

Species Status Assessment

Common Name soapwort gentian **Date Updated:** 2024-02-13
Scientific Name *Gentiana saponaria* **Updated By:** Gregory J. Edinger
Family Gentianaceae

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

Soapwort gentian (*Gentiana saponaria*) is a perennial herb in the Gentian Family (Gentianaceae). There are five species of *Gentiana* in NY and all are native to the state (Werier et al. 2023).

Soapwort gentian is primarily a species of the southeastern US where it extends southwest to Arkansas and Oklahoma, to eastern Texas and Louisiana. It also grows south of Lake Michigan in Indiana and Illinois with a disjunct population in central Wisconsin. It reaches its northeastern limit in Pennsylvania, New Jersey, and New York. In NY, it historically ranged from Suffolk County on Long Island west, and north to Dutchess County. Soapwort gentian is currently only known from one location on Staten Island with about 80 plants (last surveyed in 1987). Most of the 33 historical occurrences in New York City are considered extirpated (NYNHP 2023, 2023).

In NY, soapwort gentian has been found in wet areas of successional deciduous woodlands, a freshwater swale at the border of a salt marsh, a wet switchgrass meadow, mixed mesophytic forests, a hillside fen, a shrub swamp, and damp areas of the Hempstead Plains. Loss of wetland habitat is the primary threat to soapwort gentian populations. Invasion of woody plants is a threat at one location in NY (NYNHP 2023, 2024).

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:

Gentiana saponaria is Endangered in New York (Ring 2023). It is currently only known from one location on Staten Island with about 80 plants (last surveyed in 1987). Most of the 33 historical occurrences in New York City are considered extirpated (NYNHP 2023, 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	Yes	Unknown	Unknown	Unknown	S3	
Pennsylvania	Yes	Unknown	Unknown	Unknown	S1	
Vermont	No	-	-	-		
Ontario	No	-	-	-		
Quebec	No	-	-	-		

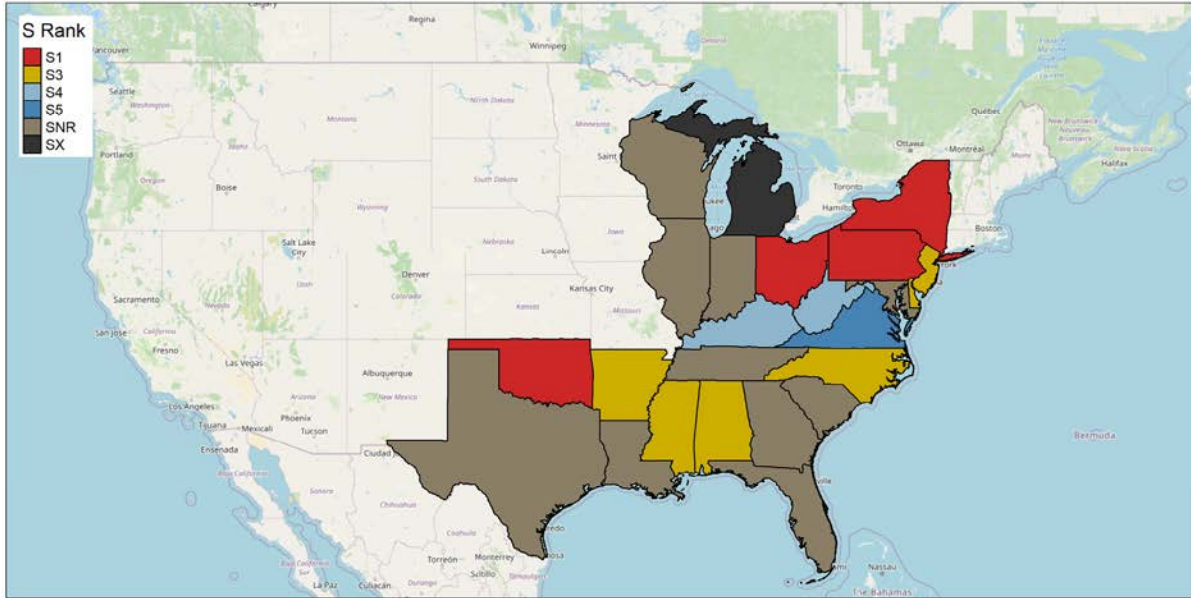


Figure 11: *Gentiana saponaria* North American distribution.

