

# Species Status Assessment

<b>Common Name</b>	Virginia pine	<b>Date Updated:</b>	2024-02-07
<b>Scientific Name</b>	<i>Pinus virginiana</i>	<b>Updated By:</b>	Rachael A. Renzi
<b>Family</b>	Pinaceae		

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

Virginia pine (*Pinus virginiana*) is a perennial tree in the Pine Family. It is one of nine species of its genus in NY, and one of six that are native to the state (Werier et al. 2023). NY is along the northern limit of its native range, where it grows on Staten Island and at one site in the Hudson Highlands (NYNHP 2023, 2024; NatureServe 2023). Its range continues west to IN, and south to MI and GA (NatureServe 2023). Throughout its range, it grows in barrens, and in dry, sandy, or sterile soil (Gleason & Cronquist 1991; Fernald 1950). It prefers poor, dry soils with full sun (NYNHP 2023, 2024; Carter & Snow 1990). In NY, it is found in coastal oak-beech or coastal oak-heath forests, and pitch-pine oak-heath rocky summits (NYNHP 2023, 2024; Edinger et al. 2014). Overall, populations of *Pinus virginiana* in NY seem stable, but there are only four small populations with limited distribution, with less than 75 plants total (NYNHP 2023). There are additional historical records of the plant in the state, such as one on Long Island, that need to be revisited (NYNHP 2023). Monitoring at each population is needed, as three of the smallest populations in the state have only been visited once (NYNHP 2023). Threats to these populations include the destructive southern pine beetle, and succession, leading to closed canopy and competition (NYNHP 2023). Research is merited to determine the need for population growth assistance; actions such as spreading seeds from nearby trees, or propagating and planting seedlings from within the stand may prove vital for conserving *Pinus virginiana* in NY (NYNHP 2024).

## I. Status

### a. Current legal protected Status

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

**Status Discussion:**

*Pinus virginiana* is Endangered in New York (Ring 2023). There are four existing populations but all of them are very small and under some threat from the surrounding vegetation (NYNHP 2023, 2024). There are about five or six historical records but some of these may be the same occurrence as existing populations and others are from areas that are highly developed with little chance that they still exist (NYNHP 2023, 2024).

**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	S4	
Pennsylvania	Yes	Unknown	Unknown	Unknown	S5	
Vermont	No	-	-	-		
Ontario	Yes	Unknown	Unknown	Unknown	SNA	
Quebec	No	-	-	-		

