

# Species Status Assessment

**Common Name** orange fringed orchid      **Date Updated:** 2024-02-08  
**Scientific Name** *Platanthera ciliaris*      **Updated By:** Rachael A. Renzi  
**Family** Orchidaceae

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

Orange fringed orchid (*Platanthera ciliaris*) is a perennial forb in the orchid family. There are 16 species of *Platanthera* in NY (Werier et al. 2023). Its extant range includes MI and NY south to TX and FL (NatureServe 2023). Its range has shrunk since the 1800s, as *Platanthera ciliaris* is considered extirpated from Ontario and NH (NatureServe 2023). This shrinkage has dipped into NY, where the populations comprise part of the northern limits of the plant's range (NYNHP 2023, NatureServe 2023). Historically, there were 40-50 populations of *P. ciliaris* in NY, in habitats such as pine barrens, swamps, and wet meadows (NYNHP 2023, 2024). It was found in acidic or seasonally wet soils in central and eastern NY (NYNHP 2023, 2024). Now there is only one remaining population in NY, which occurs roadside to a nature preserve in Suffolk County (NYNHP 2023). Populations throughout the state, especially in the New York City area and on Long Island, have become extirpated by development, changes to the habitat, or herbivory (NYNHP 2023, 2024). Special management for *Platanthera ciliaris* should include clearing vegetation during the dormant season to allow for growth and pollinator attraction (NYNHP 2023, 2024; Smith & Snow 1976). Research into the relationships between *P. ciliaris* and its pollinators and fungal partners is needed to better understand, and thus better conserve its populations.

## 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:

*Platanthera ciliaris* is Endangered in New York (Ring 2023). There is only one extant population with less than 30 plants (NYNHP 2023). Two other populations had plants in few plants in 1998, but none were found in 2016 (NYNHP 2023). The understory at these sites was heavily browsed, and it is assumed that *Platanthera ciliaris* is extirpated from these sites. An additional population was visited 5 times since 1986, but no plants were found (NYNHP 2023). There were 40-50 historical occurrences; at least 25 of these sites are now developed or the habitat has been modified (NYNHP 2023). 12 of the historical populations have not been surveyed since before 1930, and it is likely the habitat no longer supports *P. ciliaris* (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	S1	
Massachusetts	Yes	Unknown	Unknown	Unknown	SH	
New Jersey	Yes	Unknown	Unknown	Unknown	S2	
Pennsylvania	Yes	Unknown	Unknown	Unknown	S2	
Vermont	Yes	Unknown	Unknown	Unknown	SNR	
Ontario	Yes	Unknown	Unknown	Unknown	SX	
Quebec	No	-	-	-		

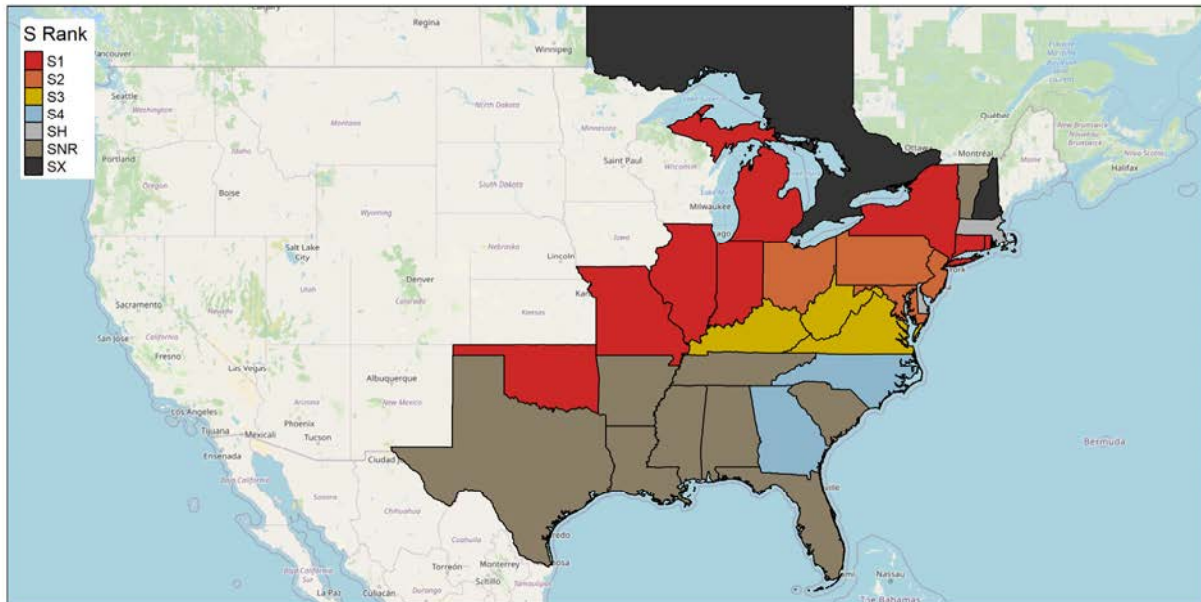


Figure 1: *Platanthera ciliaris* North American distribution.

