Species Status Assessment

Class: Actinopterygii
Family: Centrarchidae
Scientific Name: *Acantharchus pomotis*
Common Name: Mud sunfish

Species synopsis:

The mud sunfish is a freshwater fish found in low gradient creeks and rivers, weedy ponds, bogs, and lakes with mud or silt bottoms (Werner 2004, NatureServe 2013). In New York, it was historically found in the Hackensack River in Rockland County, but may now be extirpated. New York is at the northern edge of the range, which extends along the Atlantic Coastal Plain of the United States as far south as Florida (Smith 1985, NatureServe 2013). Populations are likely in decline due to habitat modification (NatureServe 2013).

I. Status

a. Current and Legal Protected Status

i. Federal Not Listed **Candidate?** No

ii. New York Threatened

b. Natural Heritage Program Rank

i. Global G5

ii. New York SH **Tracked by NYNHP?** Yes

Other Rank:
Species of Northeast Regional Conservation Concern (Therres 1999)

Status Discussion:

This species is uncommon, occurring in a narrow range of waters along the east coast. Most populations are stable (NatureServe 2013). In New York, any extant populations may be in decline due to impoundments above and below the habitat where they were historically recorded (Smith 1985).

II. Abundance and Distribution Trends

a. North America

i. Abundance

____ declining ____increasing __X__stable ____unknown

ii. Distribution:

____ declining ____increasing __X__stable ____unknown

Time frame considered: __Past 20 years (NatureServe 2013)_____

b. Regional

i. Abundance

____ declining ____increasing __X__stable _____unknown

ii. Distribution:

____ declining ____increasing __X__stable _____unknown

Regional Unit Considered:__Eastern United States_____
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 _____**

ONTARIO **Not Present __X___** **No data _____**

QUEBEC **Not Present __X___** **No data _____**

VERMONT **Not Present __X___** **No data _____**

NEW JERSEY **Not Present _____** **No data _____**

i. Abundance

____ declining ____ increasing __X__ stable ____unknown

ii. Distribution:

____ declining ____ increasing __X__ stable ____unknown

Time frame considered: __Past 20 years (NatureServe 2013)_____
Listing Status: _____Not Listed_____ SGCN? _No___

PENNSYLVANIA **Not Present _____** **No data _____**

i. Abundance

____ declining ____increasing ____stable __X__unknown

ii. Distribution:

____ declining ____increasing ____stable __X__unknown

Time frame considered: _Past 20 years (NatureServe 2013)_____
Listing Status: _____Not Listed – Presumed Extirpated__ SGCN? __No____

d. NEW YORK **No data _____**

i. Abundance

____ declining ____ increasing ____ stable __X__ unknown

ii. Distribution:

____ declining ____ increasing ____ stable __X__ unknown

Time frame considered: _____1935 – present_____

Monitoring in New York.

There are currently no monitoring efforts.

Trends Discussion:

Populations are in stable throughout much of the species range, but some local populations are in decline (NatureServe 2013). In New York, any remaining populations are likely in decline due to impoundments above and below their habitat on the Hackensack River (Smith 1985, NatureServe 2013).

In 2007, New Jersey proposed fishing regulations that placed restrictions on warmwater pinelands species, including mud sunfish, which prohibit possession. While not a target species for anglers, there is potential for mud sunfish to be captured and no regulations had been in place.

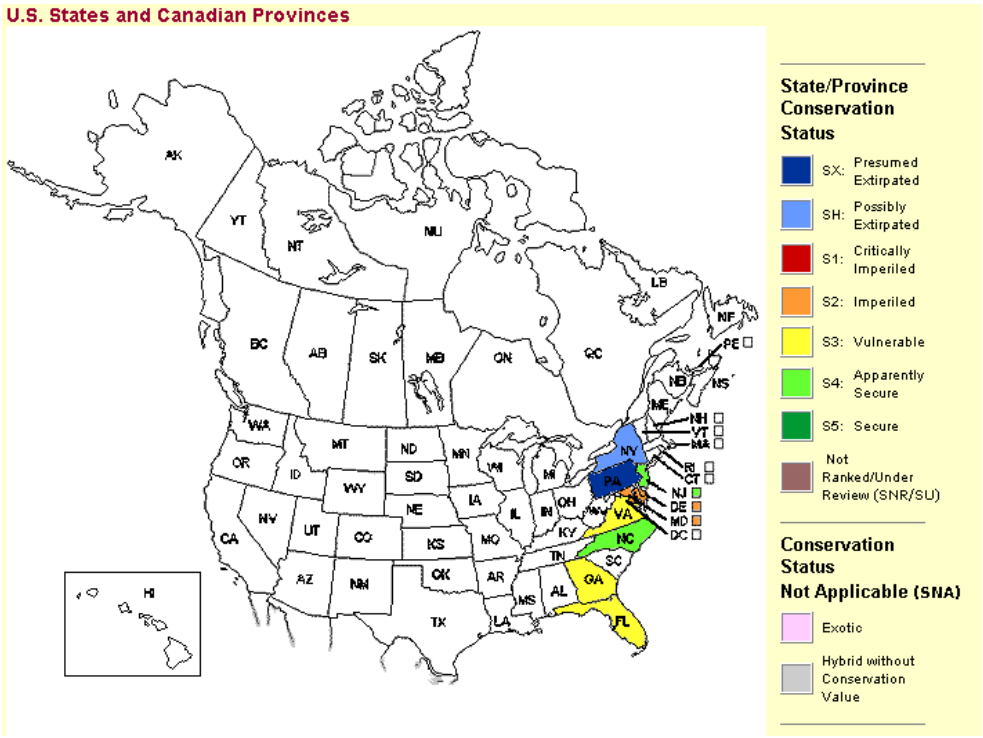

Figure 1: Mud sunfish conservation status in North America (NatureServe 2013).