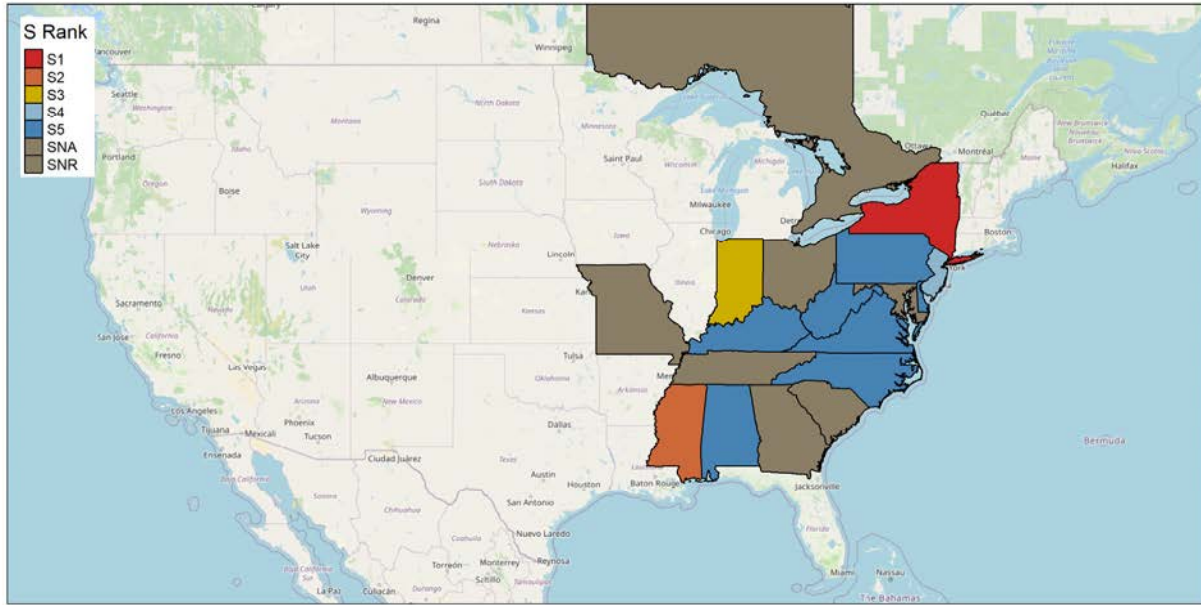


Figure 1: *Pinus virginiana* North American distribution.

