

# Species Status Assessment

**Common Name** prairie redroot **Date Updated:** 2024-01-10  
**Scientific Name** *Ceanothus herbaceus* **Updated By:** Kyle J. Webster  
**Family** Rhamnaceae

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

Prairie Redroot (*Ceanothus herbaceus*) is perennial shrub in the Buckthorn Family (Rhamnaceae). The genus *Ceanothus* occurs in North America, Mexico, Central America including Costa Rica, Guatemala, Panama (FNA 2002). There are 58 species globally, 51 of which occur in North America (FNA 2016). There are two species of *Ceanothus* in New York, *C. herbaceus* and *C. americanus*, both of which are native to the state (Werier et al. 2023).

In New York, *Ceanothus herbaceus* occurs within pitch pine-heath barrens and alvar pavement grasslands in a variety of soils, ranging from excessively drained sandy outwash to shallow soiled limestone pavement (NYNHP 2023). There are four extant populations in New York, only one of which is on protected land. Historical populations are likely to have been extirpated due to succession or development. This species is seemingly restricted to northern New York and has only been document in Jefferson, Essex, Clinton, and Washington Counties. One of the known populations had 1000's of individuals when last surveyed, but updated surveys are needed to understand the short and long-term population trends of *Ceanothus herbaceus* in the state.

## 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:

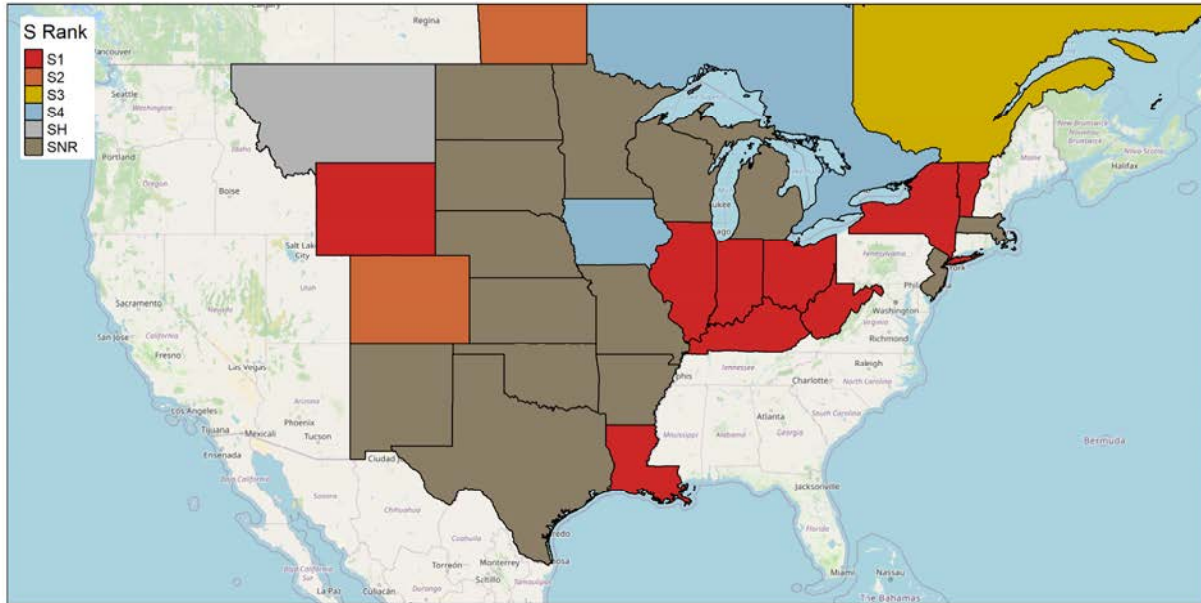
COSEWIC: Not listed in Canada  
IUCN Red List: Not assessed by IUCN Red List

### Status Discussion:

*Ceanothus herbaceus* is Endangered in New York (Ring 2023). There are four extant and four historical populations in New York. The extant populations are large and in good habitat, though no census of the populations has been made. Only one population is on protected land. Three of the historical populations are likely extirpated due to succession or development, however habitat is still present for the population in Chemung County. Extant occurrences of this species are seemingly restricted to Clinton and Jefferson County.