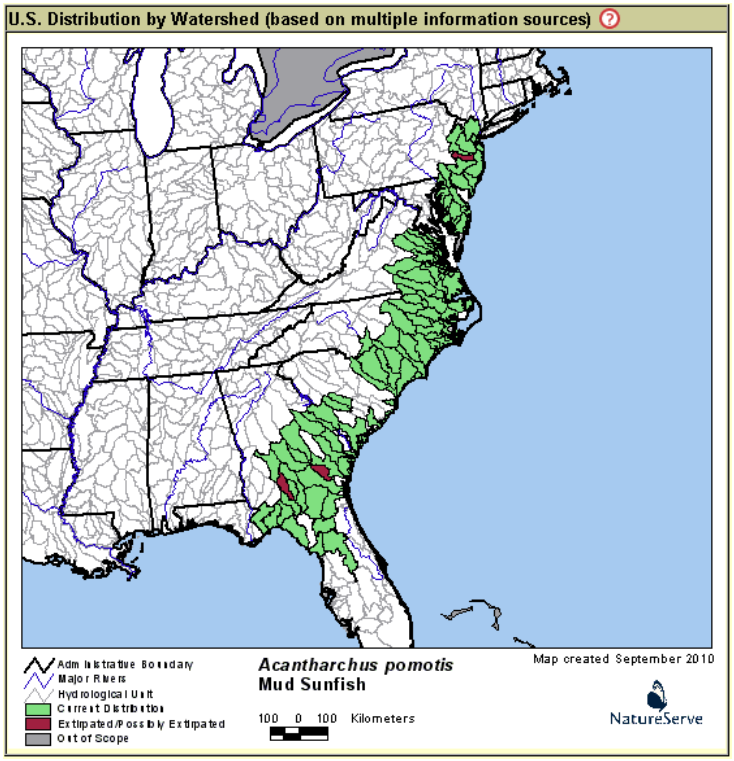

Figure 2: Mud sunfish distribution along the east coast of the United States by watershed (NatureServe 2013).

III. New York Rarity, if known:

Historic	# of Animals	# of Locations	% of State
prior to 1970	_____	_____	<1%
prior to 1980	_____	_____	_____
prior to 1990	_____	_____	_____

Details of historic occurrence:

The mud sunfish has only been documented in the Hackensack River, Rockland County (NYSDEC 2013, NatureServe 2013).

Current	# of Animals	# of Locations	% of State
	_____	_____	_____

Details of current occurrence:

There has not been a record of a mud sunfish since 1935 (NYSDEC 2013).

New York's Contribution to Species North American Range:

% of NA Range in New York	Classification of New York Range
____ 100 (endemic)	**____ Core**
____ 76-99	**__X__ Peripheral**
____ 51-75	**____ Disjunct**
____ 26-50	**Distance to core population:**
__X__ 1-25	**~500 miles**

IV. Primary Habitat or Community Type:

1. Headwater/Creek, Low Gradient

2. Pine Barrens Shrub Swamp

3. Northern White Cedar Swamp

Habitat or Community Type Trend in New York:

__X__ Declining ____Stable ____ Increasing ____Unknown

Time frame of decline/increase: __Past 20 years (NatureServe 2013)_____

Habitat Specialist? _____ Yes __X___ No

Indicator Species? _____ Yes __X___ No

Habitat Discussion:

Described as a warmwater pineland species in New Jersey, the mud sunfish prefers darkly stained waters in sluggish lowland streams (prefers pools to runs), wetlands, or lakes with mud bottoms (Smith 1985, Cashner et al. 1989, Werner 2004). It favors acidic waters associated with cedar swamps and pine barrens (NYSDEC 2013).

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:

Little is known about this the mud sunfish's reproductive characteristics (Smith 1985, NYSDEC 2013). It is a nocturnal fish (PNHP 2007, Ryder and Schell 2012). Spawning likely occurs between December and May and males prepare the nest (Pardue 1993). The species is said to make a grunting sound during reproduction which may or may not have a function (Smith 1985, Cashner et al. 1989). A study in Maryland looking at 14 specimens aged the individuals from 2 to 8 years old (Smith 1985). Females can produce approximately 5,000-12,000 eggs (Pardue 1993).

VI. Threats:

There are few threats to this species. Impoundments and draining of wetlands isolates populations and reduces available habitat (Cooper 1983, Smith 1985, NYSDEC 2013). Invasion of non-native species is also a threat to mud sunfish habitat (Brittingham et al. 2005).

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

_____ No ____ Unknown

__X___ Yes

The mud sunfish is listed as a threatened 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:

Research needs to be conducted in order to determine if the mud sunfish is still present in NY. It would be beneficial to preserve small, heavily vegetated bodies of water (NatureServe 2012). Nighttime surveying may be required due to the nocturnal behavior of the species.

Conservation actions following IUCN taxonomy are categorized in the following 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 mud sunfish.

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

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