

# Species Status Assessment

**Common Name:** Globe siltsnail

**Date Updated:** February 2025

**Scientific Name:** *Birgella subglobosa* **Minor Edits By:** DEC Wildlife Diversity Staff

**Class:** Gastropoda

**Family:** Hydrobiidae

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

Freshwater gastropods (snails) are an important and diverse component of aquatic ecosystems worldwide. They have diversified into every available aquatic habitat, including springs, small streams, large rivers, ponds, lakes, and ephemeral to permanent wetlands. Most graze on algae, aquatic plants and biofilms, though some are suspension or deposit feeders, and they can play a vital role in the processing of detritus and decaying organic matter. Freshwater snails are not predatory, unlike some of their terrestrial or marine counterparts and they often dominate benthic stream communities, regularly exceeding 50% of the invertebrate biomass (Johnson et al. 2013).

Gastropods are important dietary components of many North American fishes, and also are consumed by a variety of aquatic associated birds and mammals such as the snail kite and the muskrat (Johnson et al. 2013).

Although more commonly accepted as *Birgella*, some authors have placed the globe siltsnail in the genus *Somatogyrus*. The distribution of the species in New York extends from Lake Champlain and its outlet, the Richelieu River, in New York, Vermont, and Quebec, west to Minnesota and southward to Arkansas, Alabama, and Georgia (Baker 1928, Berry 1942, Clark 1981, Thompson 1984, Branson et al. 1987).

DEC is not aware of any additional data or new information on population trends or threats to this species since the last SWAP revision in 2015. This species was listed as SPCN in 2015, but with the removal of this status in the 2025 revision it has been changed to SGCN.

## I. Status

### a. Current legal protected Status

i. **Federal:** Not listed **Candidate:** No

ii. **New York:** Not listed

### b. Natural Heritage Program

i. **Global:** G4

ii. **New York:** S3 **Tracked by NYNHP?:** Watch List

### Other Ranks:

-New York 2025 SGCN status: Species of Greatest Conservation Need

-IUCN Red List: Least Concern

-Northeast Regional SGCN: not listed

-American Fisheries Society: CS – Currently Stable

**Status Discussion:**

The globe siltsnail is ranked secure globally and vulnerable in New York. Little is known about its status within the state or throughout its whole range, but this species has a wide distribution, presumed large population, and is not in decline or is unlikely to be declining fast enough to qualify for listing in a more threatened category (NatureServe 2012).

**II. Abundance and Distribution Trends**

Region	Present?	Abundance	Distribution	Time Frame	Listing status	SGCN?
North America	Yes	Stable	Stable			-
Northeastern US	Yes	Unknown	Unknown			-
New York	No data	Unknown	Unknown		Not listed	Yes
Connecticut	No	-	-			-
Massachusetts	No	-	-			-
New Jersey	No	-	-			-
Pennsylvania	No data	Unknown	Unknown		Not listed (SNR)	No
Vermont	No	-	-			-
Ontario	No data	Unknown	Unknown		Not listed (S2)	-
Quebec	No data	Unknown	Unknown		Not listed	-

*Column options*

**Present?:** Yes; No; Unknown; No data; (blank) or Choose an Item

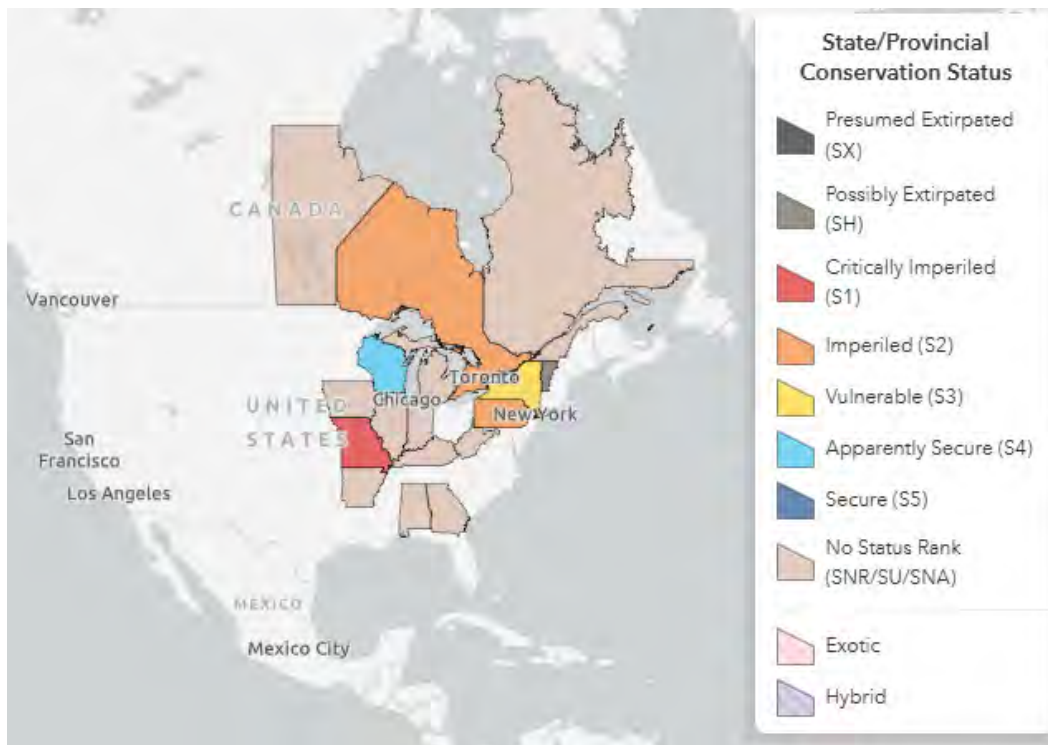
**Abundance and Distribution:** Declining; Increasing; Stable; Unknown; Extirpated; N/A; (blank) or Choose an item

