

Species Status Assessment

Common Name	forest blue grass	Date Updated:	2024-03-07
Scientific Name	<i>Poa sylvestris</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*):

Forest blue grass is one of 15 species of *Poa* in NY, and one of eight that are native to the state (Werier et al. 2023). It is a perennial graminoid in the grass family. It is near the northeastern edge of its range, which continues east to MN and south to TX and FL (NatureServe 2023). *Poa sylvestris* is found in rich, mesic deciduous forest throughout its North American range (Werier et al. 2023; Gleason & Cronquist 1991; Voss 1972). There are three extant populations of *P. sylvestris* in NY, but ten historical and two extirpated occurrences (NYNHP 2023). These extant populations are in Jefferson, Albany, and Erie Counties, but historically the plant spanned south to Tompkins and Kings Counties (NYNHP 2023). *Poa sylvestris* has persisted in low numbers in NY, but faces threats from development (NYNHP 2023, 2024). It is unknown how many plants exist in the state, but all populations are likely small (NYNHP 2023, 2024). Surveys to these populations are needed, as none have been visited within the last 25 years (NYNHP 2023). In addition, surveys for this plant may be beneficial in relocating historical populations, or finding new ones, as it could easily have been overlooked (NYNHP 2023).

I. Status

a. Current legal protected Status

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

b. Natural Heritage Program

i. Global:	<u>G5</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 sylvestris is Endangered in New York (Ring 2023). There are three known populations and at least ten historical populations (NYNHP 2023). Counts at one of the populations found at least four plants, while the number of plants at the other populations has not been estimated (NYNHP 2023). As a woodland grass in relatively common habitats, this plant may be overlooked. More survey work that focuses on finding this plant is needed and may benefit from a predictive distribution model.

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	SH	
Pennsylvania	Yes	Unknown	Unknown	Unknown	SNR	
Vermont	No	-	-	-		
Ontario	Yes	Unknown	Unknown	Unknown	S1	
Quebec	No	-	-	-		

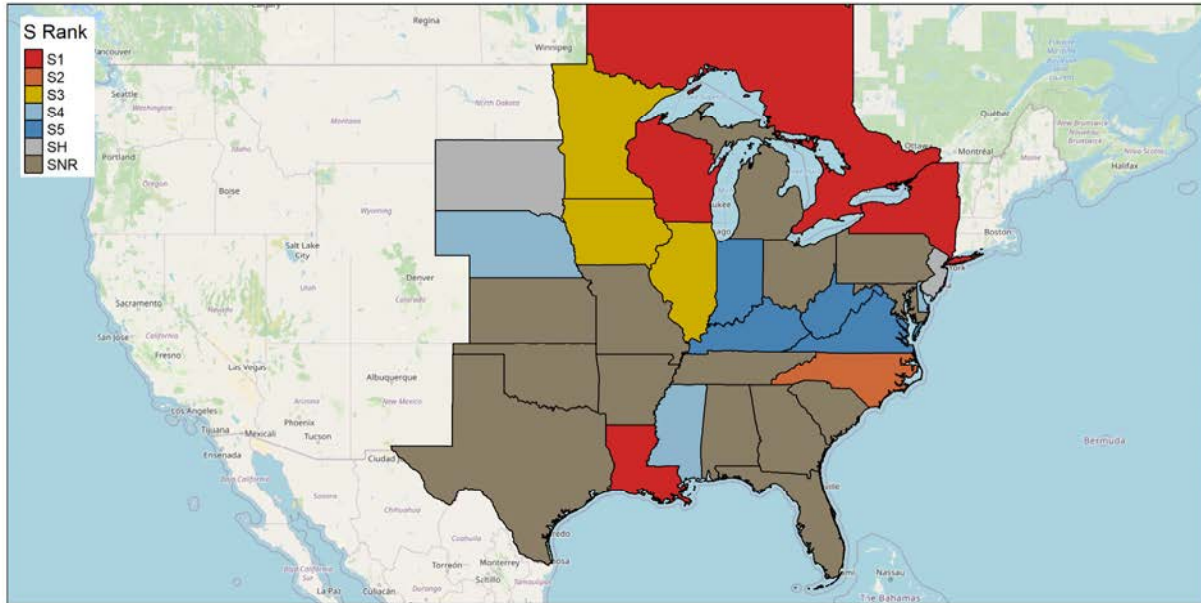


Figure 1: *Poa sylvestris* North American distribution.

