

Species Status Assessment

Common Name	Fernald's blue grass	Date Updated:	2024-03-07
Scientific Name	<i>Poa flexuosa</i> ssp. <i>fernaldiana</i>	Updated By:	Rachael A. Renzi
Family	Poaceae		

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

Fernald's blue grass is a perennial graminoid subspecies of *Poa flexuosa* in the grass family. It is one of 15 species in NY, and one of eight considered native to the state (Werier et al. 2023). Its entire range is limited to Newfoundland (Island of Newfoundland and Labrador), eastern Quebec, and alpine summits in ME, NH, VT, and NY (NatureServe 2023). It is considered by NatureServe (2023) to be a vulnerable subspecies. In NY, this grass is at the southern edge of its range and only ten tufts of the plant are known to grow on one Adirondack mountain summit (NYNHP 2023). This population has persisted since John Torrey's ascent of Mount Marcy in 1837 (NYNHP 2023, 2024). However, these plants, which grow in an alpine meadow and in cracks between boulders at high elevation, are likely threatened as their habitat changes with climate change (NYNHP 2023, 2024). More consistent surveys are needed to determine trends of this population in NY. In addition, research into the life history of this plant is needed.

I. Status

a. Current legal protected Status

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

b. Natural Heritage Program

i. Global:	<u>G5?T3</u>		
ii. New York:	<u>S1</u>	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 flexuosa ssp. *fernaldiana* is Endangered in New York (Ring 2023). There is only one known extant population, with 10 “tufts” counted during the last survey (NYNHP 2023). This population is threatened by trampling from hiker traffic (NYNHP 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	Yes	Unknown	Unknown	Unknown	SNR	
Vermont	Yes	Unknown	Unknown	Unknown	SH	
Ontario	No	-	-	-		
Quebec	No	-	-	-		

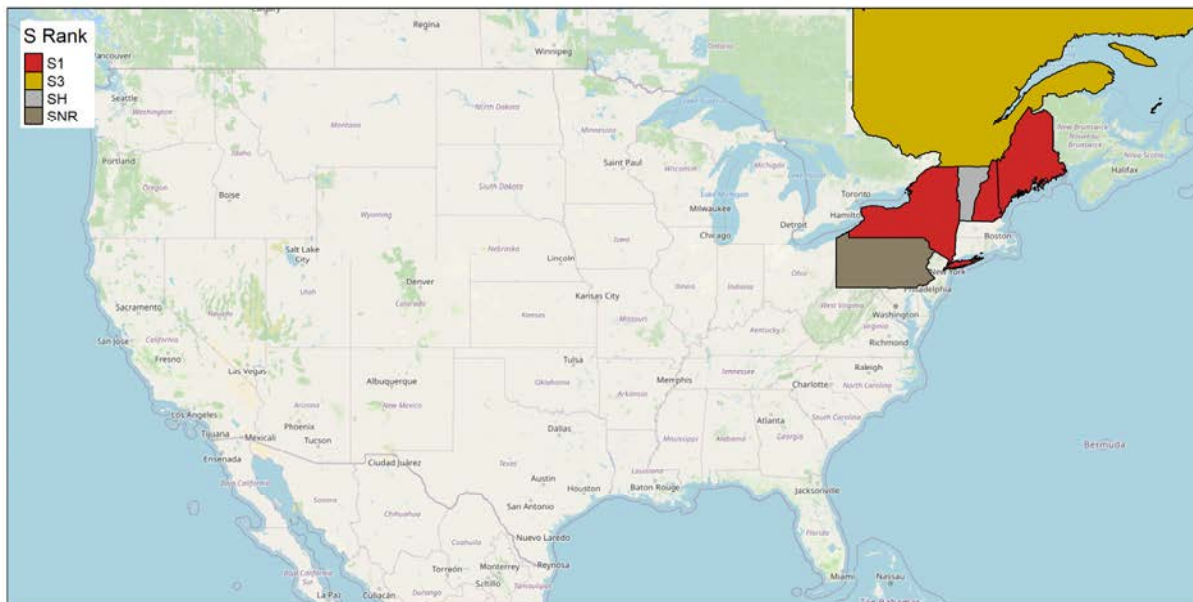


Figure 1. *Poa flexuosa* ssp. *fernalidiana* North American distribution.

Percent of North American Range in NY	Classification of NY Range	Distance to core population, if not in NY
1-25%	Peripheral	900km

III. NY Rarity and Trends

Trends Discussion

There are no clear data indicating what the short-term trends are but trampling by hiker traffic may be negatively impacting the one known population (NYNHP 2023, 2024). This one population has been known since John Torrey's ascent of Mount Marcy in 1837 (NYNHP 2023). There are very little data on how the size of the population has changed over the years. Currently there are only 10 "tufts" present. Overall, long-term trends are unclear.

Details of historic and current occurrence

In New York, this grass is at the southern edge of its range and is only known from one Adirondack mountain summit (NYNHP 2023). It has been visited 15 times since 1894 but failed to be found on four occasions (NYNHP 2023). There were 10 tufts extant in 1990, and was considered extant during the last visit in 2009 (NYNHP 2023). Its entire range is limited to Newfoundland (Island of Newfoundland and Labrador), eastern Quebec, and alpine summits in ME, NH, VT, and NY (NatureServe 2023). It is considered by NatureServe (2023) to be a vulnerable subspecies.

