Species Status Assessment

Common Name	pumpkin ash	**Date Updated:**	2024-03-15
Scientific Name	*Fraxinus profunda*	**Updated By:**	Gregory J. Edinger
Family	Oleaceae		

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

Pumpkin ash (*Fraxinus profunda*), also called red ash, is a tree in the Olive Family (Oleaceae). There are six species of *Fraxinus* in NY of which four are native to the state (Werier et al. 2023).

Pumpkin ash has a scattered distribution through much of eastern United States, and into southern Ontario. It occurs on the lower piedmont and coastal plain of Maryland south to South Carolina and northern Florida; in the Mississippi Valley and Ozark escarpment region (Missouri, Arkansas, Tennessee, Kentucky, and southern Illinois), and up the Ohio Valley into Indiana and southwestern Ohio. It also occurs on glacial till plains in Ohio, southern Michigan, northwestern Pennsylvania, and westernmost New York. It also occurs at a few inland sites in the Appalachians and Piedmont (McCormac et al. 1995). In NY, three of the four known locations of pumpkin ash occur in New York City parks with about 300 trees in Van Cortlandt Park in a mature oak-tulip tree forest (last observed 2018), nine trees in Bronx Park (last observed 2016), and five trees in Central Park (last observed 2016). In addition, one tree was found in 2017 at Van Buren Point in Chautauqua County (NYNHP 2023).

The primary threat to this species is mortality and reduced regeneration associated with the emerald ash borer (*Agrilus planipennis*), a phloem-feeding beetle native to Asia. However, the species is also threatened by sea level rise and saltwater intrusion, especially at freshwater tidal sites. The conservation status of this species should be reviewed frequently to detect changes in the impact of the borer. While an infested tree may push out root sprouts for one to two years, the tree usually dies. The mass mortality of reproductively mature plants that would replenish the seed bank and the relatively short persistence in the seed bank (2-3(7) years), causes concern about the species ability to regenerate post-infestation (NatureServe 2023).

I. Status

a. Current legal protected Status

i. Federal: **Candidate:**

ii. New York: Unlisted

b. Natural Heritage Program

i. Global: G4

ii. New York: S1 **Tracked by NYNHP?** On Active Tracking List

Other Ranks:

COSEWIC: Not listed in Canada
IUCN Red List: Critically Endangered

Status Discussion:

Three of the four known locations of pumpkin ash occur in New York City parks with about 300 trees in Van Cortlandt Park in a mature oak-tulip tree forest (last observed 2018), nine trees in Bronx Park (last observed 2016), and five trees in Central Park (last observed 2016). In addition, one tree was found in 2017 at Van Buren Point in Chautauqua County (NYNHP 2023). There is one historical location in Tompkins County based on a specimen that needs to be checked (Werier et al 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	S1	
Pennsylvania	Yes	Unknown	Unknown	Unknown	S1	
Vermont	No	-	-	-		
Ontario	Yes	Unknown	Unknown	Unknown	S1	
Quebec	No	-	-	-		

