## **Species Status Assessment**

Common Name	bog huckleberry	Date Updated:	2024-03-15
Scientific Name	Gaylussacia bigeloviana	Updated By:	Gregory J. Edinger
Family	Ericaceae		

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

Bog huckleberry (*Gaylussacia bigeloviana*), also called dwarf huckleberry and gopherberry, is a shrub/subshrub in the Heath Family (Ericaceae). There are three species of *Gaylussacia* in NY and all are native to the state (Werier et al. 2023).

Bog huckleberry is found from Quebec and Newfoundland in the north, south through New England (excluding Vermont), the Mid-Atlantic and Appalachian states, to Florida and Louisiana. In NY, bog huckleberry is known from Long Island and the Lower Hudson Valley (NYNHP 2023, 2024).

There are five existing populations of bog huckleberry in NY with over 1000 plants total in the state, but only one of them is large and protected on a NYS DEC Wildlife Management Area. There are 18 historical occurrences. Some of them need to be resurveyed, but many of them are considered extirpated. In NY, bog huckleberry has been found in dwarf shrub bogs along the edge of a lake, in a shrub swamp within a pitch pine forest, and in wet, sphagnous openings along roadsides and trailsides. Some bog huckleberry plants occur along roadsides, or in powerlines that may be threatened by improper maintenance techniques that destroy the plants. Succession and a closing tree canopy may also threaten some populations that are in open habitats (NYNHP 2023, 2024).

Short-term trends of bog huckleberry are unknown, but possibly stable since only one population has been resurveyed recently and its condition has stayed the same. The long-term trend has been negative as wetlands on western Long Island have been destroyed and the historical habitat on eastern Long Island has also been reduced or changed. Research is needed to determine the specific habitat preference of this species since it occurs in small portions of larger wetlands. This would help develop a better search image for habitat and improve predictive modeling. Efforts to augment populations should also be studied (NYNHP 2023, 2024).

## I. Status

## a. Current legal protected Status

i. Federal:

ii. New York:

Endangered

Candidate:

### b. Natural Heritage Program

**i. Global:** <u>G4G5</u>

ii. New York: <u>S1S2</u> Tracked by NYNHP?

On Active Tracking List

#### Other Ranks:

COSEWIC: Not listed in Canada IUCN Red List: Least Concern

### **Status Discussion:**

*Gaylussacia bigeloviana* is Endangered in New York (Ring 2023). There are five existing populations of bog huckleberry in NY with over 1000 plants total in the state. However, only one of them is large and protected on a NYS DEC Wildlife Management Area. There are 18 historical occurrences. Some of them need to be resurveyed, but many are considered extirpated (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	Yes	Unknown	Unknown	Unknown	S2	
Massachusetts	Yes	Unknown	Unknown	Unknown	S4	
New Jersey	Yes	Unknown	Unknown	Unknown	SNR	
Pennsylvania	Yes	Unknown	Unknown	Unknown	SH	
Vermont	No	-	-	-		
Ontario	No	-	-	-		
Quebec	No	-	-	-		



Figure 11: Gaylussacia bigeloviana North American distribution.

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

## **III. NY Rarity and Trends**

## **Trends Discussion**

Short-term trends of bog huckleberry are unknown, but possibly stable since only one population has been resurveyed recently and its condition has stayed the same. The long-term trend has been negative as wetlands on western Long Island have been destroyed and the historical habitat on eastern Long Island has also been reduced or changed (NYNHP 2023, 2024).

## Details of historic and current occurrence

In New York, bog huckleberry is known from Long Island and the Lower Hudson Valley.

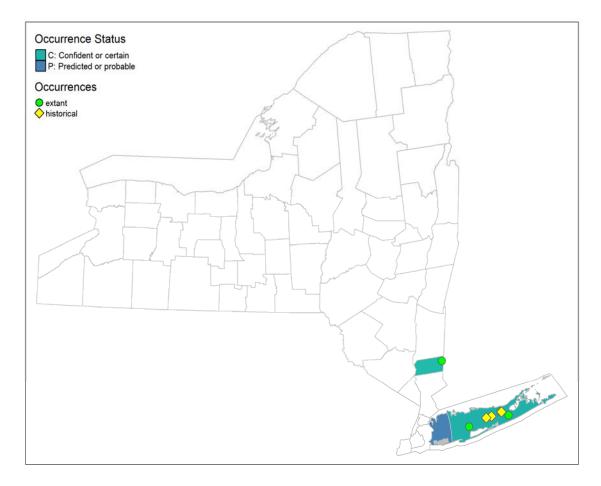


Figure 22: NYS distribution for Gaylussacia bigeloviana.