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

There have not been enough recent surveys to determine the short-term trends of soapwort gentian. As for long-term trends, there has been a severe decline of soapwort gentian populations over the last 100 years as the western end of Long Island and New York City has been developed and wetlands have been lost (NYNHP 2023, 2024).

Details of historic and current occurrence

Comments on range: Soapwort gentian is primarily a species of the southeastern US where it extends southwest to Arkansas and Oklahoma, where it is rare, and eastern Texas and Louisiana. It also grows south of Lake Michigan in Indiana and Illinois with a disjunct population in central Wisconsin. It is considered extirpated in Michigan and rare in Ohio. It reaches its northeastern limit in Pennsylvania, New Jersey, and New York, where it is also rare. This herb historically ranged from Suffolk County on Long Island west, and north to Dutchess County. It is currently only known from a population of approximately 80 plants on Staten Island. It is now considered extirpated in the rest of New York City (NYNHP 2023, 2024).

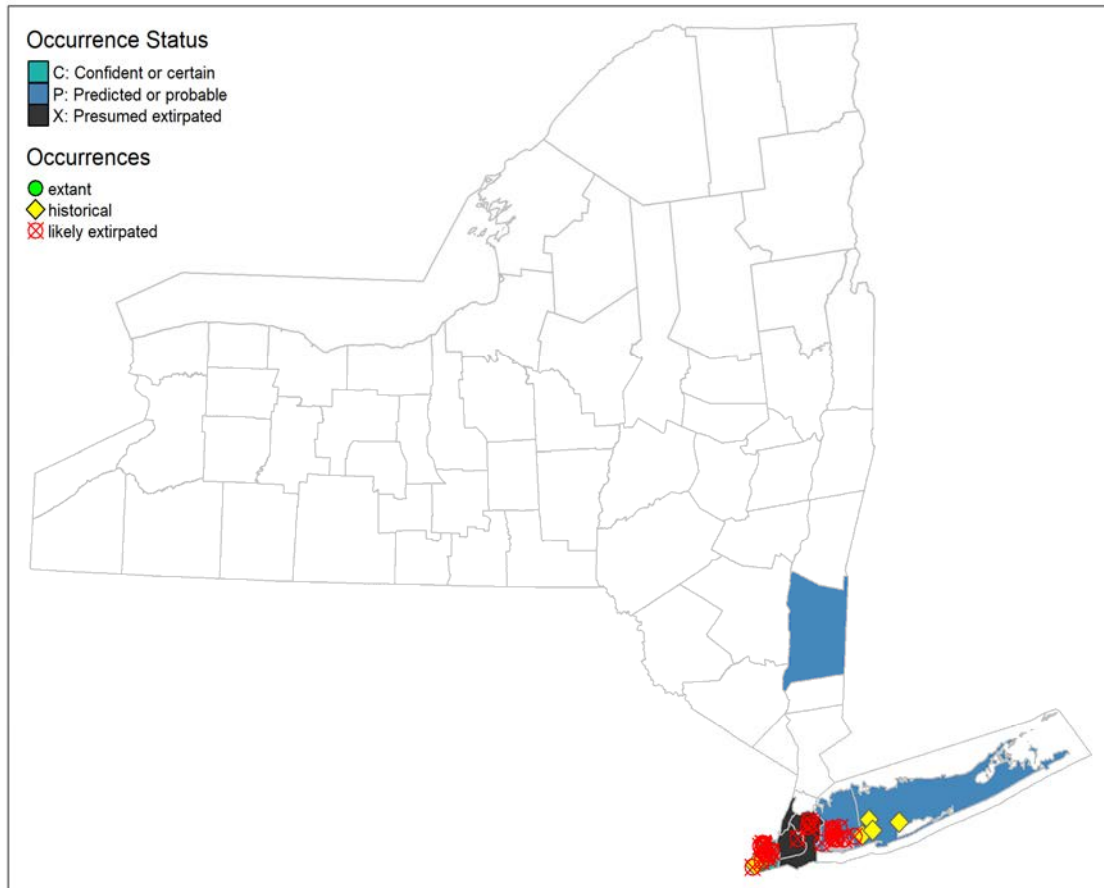


Figure 22: NYS distribution for *Gentiana saponaria*.

