

## Species Status Assessment

**Class:** Actinopterygii  
**Family:** Cyprinidae  
**Scientific Name:** *Macrhybopsis storeriana*  
**Common Name:** Silver chub

### Species synopsis:

The silver chub is a freshwater fish found in shallow waters of large streams and lakes (Smith 1985, NatureServe 2012). It has a wide distribution found in the Lake Erie drainage and the Allegheny and Ohio Rivers to the Red River of the North and through the Mississippi Valley to the gulf coast from the Rio Brazos to the Pascagoula drainage (Cooper 1983, Smith 1985, NatureServe 2012). Local threats may be present and the status of this species varies by location (NatureServe 2012). This species has been in decline in New York since about 1953 and is considered extirpated from the state (NYSDEC 2013, NatureServe 2012).

### I. Status

#### a. Current and Legal Protected Status

- i. **Federal** Not Listed **Candidate?** No
- ii. **New York** Endangered, SGCN

#### b. Natural Heritage Program Rank

- i. **Global** G5
- ii. **New York** SH **Tracked by NYNHP?** Yes

#### Other Rank:

Canadian Species at Risk Act (SARA) Schedule 1/Annexe 1 Status: Secure (05Jun2003)  
Implied Status under the Committee on the Status of Endangered Wildlife in Canada PS:  
Endangered, NAR  
Species of Northeast Regional Conservation Concern (Therres 1999)

**Status Discussion:**

This species is extirpated from New York (NYSDEC 2013).

**II. Abundance and Distribution Trends**

**a. North America**

**i. Abundance**

X  declining \_\_\_ increasing \_\_\_ stable \_\_\_ unknown

**ii. Distribution:**

X  declining \_\_\_ increasing \_\_\_ stable \_\_\_ unknown

**Time frame considered:**  Past 20 years (NatureServe 2013)

**b. Regional**

**i. Abundance**

X  declining \_\_\_ increasing \_\_\_ stable \_\_\_ unknown

**ii. Distribution:**

X  declining \_\_\_ increasing \_\_\_ stable \_\_\_ unknown

**Regional Unit Considered:**  Northeast U.S.

**Time Frame Considered:**  Past 20 years (NatureServe 2013)

**c. Adjacent States and Provinces**

CONNECTICUT                      Not Present   X                        No data \_\_\_\_\_  
MASSACHUSETTS                      Not Present   X                        No data \_\_\_\_\_  
NEW JERSEY                      Not Present   X                        No data \_\_\_\_\_  
QUEBEC                      Not Present   X                        No data \_\_\_\_\_  
VERMONT                      Not Present   X                        No data \_\_\_\_\_

ONTARIO                      Not Present \_\_\_\_\_                      No data \_\_\_\_\_

**i. Abundance**

  X   declining    \_\_\_\_\_increasing                      \_\_\_\_\_stable    \_\_\_\_\_unknown

**ii. Distribution:**

  X   declining    \_\_\_\_\_increasing                      \_\_\_\_\_stable    \_\_\_\_\_unknown

Time frame considered:   Past 20 years (NatureServe 2013)  

Listing Status:                     Special Concern                    

PENNSYLVANIA                      Not Present \_\_\_\_\_                      No data \_\_\_\_\_

**i. Abundance**

  X   declining    \_\_\_\_\_increasing                      \_\_\_\_\_stable    \_\_\_\_\_unknown

**ii. Distribution:**

  X   declining    \_\_\_\_\_increasing                      \_\_\_\_\_stable    \_\_\_\_\_unknown

Time frame considered:   Past 20 years (NatureServe 2013)  

Listing Status:                     Not Listed                                          SGCN?   No

**d. NEW YORK**

No data   X  

**i. Abundance**

   declining    increasing    stable    unknown

**ii. Distribution:**

   declining    increasing    stable    unknown

Time frame considered:   Extirpated, 1950 – present  

**Monitoring in New York.**

There are currently no monitoring or survey efforts for this species.

**Trends Discussion:**

Populations of silver chub across the United States and Canada are in decline (NatureServe 2012). Many states have listed this species as one of special concern, threatened or endangered including Michigan, Ohio, Texas, South Dakota, Georgia, Pennsylvania, and West Virginia (Parker et al. 1987, NatureServe 2012).