## 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	Yes	Unknown	Unknown	Unknown	SNR	
New Jersey	Yes	Unknown	Unknown	Unknown	SNR	
Pennsylvania	No	-	-	-		
Vermont	Yes	Unknown	Unknown	Unknown	S1	
Ontario	Yes	Unknown	Unknown	Unknown	S4	
Quebec	No	-	-	-		



**Figure 11:** *Ceanothus herbaceus* 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

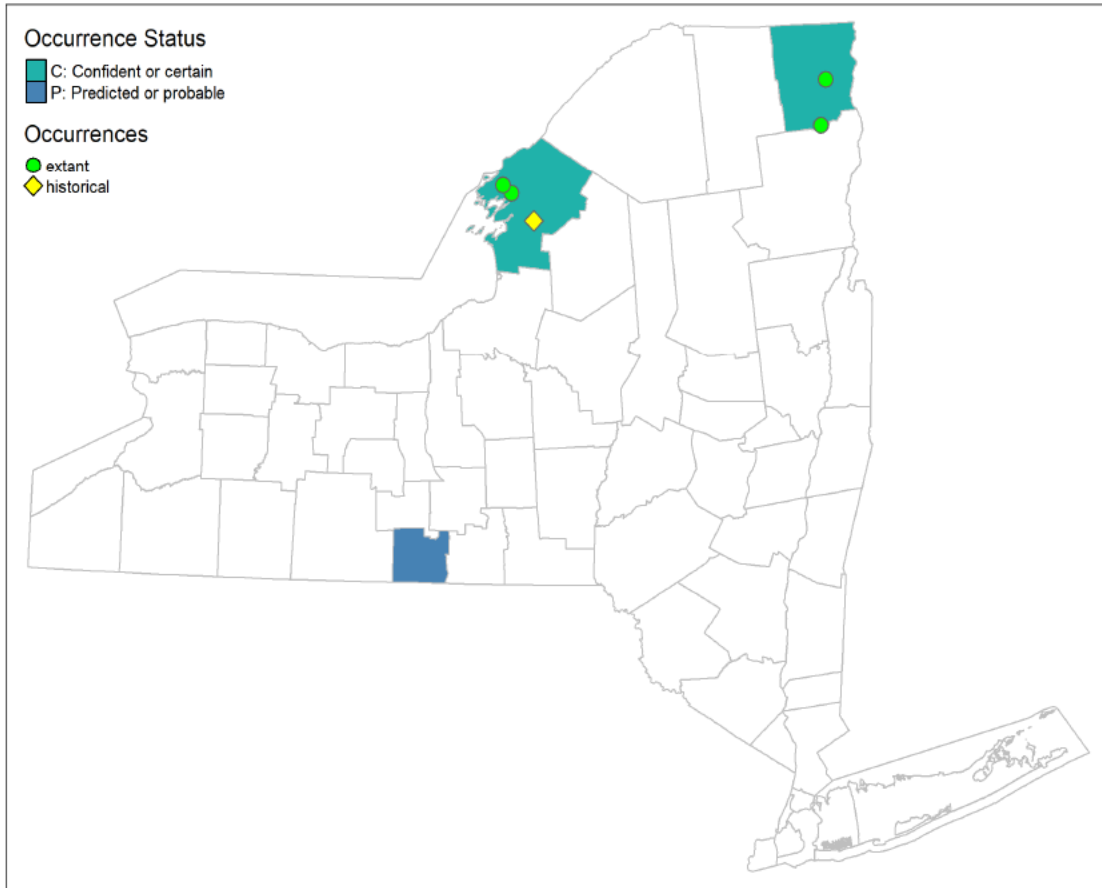
### III. New York Rarity and Trends

#### Trends Discussion

More surveys are needed to understand the short and long-term trends of this species in New York. The four extant populations were last seen between 1995 and 2002. The populations appeared to be stable through this period, but their current status is unknown. The northern historical populations have likely been extirpated due to habitat succession or development, however habitat still exists for the disjunct Chemung County population.