Table 1. Number of records (element occurrences) of *Gentiana saponaria* 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	34	20	2
1995-2004	0	0	0
2005-2014	0	0	0
2015-2023	0	0	0

Monitoring in New York

No soapwort gentian populations occur on State Park or State Forest lands. No regular monitoring program is currently in place in New York (NYNHP 2023, 2024).

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

Northeastern Terrestrial Habitat Classification Macrogroups: Central Appalachian and Coastal Peatlands, Central Oak-Pine, Coastal Grassland and Shrubland, Coastal Plain Swamp, Plantation and Disturbed Land Pioneer Forest

NYNHP Ecological Communities: Hempstead Plains grassland, Red maple-sweetgum swamp, Successional southern hardwoods, Coastal oak-beech forest, Coastal plain poor fen, Red maple-hardwood swamp, Sea level fen (Edinger et al. 2014, NYNHP 2023, 2024)

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, soapwort gentian has been found in wet areas of successional deciduous woodlands, a freshwater swale at the border of a salt marsh, a wet switchgrass meadow, mixed mesophytic forests, a hillside fen, a shrub swamp, and damp areas of the Hempstead Plains (NYNHP 2023, 2024). Glades, sandy swamps, shores and bogs (Fernald 1950). Moist woods and thickets (Gleason & Cronquist 1991).

V. Species Demographics and Life History

Species Demographics and Life History Discussion (include information about species life span, reproductive longevity, reproductive capacity, age to maturity, and ability to disperse and colonize):

Soapwort gentian is described as a “long-lived” herbaceous perennial by the Florida Native Plant Society (2024). Bumblebees are the primary pollinators of soapwort gentian and are among the few insects strong enough to open the flowers to access nectar (Illinois Wildflowers 2024). The seed capsule of soapwort gentian splits into two sections, producing many small seeds that can be dispersed by wind or water (Northeast Wild Seed Collectors 2024).

Table 2. Phenology of *Gentiana saponaria* in New York State (NYNHP 2023).

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

VI. Threats

Loss of wetland habitat is the primary threat to soapwort gentian populations. Invasion of woody plants is a threat at one location in NY (NYNHP 2023, 2024).

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:

Manage soapwort gentian's wetland habitats to retain or restore open canopy conditions. Access to the existing soapwort gentian populations should be restricted to prevent picking or trampling (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 *Gentiana saponaria*.

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:

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].

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].

New York Natural Heritage Program. 2024. Online Conservation Guide for *Gentiana saponaria*. Available from: <https://guides.nynhp.org/soapwort-gentian/>. Accessed January 8, 2024.

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:

Clemants, Steven and Carol Gracie. 2006. *Wildflowers in the Field and Forest. A Field Guide to the Northeastern United States.* Oxford University Press, New York, NY. 445 pp.

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.

Florida Native Plant Society. 2024. *Gentiana saponaria* - Soapwort Gentian. <https://www.fnps.org/plant/gentiana-saponaria> [Accessed 3/22/2024].

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.

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.

Illinois Wildflowers. 2024. *Prairie Wildflowers of Illinois: Soapwort Gentian - Gentiana saponaria.* https://www.illinoiswildflowers.info/prairie/plantx/soap_gentianx.htm [Accessed 3/22/2024].

Newcomb, Lawrence. 1977. *Newcomb's Wildflower Guide: An Ingenious New Key System for Quick, Positive Field Identification of the Wildflowers, Flowering Shrubs, and Vines of Northeastern and North-Central North America.* Little, Brown and Company. Boston.

Northeast Wild Seed Collectors. 2024. *Gentiana saponaria* (Soapwort Gentian). <https://northeastwildseedcollectors.com/desired-native-plant-seeds/gentiana-saponaria-soapwort-gentian/> [Accessed 3/22/2024].

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.