Percent of North American Range in NY	Classification of NY Range	Distance to core population, if not in NY
1-25%	Peripheral	≥100km

III. NY Rarity and Trends

Trends Discussion

This grass was never common in the state and has persisted at low levels for many decades (NYNHP 2023, 2024). The three known populations have not been surveyed more than once so the trends are unknown. These were seen between 1988 and 1992 (NYNHP 2023). The number of plants had only been estimated at one population, which had ‘four-plus’ plants (NYNHP 2023). Another population, which is shown as extant on the map, has not been visited since 1982 (NYNHP 2023). There are at least ten historical records and an additional two that have been extirpated by development (NYNHP 2023). No plants were seen at another occurrence, visited in 2001 (NYNHP 2023).

Details of historic and current occurrence

Most records for this grass in NY are from the Great Lake Plains and the morainal hills to the south (NYNHP 2023, 2024). There are a few scattered reports in the northern Hudson Valley, but these reports should be verified (NYNHP 2023, 2024). It is unknown how many plants exist in the state, as only one count was taken at a single population; at least four plants were found (NYNHP 2023). Two populations were extirpated by development, but the majority of the populations are historical records from the early 1900s (NYNHP 2023). This grass ranges from New York west to Minnesota and Iowa, and south to Florida and Texas (NatureServe 2023).

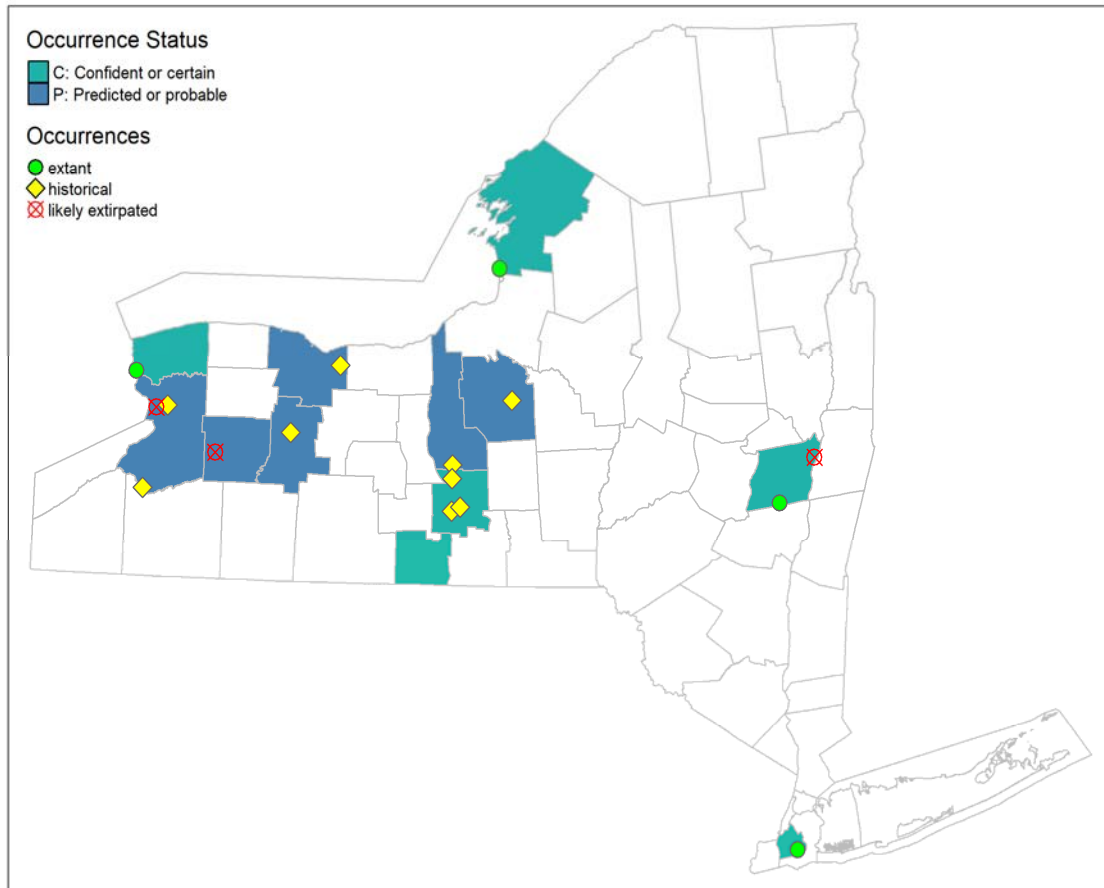


Figure 2: NYS distribution for *Poa sylvestris*. This map shows four extant populations, though one was last seen in 1982 and is technically historical.

