

## Species Status Assessment

**Class:** Osteichthyes (bony fishes)  
**Family:** Salmonidae (trout and whitefish)  
**Scientific Name:** *Prosopium cylindraceum*  
**Common Name:** Round whitefish

### Species synopsis:

The round whitefish occurs from Alaska in the northwest to Labrador and New England in the east. With the exception of Lake Erie, its distribution includes the Great Lakes. Round whitefish lives in lakes with a well oxygenated deep zone and is native to 7 of 18 watersheds in the Adirondack Mountains. It has also been known as non-native to the Oswegatchie watershed (previously stocked) with no records since 1955. Its distribution within its historic range has shrunk to 8 sites. A stocking program has established two more populations within its former range. It is extirpated from the Upper Hudson watershed.

### 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** S1S2 **Tracked by NYNHP?** Yes

### Other Rank:

Species of Northeast Regional Conservation Concern (Therres 1999)

### Status Discussion:

Round whitefish is globally ranked as Secure, however in New York it is ranked as Imperiled/Critically Imperiled due to population declines (NatureServe 2012).

**II. Abundance and Distribution Trends**

**a. North America**

**i. Abundance**

declining  increasing  stable  unknown

**ii. Distribution:**

declining  increasing  stable  unknown

**Time frame considered:** Based on global rank (NatureServe 2012)

**b. Regional**

**i. Abundance**

declining  increasing  stable  unknown

**ii. Distribution:**

declining  increasing  stable  unknown

**Regional Unit Considered:** Region 5 - Northeast (Species of Concern)

**Time Frame Considered:** \_\_\_\_\_

**c. Adjacent States and Provinces**

**CONNECTICUT**  **Not Present**  **No data**

**i. Abundance**

declining  increasing  stable  unknown

**ii. Distribution:**

declining  increasing  stable  unknown

**Time frame considered:** \_\_\_\_\_

**Listing Status:**  Not Listed  **SGCN?** No

MASSACHUSETTS                      Not Present   X                        No data \_\_\_\_\_

NEW JERSEY                            Not Present   X                        No data \_\_\_\_\_

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

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

**i. Abundance**

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

**ii. Distribution:**

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

Time frame considered: \_\_\_\_\_

Listing Status: \_\_\_\_\_ Not Listed \_\_\_\_\_

QUEBEC                                Not Present \_\_\_\_\_                No data \_\_\_\_\_

**i. Abundance**

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

**ii. Distribution:**

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

Time frame considered: \_\_\_\_\_

Listing Status: \_\_\_\_\_ Not Listed \_\_\_\_\_

VERMONT                                Not Present \_\_\_\_\_                No data \_\_\_\_\_

**i. Abundance**

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

**ii. Distribution:**

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

Time frame considered: \_\_\_\_\_

Listing Status: \_\_\_\_\_ Special Concern \_\_\_\_\_ SGCN?   Yes

**d. NEW YORK**

No data \_\_\_\_\_

**i. Abundance**

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

**ii. Distribution:**

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

**Monitoring in New York.**

There are monitoring programs carried out by the Rare Fish Unit, 1998-2012 and a study by Steinhart et al. (2007).

**Trends Discussion:**

In North America round whitefish occurs from the Bering Strait east through Alaska and northern Canada to Labrador. It occurs in all the Great Lakes except Erie, and in scattered lakes in the Northeast.

In New York, round whitefish has historically been found in 68 waters (now in 8) and the range has declined to extirpation in one (Upper Hudson) of the 7 watersheds. Two records from another watershed, Oswegatchie, are thought to be from stocking, and neither has records since 1955. There may be a continuing loss of waters they have inhabited in the last 20 years (Hoel Pond may be declining to levels we can no longer detect; they may be extirpated in West (Canada) Lake), but hatchery efforts have added waters where reproduction may occur. The trend of decline causes imminent concern for this species, but the recovery program has established stocked populations that are reproducing in two areas: Evergreen Lake (Carlson and VanMaaren 2011) and Trout Pond.

The distribution of this species among sub-basins (HUC 10) within each watershed has changed also, with records (of populations that were not initiated or supported by hatchery efforts) from fewer units in the recent period. Overall there are records from 28 of the units for all time periods, and from recent times there are 11 units, or a substantial loss of its range. Statewide, the number of records for this species (from wild and hatchery-initiated populations) has been 140 for all time periods, 82 in the last 30 years, and 58 since 1993. (Many of these catches came from egg-take operations and stocking evaluations in 2001-06).

