

# Species Status Assessment

<b>Common Name</b>	Carey's smartweed	<b>Date Updated:</b>	2024-01-26
<b>Scientific Name</b>	<i>Persicaria careyi</i>	<b>Updated By:</b>	Rachael A. Renzi
<b>Family</b>	Polygonaceae		

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

Carey's smartweed (*Persicaria careyi*) is an annual forb in the buckwheat family. It is one of 25 species of *Persicaria* in New York, and one of 12 that are native to the state (Werier et al. 2023). Being an annual forb, *P. careyi*'s populations tend to fluctuate in size based on suitable conditions on the pond shore or swamp (NYNHP 2023). It is thought that lower water levels benefit the plant's germination and growth (Keddy & Reznicek 1982). This may explain small population sizes during a given year, however all populations in NY are relatively small (NYNHP 2023). One population has around 100 plants, while the other five have fewer (NYNHP 2023). While two of these populations have been visited multiple times over the last 100 years, qualitative data is lacking (NYNHP 2023). Thus, more consistent surveys are needed to discern a short-term trend among populations in NY. The long-term trend is clearer; while there were 17 known occurrences in the state, only 6 remain today (NYNHP 2023, 2024). The loss of at least four of these populations was caused by development (NYNHP 2023, 2024). It is imperative for the conservation of *P. careyi* in NY that their pond shore and swamp habitats remain in excellent condition. Invasive species removal for shoreline species such as *Phragmites australis* and prevention of human disturbance are needed. However, some disturbance seems to be a necessary component for its habitat, as it has been found to grow in roadsides, burn sites, talus slopes, and on cultivated land (NYNHP 2024, Fernald 1950). There remain gaps in data that need to be filled; consistent monitoring of the plants and their habitat is recommended, as well as surveys to historical locations. If suitable habitat exists, research into the seed bank longevity of *Persicaria careyi* may prove that this endangered plant could re-establish at its historical locations.

## 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>G4</u>		
<b>ii. New York:</b>	<u>S1S2</u>	<b>Tracked by NYNHP?</b>	On Active Tracking List

## Other Ranks:

COSEWIC: Not listed in Canada

IUCN Red List: Not assessed by IUCN Red List

## Status Discussion:

*Persicaria careyi* is Endangered in New York (Ring 2023). There are only six existing populations and all of them are either small or under some threat by human disturbance or invasive species (NYNHP 2023). Only one population has 100 species, however, this population was last visited in 1992 (NYNHP 2023). Because *P. careyi* is annual, the population count fluctuates with the availability of proper germination conditions. The other five populations were recorded to have about 50 or fewer plants, with as few as 3 or 4 plants at two locations (NYNHP 2023). There are 17 historical records and some of these may be rediscovered when shoreline conditions are right for germination and growth (NYNHP 2023, 2024). Four historical records have been destroyed by development in the New York City area (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	SNR	
Massachusetts	Yes	Unknown	Unknown	Unknown	SNR	
New Jersey	Yes	Unknown	Unknown	Unknown	S3	
Pennsylvania	Yes	Unknown	Unknown	Unknown	S1	
Vermont	Yes	Unknown	Unknown	Unknown	S1	
Ontario	Yes	Unknown	Unknown	Unknown	S4	
Quebec	No	-	-	-		

