Species Status Assessment

Common Name Nantucket juneberry Date Updated: 2024-03-04

Scientific Amelanchier Updated By: Richard M. Ring Name nantucketensis

Family Rosaceae

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

Nantucket Juneberry (*Amelanchier nantucketensis*) is a perennial shrub species. Juneberry (*Amelanchier*) taxonomy is complicated, and made more so by the occurrence of hybrids and apomictic, asexual reproduction. Nantucket Juneberry can only be distinguished from other related species when it is in flower, which limits the window for surveys. It's range extends from Maine south to Virginia. In New York, it was long believed to only occur on Long Island, but in the last decade has been discovered at several sites in the Hudson Valley. As a result, the number of known extant sites has trended upward, although the overall population size in the state appears to be about steady. In New York it occurs in open habitats of various sorts. Populations on Long Island and Staten Island occur on sandy soil, including maritime grasslands, heath-dominated shrublands, and openings on oak and pine woodlands. Upstate in the Hudson Valley, it has been found on shallow bedrock and rocky ridges, on mountain summits, ridges, and riverside outcrops (NYHP 2023, 2024).

I. Status

a. Current legal protected Status

i. Federal: Candidate:

ii. New York: Endangered

b. Natural Heritage Program

i. Global: G3Q

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:

Amelanchier nantucketensis is Endangered in New York (Ring 2023). There are nine known extant populations in New York, and one additional historical record. Until 2019 this species' range in the state was thought to be restricted to Long Island and the New York City area, but since that time four populations have been found in the Hudson Valley. The species is clonal and produces multiple stems, so population size may be difficult to assess, but the largest population is estimated to have around 100 plants, and the overall population in the state may be between 300 and 400. Improved knowledge of the species' habitat and range has led to a decrease in its overall rarity, but it is still limited in NY population size and number, and more up to date surveys are needed (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	Yes	Unknown	Unknown	Unknown	SU	
Massachusetts	Yes	Unknown	Unknown	Unknown	S3	
New Jersey	Yes	Unknown	Unknown	Unknown	S1	
Pennsylvania	No	-	-	-		
Vermont	No	-	-	-		
Ontario	No	-	-	-		
Quebec	No	-	-	-		



Figure 1: Amelanchier nantucketensis North American distribution.

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

Trends Discussion

Short term trends (<100 years)

The trend over the last decade has been increasing in terms of number of known populations, and seemingly stable to slightly increasing in overall population size (NYNHP 2023). However, 5 of the Long Island populations have not been surveyed since 2010 or before, so revisits are needed to fully assess the trend.

Long term trends

New York populations were first surveyed in the mid to late 20th century, so long-term trends are difficult to assess, although the Staten Island population appears to have declined due to development (NYNHP 2024).

Details of Historic and Current occurrence

Nantucket Juneberry's range in NY extends from eastern Long Island through the lower and upper Hudson Valley – the Hudson Valley populations only being discovered in the last decade. The overall population is estimated to be between 300 and 400 plants. Initially discovered on Nantucket Island and believed to limited to the Atlantic Coast, Nantucket Juneberry has now also been found inland from Maine to Virginia.

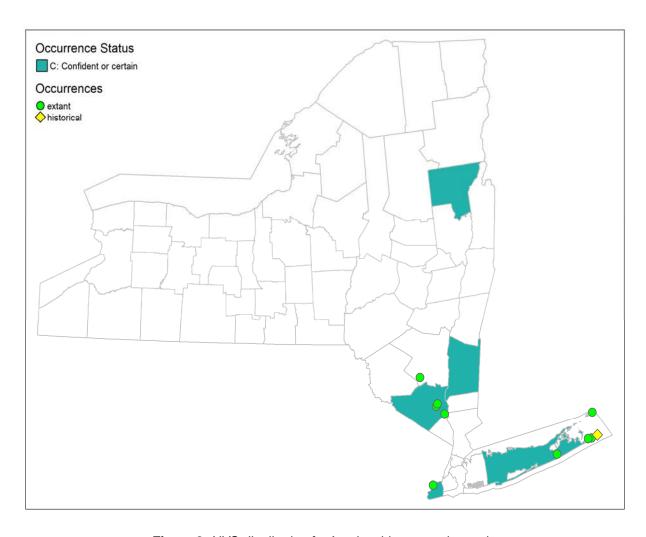


Figure 2: NYS distribution for Amelanchier nantucketensis.