Percent of North American Range in NY	Classification of NY Range	Distance to core population, if not in NY
1-25%	Peripheral	~650km

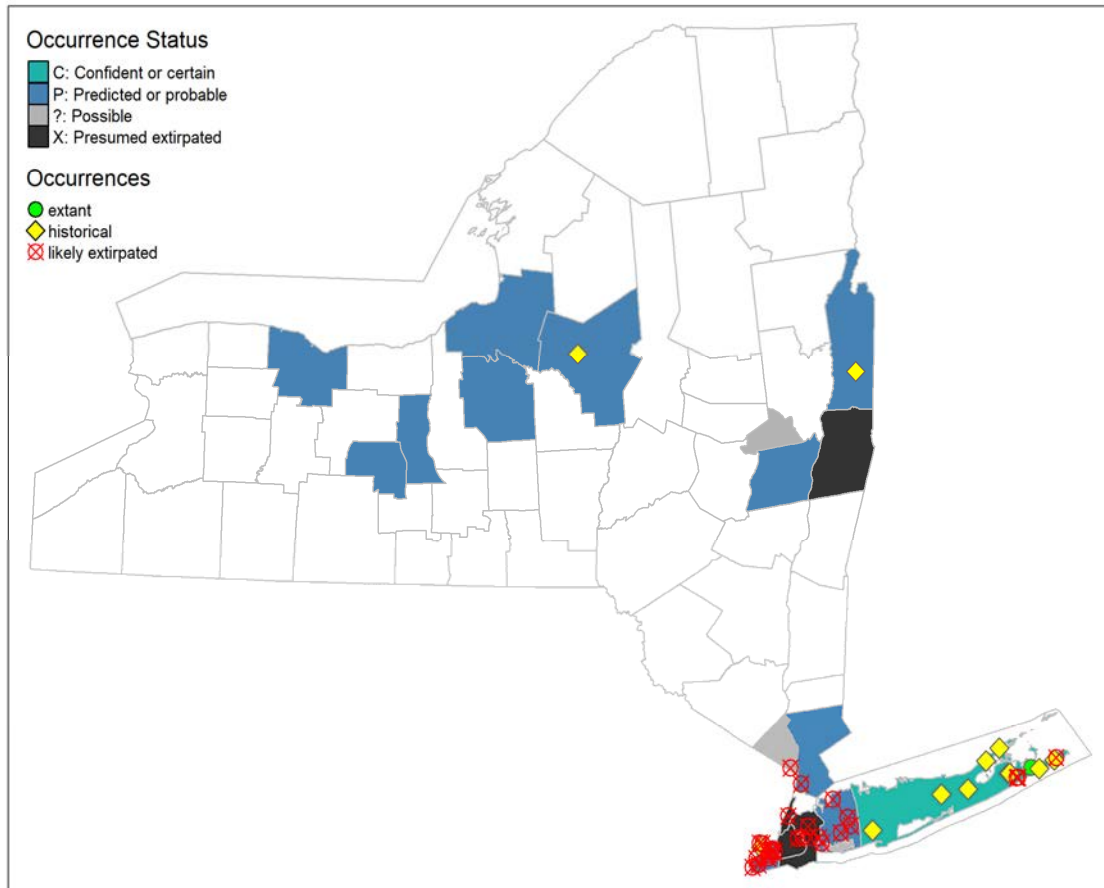
### III. NY Rarity and Trends

#### Trends Discussion

Historically, *Platanthera ciliaris* was known from over 40 sites in NY, but over the last 100 years, the number of extant sites has declined drastically (NYNHP 2023). In 1986 there were four extant populations, all with few plants, but now only one population exists in Suffolk County (NYNHP 2023). The population had 94 plants in 1985, and while population numbers tend to fluctuate, it has not had over 40 plants since 1998 (NYNHP 2023).

#### Details of historic and current occurrence

This orchid ranged from the Rochester and Syracuse-Rome areas east to Eastern New York, Long Island and the New York City area, but its range has been greatly reduced. It is now considered extirpated in the New York City area and may be gone north of Long Island. Being near the northern limit of the plant's range, *P. ciliaris* has been rare in NY for a while, however, the drop in number of populations as well as number of plants is reason for concern (NYNHP 2023). Its North American range includes Ontario (historic) and New Hampshire (historic), south to south Florida, west to Michigan, Missouri, and Texas (Kartesz 1999).



**Figure 2.** NYS distribution for *Platanthera ciliaris*.

**Table 1.** Number of records (element occurrences) of *Platanthera ciliaris* 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	39	43	4.4
1995-2004	1	1	0.1
2005-2014	1	1	0.1
2015-2023	1	1	0.1

### Monitoring in New York

The extant population is on preserve land, owned by both a private organization and the municipal government (NYNHP 2023). It was last visited in 2021, and has been visited at least 18 times since 1985 (NYNHP 2023). Three additional populations were visited in 2016 and 2017, but no plants were found (NYNHP 2023).