#### Details of historic and current occurrence:

*Ceanothus herbaceus* is primarily restricted to northern New York, with one disjunct historical population in the southern tier of New York. It has been documented in Chemung, Clinton, Essex, Jefferson, and Washington County. Three of the four historical populations are not reflected in Figure 1 or Table 1, but can be found in the New York Flora Atlas (Werier et al. 2023). Extant populations are only known from Clinton and Jefferson County. There are 1000's of plants at one occurrence, but a statewide population estimate cannot be made with the data available.



**Figure 12:** NYS distribution for *Ceanothus herbaceus*.

**Table 1.** Number of records (element occurrences) of *Ceanothus herbaceus* 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	4	5	0.5
1995-2004	1	1	0.1
2005-2014	0	0	0.0
2015-2023	0	0	0.0

### Monitoring in New York

None of the four extant populations have been regularly monitored. One population occurs on a Nature Conservancy Preserve, one occurs on New York Power Authority lands, and the remaining two occur on private land. The populations were last observed between 1995 and 2002 (NYNHP 2023).

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

New York Natural Heritage Communities: Pitch pine-heath barrens, Alvar pavement grassland.

#### **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, *Ceanothus herbaceus* occurs in open, moist to xeric, transition zones within pitch pine-heath barrens and alvar pavement grasslands. It occupies a range of soil substrates from excessively drained sandy outwash to shallow soiled limestone pavement. One population occurs on a sandy powerline right of way (NYNHP 2023).

Meadows and fields, shores of rivers or lakes (Native Plant Trust 2024). Sandy or rocky soil, prairies, and plains (Gleason and Cronquist 1991). Open rocky areas or on sandy soils, slopes and bluffs in shrublands, prairies, forests (FNA 2016).

#### **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):

Few studies have been completed examining the natural history of this species and more research is needed. Throop and Fay (1999) concluded that *Ceanothus herbaceus* has a fire-governed life-history, where fire puts the plants into a vigorous vegetative growth state, followed by increased flowering and fruiting. Directly after a fire, the plants produced long ramets from protected basal buds, expanding their reach within the habitat (Throop and Fay 1999). This contrasts with unburned plants, which were shown to be highly branched with shorter shoots and branches (Throop and Fay 1999). This switch to vegetative expansion is thought to benefit the plants by enabling them to take up more available light and space immediately after a fire (Throop and Fay 1999) and by increasing the overall plant size, and thereby increase an individual's capacity to produce flowers and fruits (Samson and Werk 1986). With an annual fire return interval, individuals were found to prioritize vegetative growth of reproduction (Throop and Fay 1999) However with fire return interval of two or more years the plants were found to increase their reproductive efforts (Throop and Fay 1999).

*Ceanothus herbaceus* flowers in June, producing round umbels of white flowers. The flowers mature throughout the summer, forming capsule-like drupes consisting of three black triangular fruits. The flowers are insect pollinated, including by a species of Andrenid bee, *Pseudopanurgus pauper*, specializing in the Rhamnaceae plant family (Fowler 2016).

**Table 2.** Phenology of *Ceanothus herbaceus* in New York State.

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

## VI. Threats

This species is threatened by a lack of fire and other natural disturbances that maintain open habitats and prevent succession to a closed canopy woody shrubland or forest. One population occurs in a powerline right-of-way, and is threatened by off road vehicle use, and could be negatively impacted by maintenance of the right-of-way, depending on the time and frequency of management.

**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:**

Maintain an early successional habitat using prescribed fire or other means. Work with landowners and utility company right-of-way managers to maintain these open habitat and time any necessary maintenance activities to avoid sensitive times of year.

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 *Ceanothus herbaceus*.

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

Conservation Actions	
Action Category	Action
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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