Table 1. Number of records (element occurrences) of Amelanchier nantucketensis 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	5	4	0.4
1995-2004	4	4	0.4
2005-2014	3	3	0.3
2015-2023	4	4	0.4

Monitoring in New York

Five of the nine known extant NY populations are part of State Parks and thus monitored every five to 10 years – those in the Hudson Valley were first discovered and surveyed in the last five years. The remaining populations are on private land and have no recent or scheduled monitoring, with the last observed dates ranging from 1990 to 2010. Additional monitoring is

needed to assess these populations, which are vulnerable to succession (NYNHP 2023, NYNHP 2024).

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

NatureServe broad habitat types: Old field, Bog/fen (NatureServe 2023).

NY Ecological Communities: Maritime beech forest, Maritime grassland, Maritime heathland, Maritime post oak forest, Pitch pine-oak-heath woodland, Maritime pitch pine dune woodland, Maritime red cedar forest, Maritime shrubland (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 New York, Nantucket Juneberry's habitat differs greatly between its northern and more southerly populations. On Long Island and Staten Island, it occupies sandy soils in a variety of coastal habitats. There it is found growing alongside maritime grasses, in shrubby, heath-dominated areas, and with oaks and pitch pines in woodlands and forest openings. The populations recently found in upstate NY occur on rocky ridges, often on or near exposed summits, or in one case from bedrock at a riverside ice meadow. At forested sites, Nantucket Juneberry occupies openings, and may be vulnerable to succession (NYNHP 2023, NYNHP 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):

Nantucket Juneberry is a perennial shrub species. Studies of the longevity of Nantucket Juneberry are lacking, but other species of *Amelanchier* have been documented to persist for many decades, and begin to produce fruit after a few years. Like some other Juneberry species it may also reproduce asexually through cloning and apomixis. Clones likely may persist many years. The plants are primarily pollinated by solitary bee species, although other bees, moths, butterflies and beetles may also visit its flowers (Dibble *et al.* 1997). Nantucket Juneberry produces edible fruits, leading to seed dispersal by birds and a variety of mammals.

Table 2. Phenology of Amelanchier nantucketensis in New York (NYNHP 2023).

	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Flowering												

VI. Threats

On Staten Island the development of a hotel complex has threatened the plants. On Long Island there are plants along a powerline right-of-way and a railroad that are occasionally subject to destructive disturbance when there is maintenance of the right-of-ways. The upstate populations are small, and some occur along hiking trails, where they may be threatened by trampling (NYNHP 2023).

Are there regulatory mechanisms that protect the species or its habitat in New York?

Yes:	No:	/ Unknown:
1 es.	INO.	/ Ulikilowii.

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:

Maintain a buffer around plants to prevent direct destruction or poisoning from herbicides. Maintain succession in an early stage to prevent competition from larger shrubs and trees.

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 Amelanchier nantucketensis.

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:

Bicknell, Eugene P. 1911. The ferns and flowering plants of Nantucket-VIII. Bulletin of the Torrey Botanical Club 38 (10): 447-460.

Crow, Garrett E. 1982. New England's Rare, Threatened, and Endangered Plants. Prepared for the United States Department of Interior, Fish and Wildlife Service, Northeast Region. June 1982.

Dibble, Alison C. and Christopher S. Campbell. 1995. Distribution and conservation of Nantucket shadbush, Amelanchier nantucketensis (Rosaceae). Rhodora 97(892): 39-349.

Dibble, Alison C. and Francis A. Drummond. 1997. Floral syndrome in Amelanchier nantucketensis (Rosaceae). 1. Floral density, bee activity, and characterization of andropetaly.

Dodds, Jill. 2023. Rare Plant Profile of *Amelanchier nantucketensis*. New Jersey Departmen of Environmental Protection, Trenton, NJ.

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.

Fernald, M. L. 1950. Gray's manual of botany. 8th edition. Corrected printing (1970). D. Van Nostrand Company, 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.

Haines, Arthur and Thomas F. Vining. 1998. Flora of Maine. A Manual for Identification of Native and Naturalized Vascular Plants of Maine.

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.

New York Natural Heritage Program. 2024. Online Conservation Guide for *Amelanchier nantucketensis*. Available from: https://guides.nynhp.org/nantucket-juneberry/. Accessed [02/29/2024]

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.

Seymour, F.C. 1989. The flora of New England. A manual for the identification of all vascular plants including ferns and their allies growing without cultivation in New England. Boston Museum Science, Boston. 611 pp. + appendix.