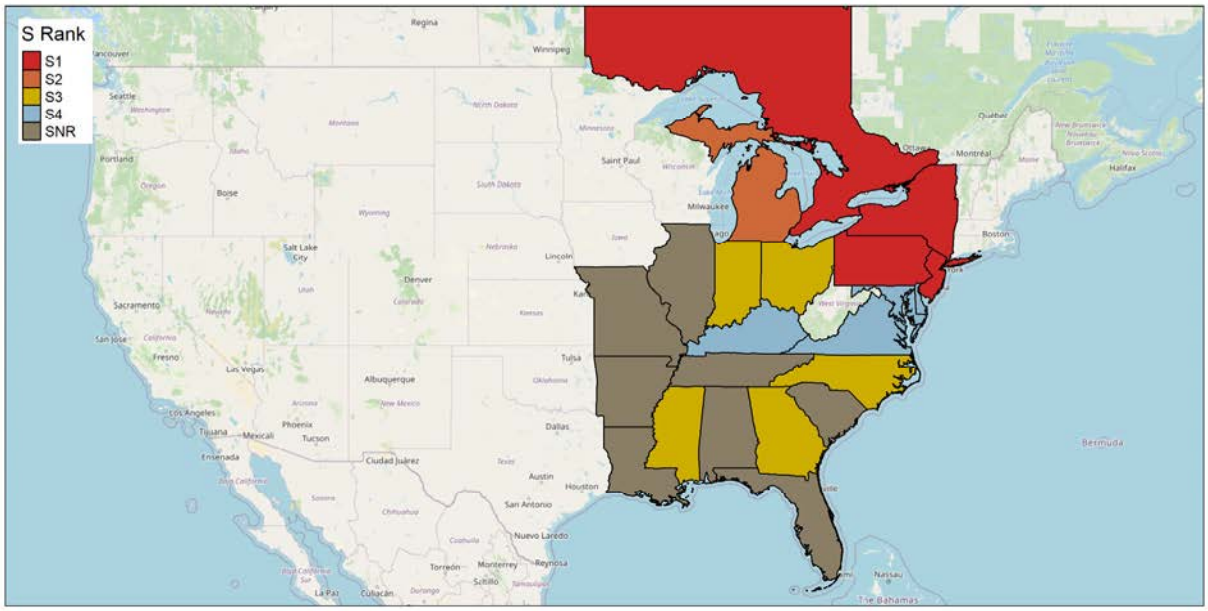

Figure 11: Fraxinus profunda *North American distribution.*

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

Fraxinus profunda has a scattered distribution through much of the eastern United States, and into southern Ontario. It occurs on the lower piedmont and coastal plain of Maryland south to South Carolina and northern Florida; in the Mississippi Valley and Ozark escarpment region (Missouri, Arkansas, Tennessee, Kentucky, and southern Illinois), and up the Ohio Valley into Indiana and southwestern Ohio. It also occurs on glacial till plains in Ohio, southern Michigan, northwestern Pennsylvania, and westernmost New York. It also occurs at a few inland sites in the Appalachians and Piedmont (McCormac et al. 1995).

Details of historic and current occurrence

In NY, three of the four known locations of pumpkin ash occur in New York City parks with about 300 trees in Van Cortlandt Park in a mature oak-tulip tree forest (last observed 2018), nine trees in Bronx Park (last observed 2016), and five trees in Central Park (last observed 2016). In addition, one tree was found in 2017 at Van Buren Point in Chautauqua County (NYNHP 2023). There is one historical location in Tompkins County based on a specimen that needs to be checked (Werier et al 2023).