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

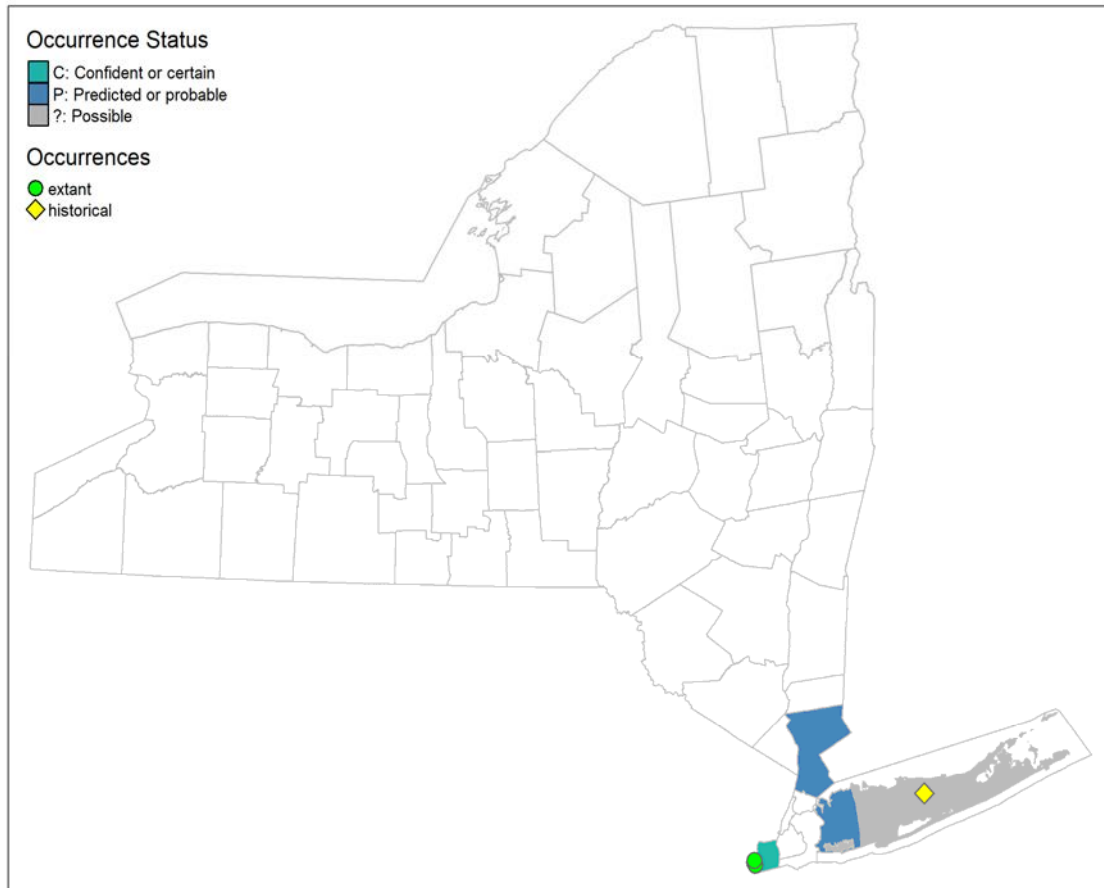
### III. NY Rarity and Trends

#### Trends Discussion

This species was never common in New York and there were probably only four or five populations that ever existed at one time (NYNHP 2023, 2024). Long-term population abundance trends are difficult to determine by comparing the number of historical to extant populations, as it is unclear whether some vaguely described historical populations are the same ones that exist today (NYNHP 2023, 2024). One population, however, has been visited at least 10 times since 1869 and seems stable with around 30 trees (NYNHP 2023, 2024). *Pinus virginiana* trees generally live between 65 to 90 years, and rarely over 150 years, so along with the presence of saplings, it is safe to assume reproduction is occurring here (NYNHP 2023, 2024; Duncan & Duncan 1988; Collingwood 1937). The three other remaining populations lack enough data to contribute to a trend, as they have only been surveyed once each (NYNHP 2023). These populations have fewer than ten trees each (NYNHP 2023).

#### Details of historic and current occurrence

NY is along the northern limits of *Pinus virginiana*'s native range. Virginia pine has been collected from Long Island, New York City, and the Hudson Highlands as far north as Orange County (NYNHP 2023, 2024). Today, there are three populations in Richmond County, and three trees extant in Orange County as of 1994 (NYNHP 2023).



**Figure 2.** NYS distribution for *Pinus virginiana*.

**Table 1.** Number of records (element occurrences) of *Pinus virginiana* 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	2	3	0.3
1995-2004	2	1	0.1
2005-2014	2	1	0.1
2015-2023	0	0	0.0

### Monitoring in New York

Two populations are on state park land, which are surveyed within a 10-year rotation (NYNHP 2023). One of these populations has been surveyed 10 times since 1869, most recently in 2008 (NYNHP 2023). One population occurs in a cemetery and was last surveyed in 2006. One population grows on land owned by the department of defense and was last surveyed in 2003 (NYNHP 2023).



## VI. Threats

These small populations are threatened by the succession of surrounding vegetation and vines (NYNHP 2023, 2024). Southern pine beetle and an associated blue-stain fungus can have devastating effects on a stand of *Pinus virginiana* trees (Salom 1996).

**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 habitat surrounding *Pinus virginiana* should be cleared of encroaching trees and vines (NYNHP 2023, 2024). Human assisted propagation for population expansion may be necessary for the smaller populations (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 *Pinus virginiana*.

<b>Conservation Actions</b>	
<b>Action Category</b>	<b>Action</b>
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. 2024. Online Conservation Guide for *Pinus virginiana*. Available from: <https://guides.nynhp.org/virginia-pine/>. Accessed February 7, 2024.

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].

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, E. Lucy. 1961. The woody plants of Ohio. Columbus, OH: Ohio State University Press. 362 pp.

Carter, Katherine K. and Albert G. Snow, Jr. 1990. *Pinus virginiana* Mill. Virginia pine. In: Burns, Russell M.; Honkala, Barbara H., technical coordinators. Silvics of North America. Volume 1. Conifers. Agric. Handb. 654. Washington, DC: U.S. Department of Agriculture, Forest Service: 513-519 pp.

Collingwood, G. H. 1937. Knowing your trees. Washington, DC: The American Forestry Association. 213 pp.

Duncan, Wilbur H. and Marion B. Duncan. 1988. Trees of the southeastern United States. Athens, GA: The University of Georgia Press. 322 p

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.

Flora of North America Editorial Committee. 1993. Flora of North America, North of Mexico. Volume 2. Pteridophytes and Gymnosperms. Oxford University Press, New York. 475 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.

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.

Rhoads, Ann F. and Timothy A. Block. 2005. Trees of Pennsylvania. A Complete Reference Guide. 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.

Salom, S.M. 1996. Southern Pine Beetle Fact Sheet. Virginia Cooperative Extension Entomology Publication 444-243.

Vogel, Willis G. 1977. Revegetation of surface-mined lands in the East. In: Forests for people: A challenge in world affairs: Proc. of the Society of American Foresters 1977 national convention; 1977 October 2-6; Albuquerque, NM. Washington, DC: Society of American Foresters: 167-172.