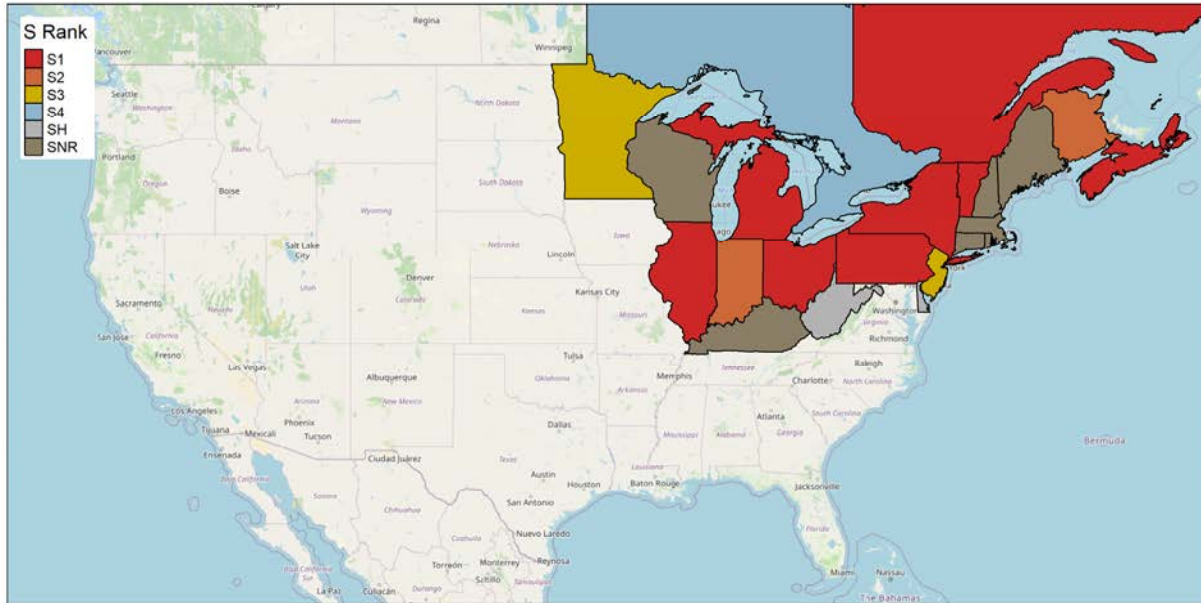


Figure 11. *Persicaria careyi* North American distribution.