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

Northeast Habitat Classification Macrogroups: Disturbed land pioneer / Successional shrublands and grasslands, Central hardwood swamp, Northern peatland, Wet meadow / Shrub marsh.

NY Ecological Communities: Mowed roadside/pathway, Red maple-blackgum swamp, Dwarf shrub bog, Highbush blueberry bog thicket, Pitch pine-heath barrens, Patterned peatland, Pine barrens shrub swamp, Pitch pine-blueberry peat swamp, Successional blueberry heath (Edinger et al. 2014, NYNHP 2023).

#### **Habitat or Community Type Trend in New York**

<b>Declining:</b>	<b>Stable:</b>	<b>Increasing:</b>	<b>Unknown:</b> ✓
<b>Time Frame of Decline/Increase:</b>			
<b>Habitat Specialist</b>	<b>Yes:</b> ✓	<b>No:</b>	

#### **Habitat Discussion:**

In New York State *Platanthera ciliaris* has been collected from a diversity of habitats, including pine barrens, mowed roadsides, red maple swamps, and wet meadows. Acidic and at least seasonally wet soils seem to be a common element (NYNHP 2023, 2024). Throughout its range, it inhabits moist sandy and peaty meadows, woods, thickets, marshes, prairies, pine savannas, open woods, wet wooded flats, seeping slopes, roadsides, dry wooded slopes, swales, and sphagnum bogs (FNA 2002; Fernald 1950).

Tolerant of a wide variety of habitats; from wet, humus areas to dry rocky mountain slopes.

#### **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):

*Platanthera ciliaris* is a perennial herb. It flowers from July through September (NYNHP 2023, 2024). Smith and Snow (1976) observed *Platanthera ciliaris* pollination during the day and found plants in open habitats were pollinated at nearly double the rate. In southeastern states, *P. ciliaris* are primarily pollinated by two swallowtail (*Papilio*) species; in the mountains, the spicebush swallowtail (*Papilio troilus*) is the more effective pollinator, whereas on the coastal plain, the Palamedes swallowtail (*P. palamedes*) is more frequent (Robertson & Wyatt 1990a). The proboscis length *P. troilus* is shorter than that of *P. palamedes*, which corresponds to pollination ecotypes: *Platanthera ciliaris* nectar spurs are longer in the coastal plain than those in the mountains (Robertson & Wyatt 1990a). The pollination of shorter-spurred *P. ciliaris* is more frequently successful than the longer-spurred flowers on the coastal plain (Robertson & Wyatt 1990a). In NY, *Papilio palimedes* was present historically, so more research is needed regarding the pollinators of the plants present on Long Island (Lotts & Naberhause 2024). Other butterflies observed to be carrying pollen in Michigan included the tiger swallowtail (*Papilio glaucus*), striped hairstreak (*Strymon liparops*), the monarch (*Danaus plexippus*) (Smith and Snow 1976). Smith and Snow (1976) also observed the ruby-throated hummingbird (*Archilocus colubris*) and the white-lined sphinx (*Hyles lineata*) visiting the flowers. Pollination is necessary to produce seeds, as studies by Robertson and Wyatt (1990b) found that no fruits were produced when plants were protected from pollinators, even though the plants are self-

compatible. The seeds produced by *Platanthera ciliaris*, like many orchids, lack endosperm and instead rely on a symbiotic mycorrhizal relationship to survive through the seedling phase (Smith 1996). These relationships are not well understood, and more research is needed.

**Table 2.** Phenology of *Platanthera ciliaris* in New York State (NYNHP 2023).

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

## VI. Threats

While many populations became extirpated due to development, threats to *Platanthera ciliaris* come from different animals, namely, rabbits and deer (NYNHP 2023; Stuckey 1967). Herbivory to the flowers, plants, and surrounding vegetation has likely extirpated at least two populations since 1998 (NYNHP 2023). Smith and Snow (1976) suggest that open habitat is important to reproduction, not only because the plant is shade intolerant, but because open habitat improves visibility of the flowers to pollinators. The single extant population grows along the roadside adjacent to a preserve; mowing during growing season is a threat (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:

Preventing herbivory while allowing for pollination is needed. Maintaining an open habitat is crucial for growth and pollination, as well (NYNHP 2023; Smith & Snow 1976) This species needs disturbance to reduce competition from woody plants or more aggressive herbaceous plants, but too much direct disturbance to the plants will reduce or eliminate the population (NYNHP 2023). Its habitat could be disturbed in the non-growing season to open it up for seed germination and colonization, but direct disturbance, especially from mowing, should be prevented during the growing season (NYNHP 2023). Overall, there are gaps in our understanding about the needs of this plant, which may be considered yet another threat; to protect and care for the final *Platanthera ciliaris* population in NY, a better understanding of the presence and interactions of both pollinators and symbiotic fungi is needed.

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 *Platanthera ciliaris*.

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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