**SGCN?:** Yes; No; Unknown; (blank) or Choose an item

**Monitoring in New York** *(specify any monitoring activities or regular surveys that are conducted in New York):*

None.

**Trends Discussion** *(insert map of North American/regional distribution and status):*



**Figure 1.** Conservation status of the globe siltsnail in North America (NatureServe 2025).

### III. New York Rarity *(provide map, numbers, and percent of state occupied)*

#### Details of historic and current occurrence:

Lewis (1868, 1872) and Marshall (1894) reported the presence of the globe siltsnail in the Hudson River basin, Mohawk, Herkimer County, and in the Erie Canal at Mohawk, into which it was believed introduced after 1860 to become "...numerically more abundant than any other mollusk in the canal" (Lewis 1872). It was also found in Onondaga County (Beauchamp 1886) and as a beach wash from Lake Ontario, Monroe County (Baker 1900b), the Niagara River, Niagara County (Letson 1909); Oneida Lake, Oswego County (Baker 1916a, b, 1918a, b); and the Hudson River from Hudson, Columbia County, to Hyde Park, Dutchess County (Townes 1936). Specimens deposited in Harvard's Museum of Comparative Zoology, the University of Michigan's Museum of Zoology, the Academy of Natural Sciences in Philadelphia, and the Florida State University Museum were collected from the Buffalo River; St. Albans Bay, Lake Champlain, Vermont; Hudson River, Coxsackie, Green County; and Palmyra, Wayne County. Thompson (1984b) cites museum records from the Erie Canal and Mohawk River, Herkimer County, and from Schenectady County.

The only population found during the Jokinen (1992) survey of the freshwater snails of New York was in Lake Champlain in the St. Lawrence River watershed. Strayer (1987) did not find this species during a survey of the Hudson River drainage system. Buckley (1977) located one colony in the Black River, Jefferson County. In June of 2012 Alexander Karatayev, Vadim Karatayev, and Lyubov Burlakova found one dead individual in Oneida Lake and 15 in Lake Erie but not NYS waters (A. Karatayev, personal communication). Rarity in New York State is unknown due to lack of records.

#### New York's Contribution to Species North American Range:

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

Column options

Percent of North American Range in NY: 100% (endemic); 76-99%; 51-75%; 26-50%; 1-25%; 0%; Choose an item

Classification of NY Range: Core; Peripheral; Disjunct; (blank) or Choose an item

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

- a. Great Lakes Deepwater Community
- b. Summer-stratified Monomictic Lake
- c. Large/Great River
- d. Winter-stratified Monomictic Lake
- e. Canal

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

Habitat Specialist?	Indicator Species?	Habitat/Community Trend	Time frame of Decline/Increase
No	Yes	Stable	

Column options

Habitat Specialist and Indicator Species: Yes; No; Unknown; (blank) or Choose an item

Habitat/Community Trend: Declining; Stable; Increasing; Unknown; (blank) or Choose an item

**Habitat Discussion:**

In some areas, this species is a deep water inhabitant of large lakes and rivers (Berry 1943, Clark 1981). However, in Lake Champlain, it was found on a submerged tree trunk in shallow water. In the Hudson River, the globe siltsnail was found in mud and among aquatic plants in shallow water (Townes 1936) and on a soft silt substratum (Thompson 1984b).

**V. Species Demographic, and Life History:**

Breeder in NY?	Non-breeder in NY?	Migratory Only?	Summer Resident?	Winter Resident?	Anadromous/Catadromous?
Yes	-	-	Yes	Yes	-

Column options

First 5 fields: Yes; No; Unknown; (blank) or Choose an item

Anadromous/Catadromous: Anadromous; Catadromous; (blank) or Choose an item

**Species Demographics and Life History Discussion** (include information about species life span, reproductive longevity, reproductive capacity, age to maturity, and ability to disperse and colonize):

Very little is known regarding the life history of this species.