Family: Salmonidae  
 Common name: Round whitefish  
 Scientific name: Prosopium cylindraceum

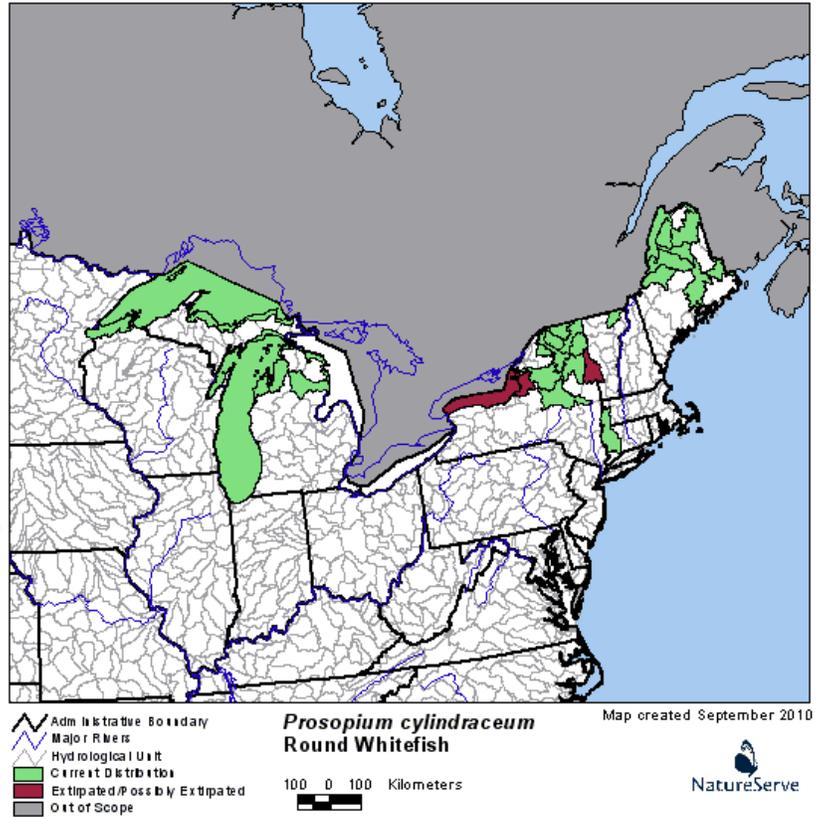


Figure 1: Range of round whitefish in North America (Page and Burr 1991, NatureServe 2012).

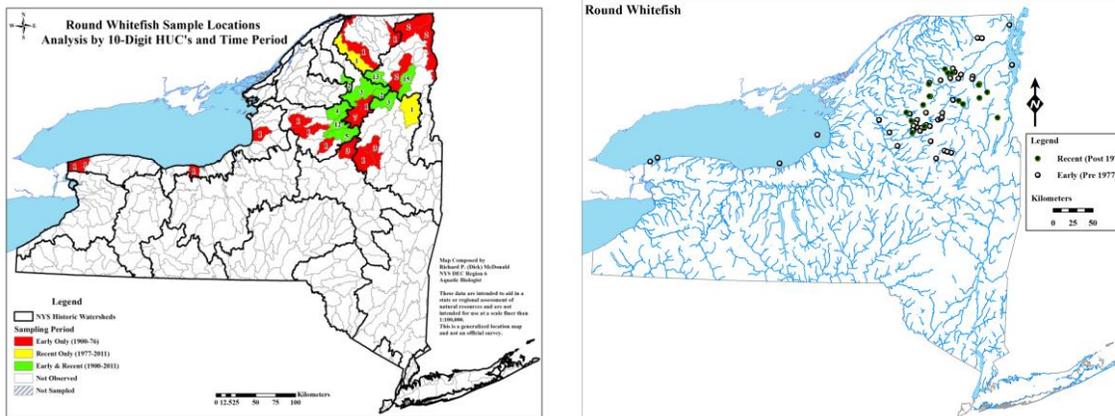


Figure 2: Round whitefish distribution in New York, depicting fish sampled before 1977 and from 1977 to current time, shown with the corresponding HUC-10 units where they were found and the number of records.

Watershed name	Total # HUC10	Early only	Recent only	both	Watershed status
Black	6	3	0	3	
Champlain	5	3	0	2	
Mohawk	1	1			loss
Ontario	4	4	0	0	loss
Raquette	4	2	0	2	
St. Law&SLC	4	2	1	1	
Upper Hudson	4	2	1	1	
sum	28	17	2	9	
Oswegatchie	2	2			loss

**Table 1:** Records of rare fish species in hydrological units (HUC-10) are shown according to their watersheds in early and recent time periods (before and after 1977) to consider loss and gains. Watersheds where they are non-native are marked in grey. Further explanations of details are found in Carlson (2012).