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

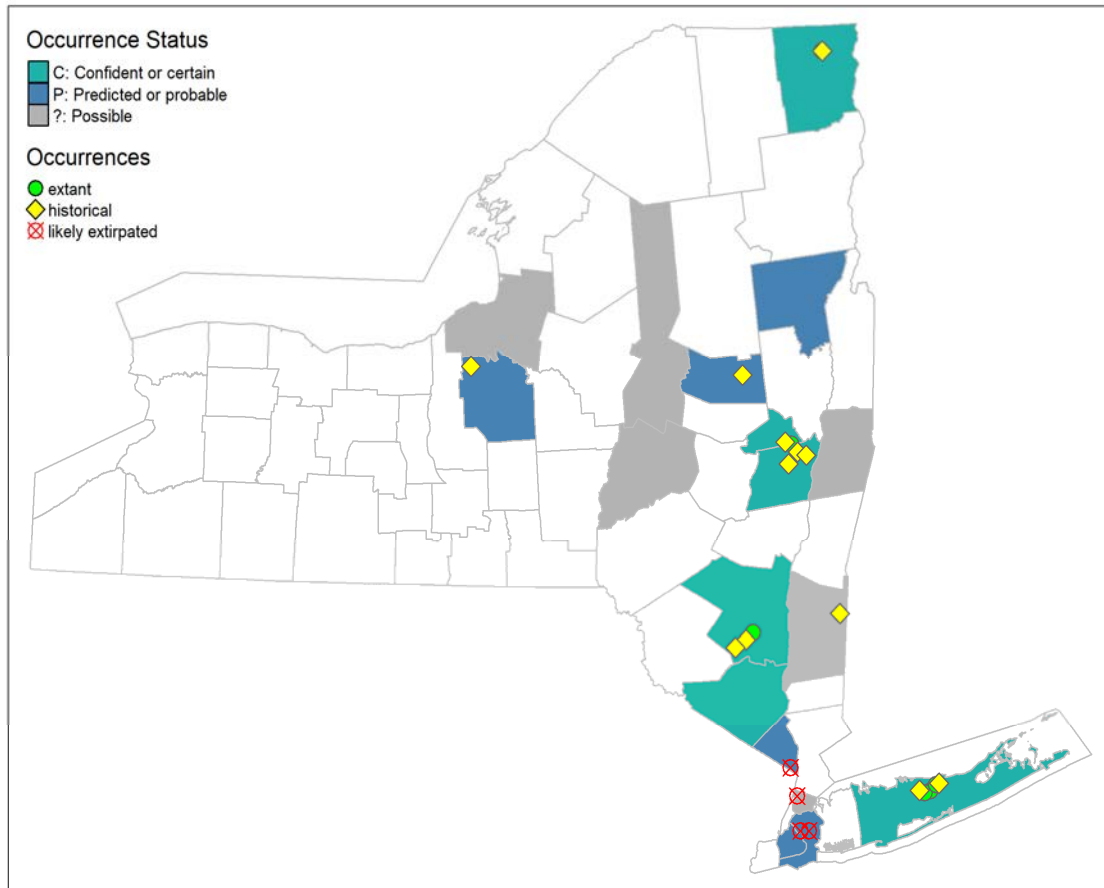
### III. NY Rarity and Trends

#### Trends Discussion

In New York, there are 17 historical records, with four considered extirpated by development in highly urbanized areas (NYNHP 2023, 2024). There are six known small populations with few recorded visits (NYNHP 2023, 2024). More surveys are needed to determine short-term trends especially since most occurrences have low numbers of plants and occur in habitats where they do not appear every year (NYNHP 2023, 2024). It is likely that *Persicaria careyi* was once more common than it is today, considering the low number of extant populations. The number of populations decreased over the long-term, due to habitat loss. Surveys to historic locations are needed to determine if these populations could exist. Additionally, surveys are needed at the extant locations to accurately track the number of plants in NY.

#### Details of historic and current occurrence

*Persicaria careyi* occurs from New Brunswick to Ontario south to Minnesota, Illinois, Kentucky, and Pennsylvania (Kartesz 1999). It is rare throughout much of its range but apparently secure (NatureServe 2023). Although it is not native to Florida, a specimen was collected historically (Wunderlin 1988, Kartesz 1999). This plant has been observed at scattered locations in eastern New York from the northern tip of the state (Clinton County) to Long Island. There is also a single historical record from Onondaga County in Central New York.



**Figure 22.** NYS distribution for *Persicaria careyi*.

**Table 1.** Number of records (element occurrences) of *Persicaria careyi* 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	19	19	1.9
1995-2004	0	0	0.0
2005-2014	3	3	0.3
2015-2023	0	0	0.0

### Monitoring in New York

One population is on State Park land, which is surveyed on a 10-year cycle. This population was last seen in 2007. One population is on DEC owned land, which was last seen in 1992. Another is on land owned by a private organization, seen in 2016, and another is in a local park, seen in 2007. These are not monitored on a regular basis (NYNHP 2023).

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

Northeastern Habitat Classification Macrogroups: Tidal river, Northern swamp.

NY Ecological Communities: Coastal plain pond shore, Pine barrens shrub swamp, Pine barrens vernal pond (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:**

In New York, Carey’s Smartweed has been collected from a broad variety of sites, including coastal plain pond shores, roadsides, powerline rights-of-ways, and talus slopes. All of these sites are at least intermittently wet; some have peaty or mucky soils, some sandy, and some a mixture. More information on the habitat requirements of this species, which may vary within its range from Canada to Long Island, is needed (NYNHP 2023, 2024). In North America, it is reported from low thickets, swamps, areas with recent burns, clearings, and cultivated ground (Fernald 1950). Generally, it is found in moist or wet ground, fields, roadsides, and meadows (Gleason & Cronquist 1991).

**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):

*Persicaria careyi* is an annual forb that flowers from August to October (NYNHP 2024; NatureServe 2023). The seeds do not float and are too heavy to be wind dispersed, so it is thought that long-distance small mammals or birds assist in long distance dispersal (Minnesota DNR 2024). Its seeds may lie dormant underwater for many years until water levels lower and the plants germinate (Keddy & Reznicek 1982; NYNHP 2024; Minnesota DNR) It is also possible that buried seeds could be exposed by wildfire, animal digging, or scraping. Research is needed to determine how long populations can survive through seed banking and when to consider a population extirpated if habitat still exists. Management techniques for water level changes should be studied to determine the optimum levels for preservation of shoreline populations (NYNHP 2024)

**Table 2.** Phenology of *Persicaria careyi* in New York State (NYNHP 2023).

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

## VI. Threats

Threats include any damage or improper management of pond shores including trampling, ATV use, or mowing of the pond shore vegetation. The crowding out of pond shore vegetation by *Phragmites* is also a threat.

**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:**

Prevent human disturbance of shoreline populations during the growing season and prevent the destruction of habitat by *Phragmites* or other shoreline invasives.

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 *Persicaria careyi*.

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:**

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