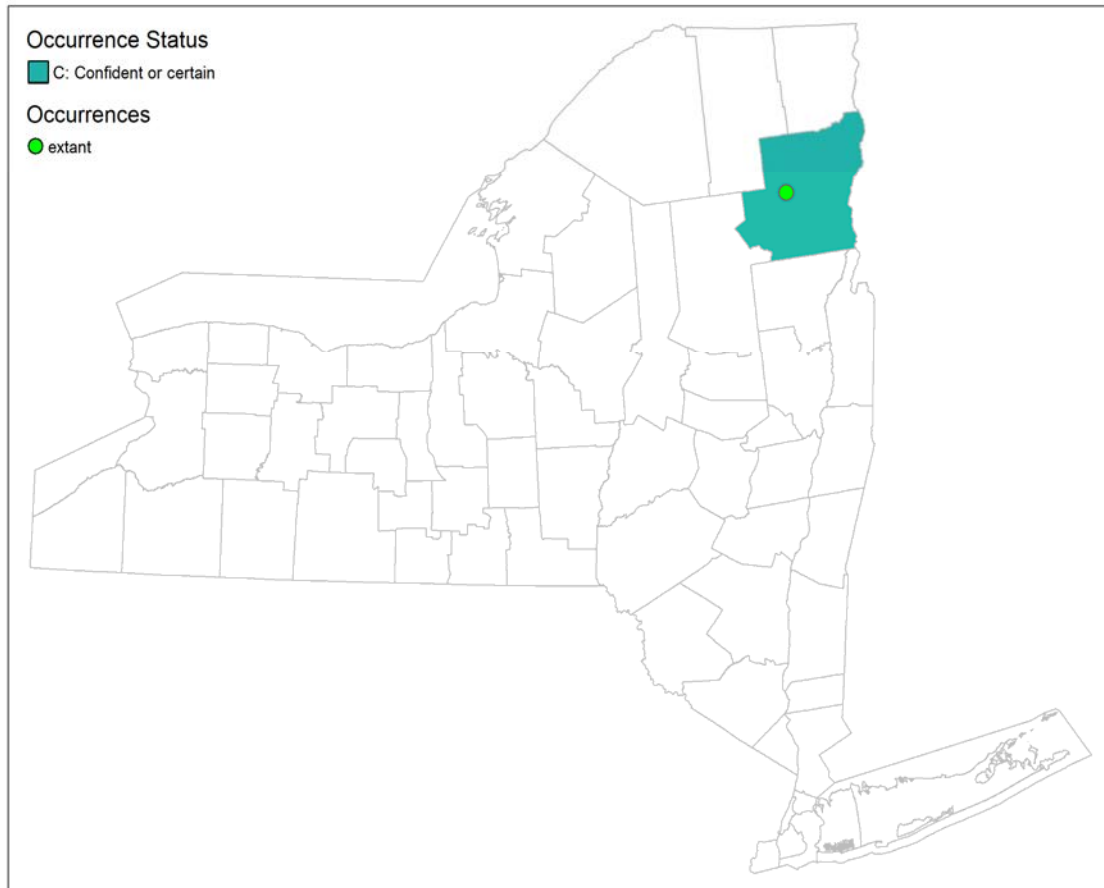


Figure 2. NYS distribution for *Poa flexuosa* ssp. *fernalidiana*.

Table 1. Number of records (element occurrences) of *Poa flexuosa* ssp. *fernalidiana* 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	1	1	0.1
1995-2004	1	1	0.1
2005-2014	1	1	0.1
2015-2023	0	0	0.0

Monitoring in New York

The plant's population occurs within the Adirondack Park Preserve within the High Peaks Wilderness, which is managed by DEC (NYNHP 2023). The population has been surveyed by the Adirondack Summit Stewards and botanists 15 times since 1894 (NYNHP 2024).

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

Northeastern Habitat Classification Macrogroup: Alpine.

NY Ecological Community: Open alpine community (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 New York, this species is only known from near the summit of Mount Marcy, the highest mountain in New York, in an alpine meadow at the base of anorthosite ledges and in sheltered places like cracks in bedrock between boulders (NYNHP 2023, Werier et al. 2023). Its North American habitats include the summits of higher mountains and alpine regions on thin, rocky soils; in meadows, on ledges or escarpments, in chimneys, near the summits of mountains (NatureServe 2023; Gleason & Cronquist 1991; Fernald 1950).

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 flexuosa ssp. *fernaldiana* is a perennial graminoid. It forms tufts and lacks rhizomes (Soreng 2007). It produces seeds in July and August (NYNHP 2023). More research is needed on the life history of this subspecies.

Table 2. Phenology of *Poa flexuosa* ssp. *fernaldiana* in New York State (NYNHP 2023).

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

VI. Threats

Trampling of plants and habitat by hiker traffic threatens the one known population (NYNHP 2023). This population is also potentially threatened by competition with the non-native species *Poa pratensis* which has been introduced for revegetation efforts at this site (Zika and Jenkins 1992, NYNHP 2023). A study predicted that future suitable habitat for *Poa flexuosa* (ssp. *flexuosa*) in Norway would decrease under two climate change models (Thronsdon 2018). Left unchecked, global warming also threatens this species in New York.

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:

The Summit Steward program, which works to inform hikers of the fragile nature of alpine plants, is a critical program which is helping to reduce trampling of alpine vegetation. This program and other efforts designed to reduce trampling of alpine meadows are needed. Also, since there is only one population in New York, an extra effort should be made to keep hikers away from the area where it occurs.

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 flexuosa* ssp. *fernaldiana*.

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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