**Table 1.** Number of records (element occurrences) of Gaylussacia bigeloviana 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	4	4	0.4
2005-2014	1	1	0.1
2015-2023	1	1	0.1

## Monitoring in New York

One extant population of bog huckleberry occurs on State Park land and is monitored on a tenyear rotation. None of the other populations have been regularly monitored. One population is on a NYS DEC Wildlife Management Area and one is on Suffolk County parkland. The four extant occurrences were last observed between 1997 and 2017 with two of those being last surveyed in the 1997 (NYNHP 2023, 2024).

## IV. Primary Habitat or Community Type (from NY crosswalk of NE Aquatic,

Marine, or Terrestrial Habitat Classification Systems):

Northeast Terrestrial Habitat Classification Macrogroups: Central Appalachian and Coastal Peatlands, Coastal Plain Pond, Disturbed Land Pioneer/Successional Shrublands & Grasslands

NYNHP Ecological Communities: Dwarf shrub bog, Coastal plain pond shore, Pine barrens shrub swamp (Edinger et al. 2014, NYNHP 2023, 2024).

## Habitat or Community Type Trend in New York

Declining:	Stable:	Increasing:	Unknown: 🗸		
Time Frame of Decl	ine/Increase:				
Habitat Specialist	Yes: 🗸	No:			

## Habitat Discussion:

In NY, bog huckleberry has been found in dwarf shrub bogs along the edge of a lake, in a shrub swamp within a pitch pine forest, and in wet, sphagnous openings along roadsides and trailsides (NYNHP 2023, 2024). Dry barrens and pinelands (Fernald 1950). Usually in wet, sandy soil or in bogs, on or near the coastal plain (Gleason and 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):

Bog huckleberry sprouts from rhizomes and spreads after fire or other disturbance removes the canopy of competing vegetation. After successful pollination bog huckleberry flowers produce black fruits, which are eaten and then dispersed by ruffed grouse, quail, turkeys, foxes, and squirrels (Native Plant Trust 2024).

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

Table 2. Phenology of Gaylussacia bigeloviana in New York State (NYNHP 2023).

## VI. Threats

Some bog huckleberry plants occur along roadsides, or in powerlines that may be threatened by improper maintenance techniques that destroy the plants. Succession and a closing tree canopy may also threaten some populations that are in open habitats (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:

Protect the wetlands where bog huckleberry occurs by establishing buffers to conserve hydrology and prevent direct impact to the plants. Remove any threat by phragmites or purple loosestrife. If the wetland opening is artificial, continue to keep it open by preventing succession without directly impacting the plants (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

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			
and/water management 2.3. Habitat & natural process restoration				

#### Table 3. Recommended conservation actions for Gaylussacia bigeloviana.

#### **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].

New York Natural Heritage Program. 2024. Online Conservation Guide for *Gaylussacia bigeloviana*. Available from: https://guides.nynhp.org/northern-dwarf-huckleberry/ . Accessed January 8, 2024.

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:

Crow, Garrett E. and C. Barre Hellquist. 2000. Aquatic and Wetland Plants of Northeastern North America: A revised and enlarged edition of Norman C. Fassett's a Manual of Aquatic Plants. Volume One: Pteridophytes, Gymnosperms, and Angiosperms: Dicotyledons. The University of Wisconsin Press. Madison, Wisconsin. 536 Pages.

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.

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.

Haines, Arthur and Thomas F. Vining. 1998. Flora of Maine. A Manual for Identification of Native and Naturalized Vascular Plants of Maine.

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.

Native Plant Trust. 2024. *Gaylussacia bigeloviana* — dwarf huckleberry. https://gobotany.nativeplanttrust.org/species/gaylussacia/bigeloviana/#:~:text=This%20low%2D growing%20shrub%20sprouts,the%20canopy%20of%20competing%20vegetation. [Accessed 3/22/2024].

Newcomb, Lawrence. 1977. Newcomb's Wildflower Guide: An Ingenious New Key System for Quick, Positive Field Identification of the Wildflowers, Flowering Shrubs, and Vines of Northeastern and North-Central North America. Little, Brown and Company. Boston.

Rhoads, Ann F. and Timothy A. Block. 2000. The Plants of Pennsylvania, an Illustrated Manual. 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. Sorrie, Bruce A. and Alan S. Weakley. 2007. Notes on the *Gaylussacia dumosa* complex (Ericaceae).