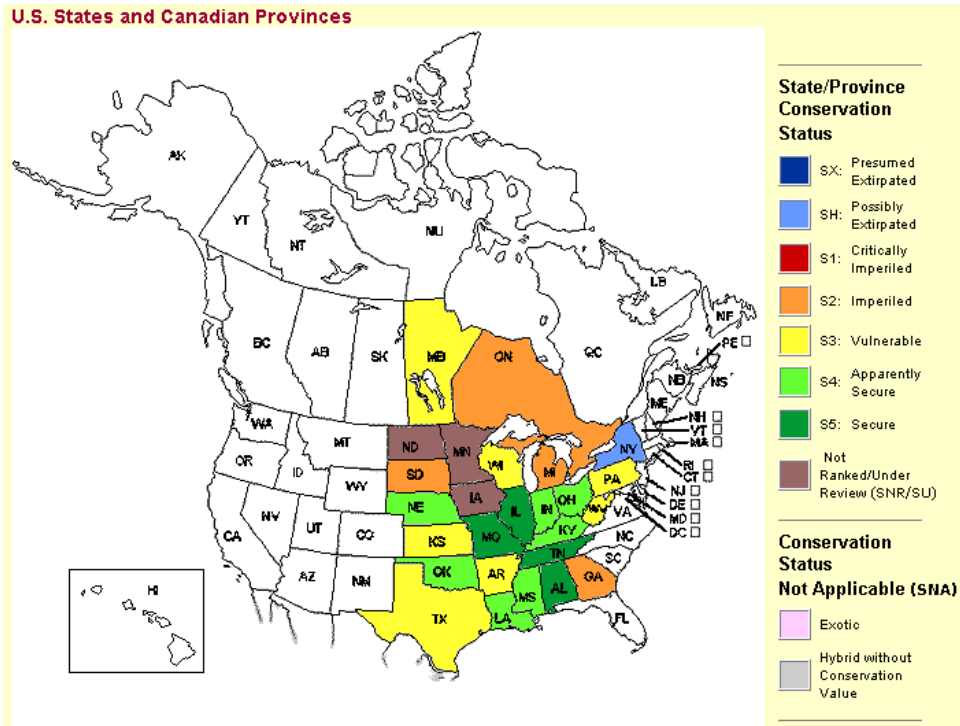


Figure 1: Distribution of the silver chub in North America (NatureServe 2012).

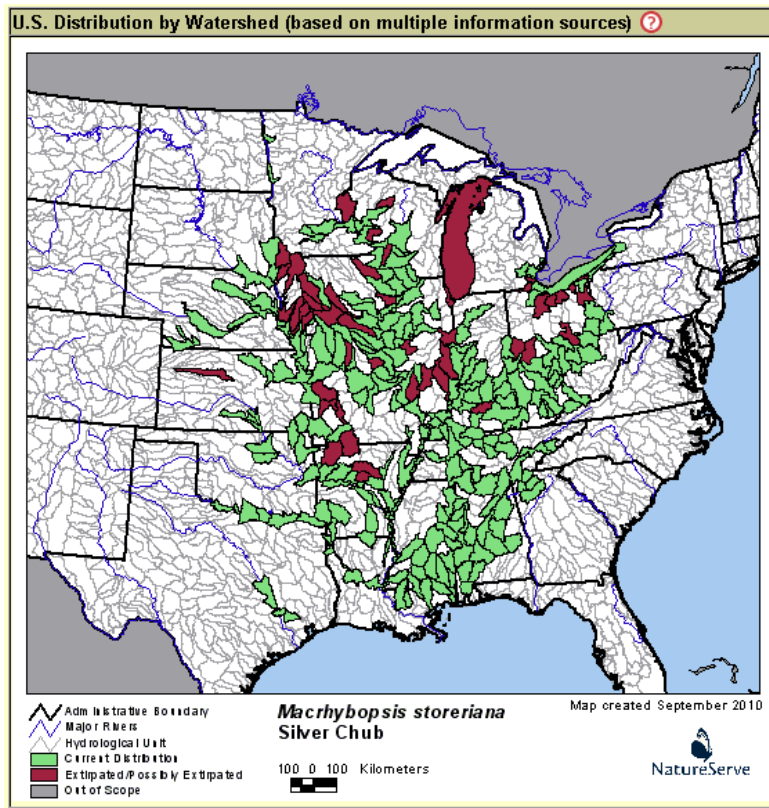


Figure 2: Distribution of the silver chub in the United States by watershed (NatureServe 2012).

**III. New York Rarity, if known:**

<b>Historic</b>	<b><u># of Animals</u></b>	<b><u># of Locations</u></b>	<b><u>% of State</u></b>
prior to 1970	_____	_____	_____
prior to 1980	_____	_____	_____
prior to 1990	_____	_____	<u>&lt;1%</u>

**Details of historic occurrence:**

This species was reported to be common in Lake Erie and at the mouths of larger creeks around 1929 and started to drastically decline around 1953 (Smith 1985).

<b>Current</b>	<b><u># of Animals</u></b>	<b><u># of Locations</u></b>	<b><u>% of State</u></b>
	_____	_____	<u>0%</u>

**Details of current occurrence:**

There are no current records of the silver chub in New York.