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

Historic	<u># of Animals</u>	<u># of Locations</u>	<u>% of State</u>
<b>prior to 1977</b>	_____	<u>68 waters</u>	<u>7/18 watersheds</u>
<b>prior to 1980</b>	_____	_____	_____
<b>prior to 1990</b>	_____	_____	_____

**Details of historic occurrence:**

Round whitefish were found in Lake Ontario, Lake Champlain (1902 and 1929) and in many waters of the Adirondacks in the late 1800s. Several waters received round whitefish from the rearing program between 1879 and 1933, but it appears that there was limited success and little lasting range expansion (George 1981, Steinhart et al. 2007). Surveys and other historic records between 1862 and 1980 identified 68 Adirondack waters that likely contained native populations (Steinhart et al. 2007). Pfeiffer (1979) felt only 14 were sustained. All of those 14 lakes were judged as having low population levels, except for three with moderate levels, West (Canada) Lake, upper and lower Cascade Lakes (Pfeiffer 1979).

<b>Current</b>	<b><u># of Animals</u></b>	<b><u># of Locations</u></b>	<b><u>% of State</u></b>
<b>(since 1977)</b>	_____	<u>8 waters</u>	<u>5/18 watersheds</u>

**Details of current occurrence:**

There is an intact reproducing population of round whitefish currently in Little Moose Lake, Herkimer County (D. Josephson, personal communication).

**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>  X  </u> Disjunct
<u>   </u> 26-50	<b>Distance to core population:</b>
<u>  X  </u> 1-25	<u>   300 mi   </u>

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

1. Oligotrophic Dimictic Lake
2. Summer-stratified Monomictic Lake
3. Great Lakes Deepwater Community

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

    Declining     Stable     Increasing   X   Unknown

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

**Habitat Specialist?**   X   Yes     No

**Indicator Species?**   X   Yes     No

**Habitat Discussion:**

Round whitefish are usually found in deep, cold water lakes. They spawn in late fall in shallow water areas over gravel and boulders. Habitat specifics, vulnerability, and trends through time have

not been studied. The habitat trends are unknown aside from invasive species and acidification patterns of lakes in general.

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

- Breeder in New York**
  - Summer Resident**
  - Winter Resident**
  - Anadromous**
- Non-breeder in New York**
  - Summer Resident**
  - Winter Resident**
  - Catadromous**
- Migratory only**
- Unknown**

**Species Demographics and Life History Discussion:**

Round whitefish has an intermediate length life span and may reach 14 years, but adults are more commonly caught at 4-7 years old. Fish reach maturity around four or five years and females can produce about 20,000 eggs (Normandeau 1969). They spawn in the fall (Werner 2004).

**VI. Threats:**

This species has diminished from, and may be vulnerable to several factors including competition and predation from introduced fish species (yellow perch, smallmouth bass, rainbow smelt, and lake whitefish) (Steinhart et al. 2007). Additional factors of decline could be lake acidification and siltation. Overfishing is probably not a threat to their survival, even though some angling was reported by Pfeiffer (1979).

Round whitefish was classified as “extremely vulnerable” to predicted climate change in an assessment of vulnerability conducted by the New York Natural Heritage Program (Schlesinger et al. 2011).

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

No       Unknown  
 Yes

The round whitefish 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:**

Twelve new waters have been stocked; two now have natural recruitment: Evergreen Lake (near Stillwater Res. or town of Webb, Herkimer County) and Trout Pond (near Whitney estate or in Town of Sabattis, St. Lawrence County). The table below shows stocking numbers by water body.

**Table 1. Waters stocked with round whitefish**

<b>WATER</b>	<b>YEAR &amp; NO. STOCKED</b>
Trout (167 acre)	2000 (6,250), 2001 (1,200)
Little Trout (49 acre)	2000 (3,750)
Buck (19 acre)	2001 (1,600), 2002 (1,600)
Deer (70 acre)	adults in 1999, 2001 (1,600)
Evergreen (45 acre)	2000 (7,500), 2002 (2,000)
L. Green (28 acres)	2004 (2,000), 2005 (1,600), 2012 (300)
Rock Pond (56 acres)	2005 (1,000), 2006 (1,300)
Eighth Lake (122 acres)	2005 (1,000)
Bug Lake (78 acres)	2006 (1,700), 2008 (1,200)
Eagle Nest (12 acres)	2008 (600)
Chapel Pond (19 acres)	2009 (610), 2010 (600)
Lower Cascade (22 acres)	2002 (2,330)
Darning Needle (28 acres)	2012 (1,000)
Ledge (42 acres)	2012 (1,000)

Conservation actions following IUCN taxonomy are categorized in the table below.

Conservation Actions	
Action Category	Action
Land/Water Protection	Resource/Habitat Protection
Land/Water Management	Habitat/Natural Process Restoration
Land/Water Management	Invasive/Problematic Species Control
Species Management	Species Reintroduction

The Comprehensive Wildlife Conservation Strategy (NYSDEC 2005) includes recommendations for the following actions for the round whitefish.

**Population Monitoring:**

---- Studies are being conducted to determine the causes of population declines and losses within the Adirondack region, especially the impact of acid rain and invasive species.

**Relocation/Reintroduction:**

---- Establish populations.

**VII. References**

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