Most Gastropods belong to the clade Caenogastropoda, in which individuals mature slowly (requiring at least a year), are long-lived dioecious species with internal fertilization, and females generally attach eggs to firm substrates in late spring and early summer. Many species are narrow endemics associated with lotic habitats, often isolated in a single spring, river reach, or geographically restricted river basin (Johnson et al. 2013). In contrast, members of the clade Heterobranchia are hermaphroditic, mature quickly, and generally have shorter generation times (Johnson et al. 2013).

**VI. Threats** (from NY 2015 SWAP or newly described):

<b>Threat Level 1</b>	<b>Threat Level 2</b>	<b>Threat Level 3</b>	<b>Spatial Extent</b>	<b>Severity</b>	<b>Immediacy</b>	<b>Trend</b>	<b>Certainty</b>
1. Residential and Commercial	1.1 Housing & Urban Areas	(habitat loss/ degradation)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
7. Natural System Modifications	7.2 Dams & Water Management/Use	7.2.1 Water level management using dams (channelization)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
8. Invasive & Other Problematic Species	8.1 Invasive Non-Native Plants & Animals	8.1.3 Aquatic animals (New Zealand mud snail)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
9. Pollution	9.1 Domestic & Urban Wastewater	(untreated sewage)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
9. Pollution	9.2 Industrial & Military Effluents	(metals)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
9. Pollution	9.3 Agricultural & Forestry Effluents	9.3.3 Herbicides & pesticides	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
11. Climate Change	11.1 Habitat Shifting & Alteration	-	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.

Table 1. Threats to globe siltsnail.

Insufficient information to assess threats.

High imperilment rates among freshwater gastropods have been linked to alteration, fragmentation and destruction of habitat and introduction of non-indigenous species. Causes of habitat degradation and gastropod species loss include dams, impounded reaches, development of riparian areas, channelization, erosion, excess sedimentation, groundwater withdrawal and associated impacts on surface streams (flows, temperature, dissolved oxygen), multiple forms of pollution (salt, metals such as Cu, Hg, Zn, untreated sewage, agricultural runoff, pesticides/fertilizers), changes in aquatic vegetation, and invasion of exotic species (Johnson et al. 2013). Most gastropod species live in the shallows (depths less than 3 m), where food abundance is greatest. As a result, drastic water fluctuations, such as draw-downs, may cause declines in snail populations (Hunt and Jones 1972).

Strayer (1987) concluded that human activities had destroyed much of the original mollusk fauna in some parts of the Hudson basin, but not in others. Channelization of farmed mucklands and industrial pollution from Beacon were noted as causes for the notably reduced biodiversity of mollusks in the Walkkill River of Orange County and the Fishkill Creek of Dutchess County, respectively.

The New Zealand mud snail (*Potamopyrgus antipodarum*) is a highly invasive species that was introduced in Idaho in the 1980s. It can have devastating consequences to aquatic ecosystems, reducing or eliminating native snail species (Benson et al. 2013). This snail was found established in Lake Ontario in 1991 (Zaranko et al. 1997) and in Lake Erie in 2005 (Levri et al. 2007).

**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:**

The Protection of Waters Program provides protection for rivers, streams, lakes, and ponds under Article 15 of the NYS Environmental Conservation Law, however this may not be sufficient enough to protect this species.

**Describe knowledge of management/conservation actions that are needed for recovery/conservation, or to eliminate, minimize, or compensate for the identified threats:**

Basic biological information is lacking for most taxa of freshwater gastropods and there is a strong need for surveys and biological studies given the strong evidence of decline and extinction.

Although not specific to the coldwater pond snail, the NYS Comprehensive Wildlife Conservation Strategy (CWCS) recommends the following actions for the freshwater gastropods (NYSDEC 2005):

- Develop fact sheets for paper distribution and the DEC website
- Determine habitat requirements for all life stages
- Determine threats specific to species
- Determine habitat management techniques
- Determine life history and population dynamics
- Determine distribution

Action Category	Action	Description
B.3 Outreach	B.3.1.4.3 Fliers and Brochures	For paper distribution and on the DEC website
C.6 Design and Plan Conservation	C.6.5.0.0 Conservation Planning	
C.8 Research and Monitoring	C.8.1.5.0 Literature Search and Analysis	
C.8 Research and Monitoring	C.8.1.5.1 Species Monitoring	
C.8 Research and Monitoring	C.8.1.5.3 Analyzing Threats or their impacts	

**Table 2.** Recommended conservation actions for globe siltsnail.

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Expert Consulted: D. Mayer; Alexander Y. Karatayev (Great Lakes Center)

Originally Prepared by: Jenny Murtaugh (June 2013)

Last Revised by: Samantha Hoff (February 2014)