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

<b>% of NA Range in New York</b>	<b>Classification of New York Range</b>
<u>   </u> 100 (endemic)	<u>   </u> Core
<u>   </u> 76-99	<u>  X  </u> Peripheral
<u>   </u> 51-75	<u>   </u> Disjunct
<u>   </u> 26-50	<b>Distance to core population:</b>
<u>  X  </u> 1-25	<u>~100 miles</u>

**IV. Primary Habitat or Community Type:**

1. Large/Great River
2. Summer-stratified Monomictic Lake

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

    Declining        X   Stable          Increasing          Unknown

Time frame of decline/increase: \_\_\_\_\_

Habitat Specialist?                    \_\_\_ Yes         X  No

Indicator Species?                    \_\_\_ Yes         X  No

**Habitat Discussion:**

This chub species occurs in streams where the bottom is clean sand and fine gravel, or in lakes at depths of 3 to 60 feet (Smith 1985). In streams that have more silt it may be found in riffles (Parker et al. 1987, NatureServe 2012).

**V. New York Species Demographics and Life History**

X  Breeder in New York

X  Summer Resident

X  Winter Resident

    \_\_\_ Anadromous

\_\_\_ Non-breeder in New York

    \_\_\_ Summer Resident

    \_\_\_ Winter Resident

    \_\_\_ Catadromous

\_\_\_ Migratory only

\_\_\_ Unknown

**Species Demographics and Life History Discussion:**

It is believed that the silver chub spawns from late May through June in open water areas of large streams and lakes (NYSDEC 2012). A female can produce from 2,603 to 11,555 eggs (Smith 1985). This is one of the larger chub species, reaching 9 inches in length in about 4 years (Cooper 1983). Few individuals live beyond 3 years of age (NatureServe 2012). Silver chubs prey on various insects, crustacean, and mollusks (NatureServe 2012). Young silver chubs feed on cladocerans, copepods, and chironomid larvae (Smith 1985). Adults feed on mayfly larvae, however in the 1950s

many mayfly species became scarce and the chubs switched to feeding on midges and amphipod crustaceans (Smith 1985).

**VI. Threats:**

The silver chub is threatened by high levels of siltation (NatureServe 2012). The main prey species underwent a dramatic decline around 1953 and this may have played a part in the species decline (Parket et al. 1987, NYSDEC 2012).

**Are there regulatory mechanisms that protect the species or its habitat in New York?**

No     Unknown

Yes

The silver chub is listed as an endangered species in New York and is protected by Environmental Conservation Law (ECL) section 11-0535 and the New York Code of Rules and Regulations (6 NYCRR Part 182). A permit is required for any proposed project that may result in a take of a species listed as Threatened or Endangered, including, but not limited to, actions that may kill or harm individual animals or result in the adverse modification, degradation or destruction of habitat occupied by the listed species.

The Protection of Waters Program provides protection for rivers, streams, lakes, and ponds under Article 15 of the NYS Conservation Law.

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

Conservation actions following IUCN taxonomy are categorized in the table.

Conservation Actions	
Action Category	Action
Land/Water Management	Habitat/Natural Process Restoration
Species Management	Species Recovery
Species Management	Species Reintroduction
External Capacity Building	Alliance & Partnership Development



The Comprehensive Wildlife Conservation Strategy (NYSDEC 2005) includes recommendations for the following actions for extirpated fishes, which includes the silver chub.

**Habitat Monitoring:**

---- Inventories will be completed in all areas where restoration might be practical.

**Relocation/reintroduction:**

---- Re-establish, if feasible, populations of those endangered fish species now believed to be extirpated from New York.

**VII. References**

Cooper, E.L. 1983. Fishes of Pennsylvania and the northeastern United States. The Pennsylvania State University Press. United States of America.

Hesse, L. 1994. The status of Nebraska fishes in the Missouri River, 5. Selected chubs and minnows (cyprinidae) sicklefin chub (*Macrhybopsis meeki*), sturgeon chub (*M. gelida*), silver chub (*M. storeriana*), speckled chub (*M. aestivalis*), flathead chub (*Platygobio gracilis*), plains minnow (*Hybognathus placitus*), and western silvery minnow (*H. argyritis*). Nebraska Game and Parks Commission. Transactions of the Nebraska Academy of Sciences 21: 99-108.

NatureServe. 2012. NatureServe Explorer: An online encyclopedia of life [web application].Version7.1. NatureServe, Arlington, Virginia. Available at: <http://www.natureserve.org/explorer>. (Accessed: February 26, 2013).

NYSDEC. 2013. Silver chub fact sheet. NYSDEC Bureau of Fisheries. Albany, NY. Available at: <<http://www.dec.ny.gov/animals/26010.html>> (Accessed: February 26, 2013).

Parker, B., McKee, P., and R.R. Campbell. 1987. Status of the silver chub, *Hybopsis storerianna*, in Canada. Canadian Field-Naturalist 101(2) 190-194.

Smith, L.C. 1985. The Inland Fishes of New York State. NYSDEC. Albany, NY.

Therres, G. D. 1999. Wildlife species of conservation concern in the Northeastern United States. Northeast Wildlife, 54, 93-100.

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