY Ecological Community: Boreal Heath Barren (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:**

The lone NY site where Thick-fruited Sedge is known from is a Sandstone Pavement Barrens with dry, acidic soils, dominated by jack pine, heaths shrubs sedges and grasses (NYNHP 2023). Range-wide, the species is known from open habitats and flourishes after disturbance such as land clearing or fire which exposes bare mineral soil (Reznicek *et al* 2011, Maine Natural Areas Program 2024).

**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):

Thick-fruited Sedge is a perennial graminoid (grass-like) monocot. It is pollinated by wind. It is dependent on disturbance, especially fire, and may persist for many years in the seed bank. Individual clumps arising from the seed bank are relatively short-lived (four or five years) (Reznicek *et al* 2011). Individual clumps may produce hundreds of seeds, dispersed by wind and gravity.

**Table 2.** Phenology of *Carex adusta* in New York (NYNHP 2023).

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

**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:

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

Thick-fruited Sedge should be searched for at additional sites in northern NY with the appropriate habitat (xeric barrens or pine forests with recent fires or other disturbance). The one existing site should be monitored for invasives and protected from habitat degradation via ATV trails. Small prescribed burns would benefit the persistence of this species at the site, where feasible.

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 *Carex adusta*.

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:**

New York Natural Heritage Program, State University of New York College of Environmental Science and Forestry. 2023. Element Occurrence and Element Dataset. Albany, New York. [Exported 12/14/2023].

NatureServe. 2023. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. <http://www.natureserve.org/explorer>. [Accessed 12/14/2023].

Werier, David, Kyle Webster, Troy Weldy, Andrew Nelson, Richard Mitchell, and Robert Ingalls. 2023 New York Flora Atlas. [S. M. Landry and K. N. Campbell (original application development), USF Water Institute. University of South Florida]. New York Flora Association, Albany, New York. [Accessed 11/21/2023].

Additional references:

Edinger, G. J., D. J. Evans, S. Gebauer, T. G. Howard, D. M. Hunt, and A. M. Olivero (editors). 2014. Ecological Communities of New York State. Second Edition. A revised and expanded edition of Carol Reschke's Ecological Communities of New York State. New York Natural Heritage Program, New York State Department of Environmental Conservation, Albany, NY.

Maine Natural Areas Program 2024. Rare Species Fact Sheet: *Carex adusta*. Maine Natural Areas Program. Department of Economic and Community Development. Augusta, ME

MICHIGAN FLORA ONLINE. A. A. Reznicek, E. G. Voss, & B. S. Walters. February 2011. University of Michigan. Web. Accessed January 28, 2024. <http://www.michiganflora.net/>

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.