Table 1. Number of records (element occurrences) of *Poa sylvestris* 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	16	20	2
1995-2004	0	0	0
2005-2014	0	0	0
2015-2023	0	0	0

Monitoring in New York

One of the populations is located on State Park land, which is monitored on a 10-year cycle (NYNHP 2023). Another population is in a Wildlife Management Area (NYNHP 2023). The populations have only been visited once, and were seen individually in 1988, 1991, and 1992 (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 Natural Heritage Communities: Beech-maple mesic forest, Limestone woodland, Maple-basswood rich mesic forest, Rich mesophytic forest (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:

Poa sylvestris is found in mesic or moist deciduous forests, usually associated with calcareous or other rich soil types (NYNHP 2023, 2024; Werier et al. 2023; Rhoads & Block 2000; Gleason & Cronquist 1991; Voss 1972; 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 sylvestris is a perennial graminoid. It is a non-rhizomatous, clump-forming grass that fruits from June to August (NYNHP 2023, 2024). Colonies are formed when seeds fall close to the plant, if not eaten by wild turkey or grouse (Hilyu 2019). It forms overwintering leaves in the fall (Hilty 2019). Endophyte symbiosis was found to increase survival and growth for this species (Chung et al. 2015). Another organism that makes use of this grass is moths; *Elachista sylvestris* larvae mine the leaves of Woodland Bluegrass during the spring when it is actively growing, and *Elachista albicapitella* mine the leaves of this grass during the winter (Braun 1948; Needham et al. 1928).

Table 2. Phenology of *Poa sylvestris* in New York State (NYNHP 2023).

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

VI. Threats

There is not enough data about the known populations to know what threats exist. Two of them occur in populated areas and may be threatened by development (NYNHP 2023).

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:

It is thought that this grass prefers undisturbed habitat so management must provide a sufficient buffer around each occurrence to prevent disturbance (NYNHP 2023, 2024).

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 sylvestris*.

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:

Braun F. Annette (1948). *Elachistidae* of North America (Microlepidoptera). Memoirs of the American Entomological Society. Vol. 13. Philadelphia: American Entomological Society. pp. 67–68

Britton, N.L. and A. Brown. 1913. An Illustrated Flora of the Northern United States and Canada. 3 vol. Dover Publications, Inc., NY. 2052 pp.

Chung, Y. Anny., Tom E. X. Miller, and Jennifer A. Rudgers. 2015. Fungal symbionts maintain a rare plant population but demographic advantage drives the dominance of a common host. *Journal of Ecology* Vol 103 (4). <https://doi.org/10.1111/1365-2745.12406>

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. <https://www.nynhp.org/documents/39/ecocomm2014.pdf>

Fernald, M.L. 1950. *Gray's manual of botany.* 8th edition. D. Van Nostrand, New York. 1632 pp.

Gleason, Henry A. and A. Cronquist. 1991. *Manual of Vascular Plants of Northeastern United States and Adjacent Canada.* The New York Botanical Garden, Bronx, New York. 910 pp.

Hilty, John. 2019. Woodland Bluegrass. *Illinois Wildflowers.info.* Available from: https://www.illinoiswildflowers.info/grasses/plants/wd_bluegrass.htm

Hitchcock, A.S. 1951. *Manual of the grasses of the United States.* 2nd edition revised by Agnes Chase. [Reprinted, 1971, in 2 vols., by Dover Publications, Incorporated, New York.]

Holmgren, Noel. 1998. *The Illustrated Companion to Gleason and Cronquist's Manual. Illustrations of the Vascular Plants of Northeastern United States and Adjacent Canada.* The New York Botanical Garden, Bronx, New York.

Mitchell, Richard S. and Gordon C. Tucker. 1997. *Revised Checklist of New York State Plants. Contributions to a Flora of New York State. Checklist IV. Bulletin No. 490.* New York State Museum. Albany, NY. 400 pp.

Needham, J. G., Frost, S. W. and Tothill, B. H. 1928. *Leafmining Insects.* The Williams & Wilkins Company, Baltimore, MD. viii 351 pp

Reschke, Carol. 1990. *Ecological communities of New York State.* New York Natural Heritage Program, New York State Department of Environmental Conservation. Latham, NY. 96 pp. plus xi.

Rhoads, Ann F. and Timothy A. Block. 2000. *The Plants of Pennsylvania, an Illustrated Manual.* University of Pennsylvania Press, Philadelphia, PA.

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.

Voss, E.G. 1972. *Michigan Flora, Part I. Gymnosperms and Monocots.* Cranbrook Institute of Science Bulletin 55 and the University of Michigan Herbarium. Ann Arbor. 488 pp.