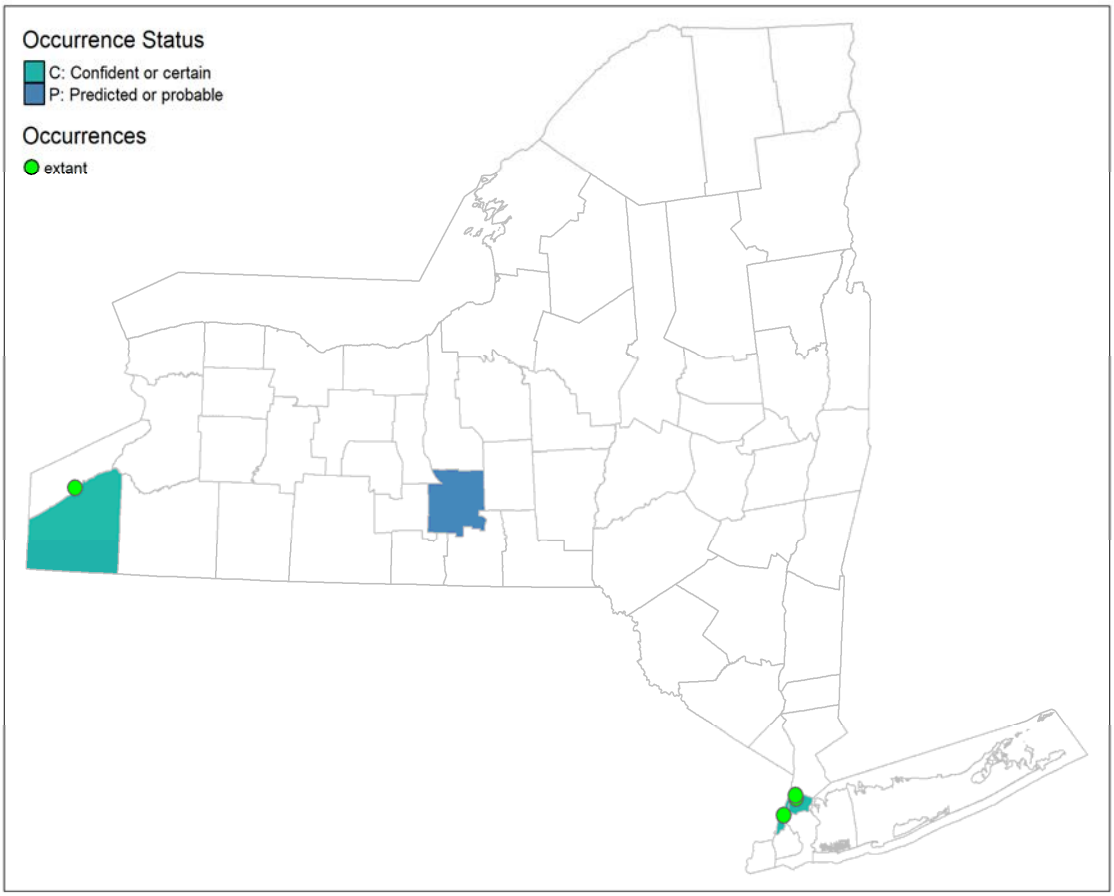

Figure 22: *NYS distribution for* Fraxinus profunda

Table 1. *Number of records (element occurrences) of* Fraxinus profunda *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	2	0.2
1995-2004	1	2	0.2
2005-2014	1	2	0.2
2015-2023	4	4	0.4

Monitoring in New York

No pumpkin ash populations occur on State Park lands. No regular monitoring program is currently in place in New York. However, in NY three of the four known locations of pumpkin ash occur in New York City parks and are worthy of monitoring: 1) 300 trees in Van Cortlandt Park in a mature oak-tulip tree forest (last observed 2018), 2) nine trees in Bronx Park (last observed 2016), and 3) five trees in Central Park (last observed 2016) (NYNHP 2023).

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

NY Natural Heritage Communities: Oak-tulip tree forest (Edinger et al. 2014, NYNHP 2023). Pumpkin ash

NatureServe broad habitat types: Forest/Woodland, FORESTED WETLAND, Riparian

Habitat or Community Type Trend in New York

Declining: **Stable:** **Increasing:** **Unknown:** ✓

Time Frame of Decline/Increase:

Habitat Specialist **Yes:** ✓ **No:**

Habitat Discussion:

Low woods, floodplains, swamps, and bottomlands (NYNHP 2023). Swamps and wet woods (Gleason and Cronquist 1991). Inundated swamps and bottoms (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):*

Pumpkin ash attains sexual maturity and begins producing fruit at approximately ten years of age. The seeds develop during the summer and are dropped in the early fall. The winged samaras are adapted to wind dispersal, but pumpkin ash seeds are uniquely adapted to dispersal by water and can survive submersion for several months. Seedlings thrive in moist soils in canopy openings and are sensitive to shade. Young trees are extremely fast growing and can quickly attain a height where they compete with mature trees (Harms 1990).

Table 2. *Phenology of* Fraxinus profunda *in New York State (NYNHP 2023).*

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

VI. Threats

The primary threat to this species is mortality and reduced regeneration associated with the emerald ash borer (*Agrilus planipennis*), a phloem-feeding beetle native to Asia. However, the species is also threatened by sea level rise and saltwater intrusion, especially at freshwater tidal sites. The Conservation Status of this species should be reviewed frequently to detect changes in the impact of the borer. While an infested tree may push out root sprouts for one to two years, the tree usually dies. The mass mortality of reproductively mature plants that would replenish the seed bank and the relatively short persistence in the seed bank (2-3(7) years), causes concern about the species ability to regenerate post-infestation (NatureServe 2023).

One population of pumpkin ash in NYC began showing signs of emerald ash borer (*Agrilus planipennis*) decline in 2020. Emerald ash borer appears to be impacting mature trees and may

result in their death, though regeneration from seedling and saplings is present. Other future threats include residential development and highway expansion or maintenance (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:

One New York City Park population of pumpkin ash began showing signs of emerald ash borer (*Agrilus planipennis*) decline in 2020 with plans to treat trees with pesticide in spring 2021 (NYNHP 2023). The emerald ash borer was first identified in New York City in October 2017. With an estimated 121,000 ash trees in parks and on sidewalks across New York City, NYC Parks (2024) is taking action to limit the infestation and to preserve as many ash trees as possible.

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* Fraxinus profunda.

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].

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:

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

Harms, W. R. 1990. "*Fraxinus profunda*". In Burns, Russell M.; Honkala, Barbara H. (eds.). Hardwoods. Silvics of North America. Washington, D.C.: United States Forest Service (USFS), United States Department of Agriculture (USDA). Vol. 2 – via Southern Research Station. https://www.srs.fs.usda.gov/pubs/misc/ag_654/volume_2/fraxinus/profunda.htm [Accessed 3/21/2024]

McCormac, J.S., J.K. Bissell, and S.J. Stine. 1995. The status of Fraxinus tomentosa (Oleaceae) in Ohio with notes on its occurrence in Michigan and Pennsylvania. Castanea 60: 70-78.

New York City Department of Parks & Recreation. 2024. Emerald Ash Borer Infestation. Official Website of the New York City Department of Parks & Recreation. https://www.nycgovparks.org/trees/emerald-ash-borer [Accessed 3/21/2024].

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.