

Species Status Assessment

Class: Actinopterygii
Family: Labridae
Scientific Name: *Tautoga onitis*
Common Name: Tautog (Black fish)

Species synopsis:

Tautog, also referred to as black fish, range along the mid-Atlantic Bight from Nova Scotia to South Carolina (Bigelow and Schroeder 1953). In New York, this species can be found in the Hudson River estuary, New York Bight and Long Island Sound. Tautog prefer areas with good shelter for protection, and are found around rock reefs, rocky outcrops, shellfish beds, gravel, eelgrass beds, and kelp or sea lettuce (*Ulva lactuca*) beds (Steimle and Shaheen 1999). Since the mid-1980s, tautog populations have been exposed to intensive recreational and commercial fishing (ASMFC 2011). In 1996, the Atlantic States Marine Fishery Commission drafted an interstate fishery management plan for tautog to reduce fishing mortality rates and increase recruitment (ASMFC 1996).

I. Status

a. Current and Legal Protected Status

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

b. Natural Heritage Program Rank

- i. **Global** GNR
- ii. **New York** SNRN **Tracked by NYNHP?** No

Other Rank:

United States National Status: Not assessed
IUCN Red List: Vulnerable

Status Discussion:

Tautog populations have been subject to intensive fishing over the last two decades. Approximately ninety percent of the recorded landings have come from recreational fishing although the commercial harvest of tautog for the live market is heavily under-reported. There has been a decline of 60% in recorded landings (ASMFC 2006). An intensive stock assessment confirmed that fishing mortality was above recommended levels (ASMFC 2006).

II. Abundance and Distribution Trends

a. North America

i. Abundance

X declining ___ increasing ___ stable ___ unknown

ii. Distribution:

___ declining ___ increasing X stable ___ unknown

Time frame considered: Moderate abundance decline since 1984

b. Regional

i. Abundance

X declining ___ increasing ___ stable ___ unknown

ii. Distribution:

___ declining ___ increasing X stable ___ unknown

Regional Unit Considered: Moderate abundance decline in the Northeast

Time Frame Considered: Since 1984

c. Adjacent States and Provinces

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

i. Abundance

X **declining** ___ **increasing** ___ **stable** ___ **unknown**

ii. Distribution:

___ **declining** ___ **increasing** **X** **stable** ___ **unknown**

Time frame considered: Moderate abundance decline since 1984

Listing Status: _____ Not listed _____ SGCN? Yes _____

MASSACHUSETTS **Not Present** _____ **No data** _____

i. Abundance

X **declining** ___ **increasing** ___ **stable** ___ **unknown**

ii. Distribution:

___ **declining** ___ **increasing** **X** **stable** ___ **unknown**

Time frame considered: Moderate abundance decline since 1984

Listing Status: _____ Not listed _____ SGCN? No _____

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

i. Abundance

X **declining** ___ **increasing** ___ **stable** ___ **unknown**

ii. Distribution:

___ **declining** ___ **increasing** **X** **stable** ___ **unknown**

Time frame considered: Moderate decline since 1984

Listing Status: _____ Not listed _____ SGCN? No _____

ONTARIO	Not Present <u> X </u>	No data _____
PENNSYLVANIA	Not Present <u> X </u>	No data _____
QUEBEC	Not Present <u> X </u>	No data _____
VERMONT	Not Present <u> X </u>	No data _____

d. NEW YORK **No data** _____

i. Abundance

 X declining ___ increasing ___ stable ___ unknown

ii. Distribution:

___ declining ___ increasing X stable ___ unknown

Time frame considered: Moderate decline in abundance since 1984

Monitoring in New York.

The NYSDEC conducts annual monitoring efforts for tautog. Methods of monitoring include angler surveys, small mesh trawls and fish pots. Small mesh trawl surveys started in 1987, targeting juvenile finfish in 60-80 randomly chosen stations from May-October. An ongoing fish pot study was initiated in 2007 as a pilot, and expanded to 40 pots/stations in 2008 (ASMFC 2011).

Trends Discussion:

Tautog range along the Atlantic Coast from Nova Scotia to South Carolina (Bigelow and Schroeder 1953). In New York, this species can be found in the New York Bight and Long Island Sound. There are reports of tautog 70km upstream from the mouth of the Hudson River (Beebe and Savidge 1988). From 1984-2003, fisheries data indicate a decrease in population of 50-73% in the southern portion of its range. The status of the population in the Canadian portion of its range is not known. The overall population is estimated to have declined at least 40% over the last 45 years (Choat and Pollard 2010). Peak total harvest (commercial landings + recreational harvest) since 2000 were 5.7 million pounds in 2002 with lows around 2.6 million pounds in 2003 & 2005 (ASMFC 2011). Spawning stock biomass has decreased from an average of 33,000 metric tons in the mid 1980s to 7,600 metric tons in 1999 (ASMFC 2012). Peak abundance from fisheries estimate 40,000,000 individuals in 1982 and 20,000,000 in 2003 (ASMFC 2006).



Figure 1. Tautog's distribution (IUCN Red List 2010).

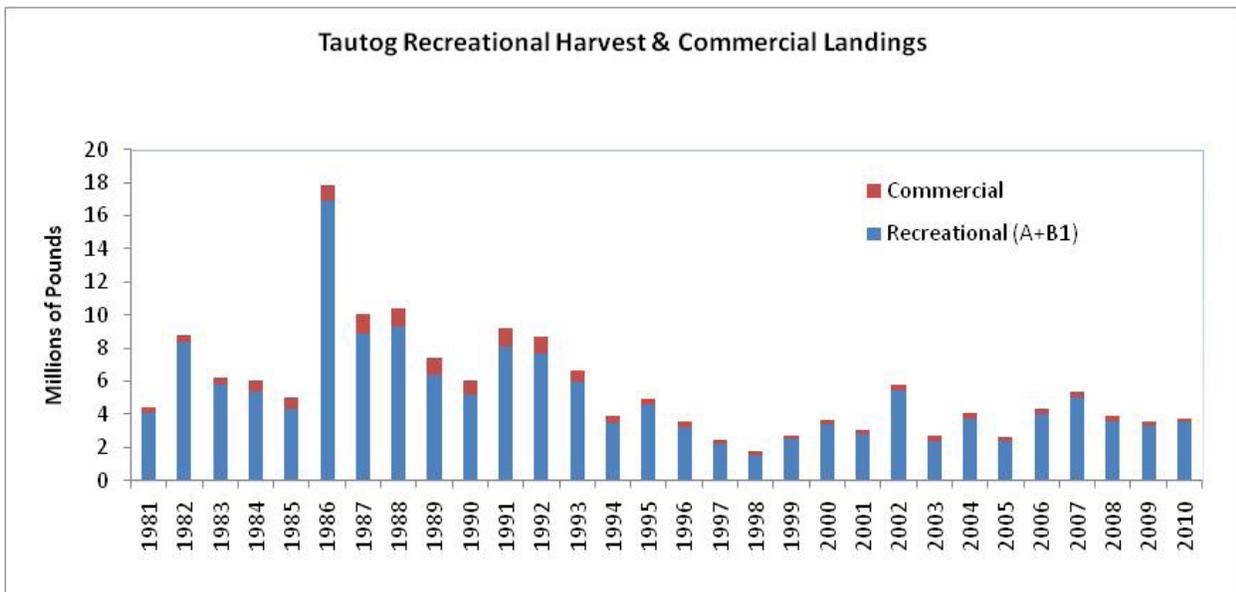


Figure 2. Tautog recreation and commercial landings from 1981-2010 throughout its range (ASMFC 2011).

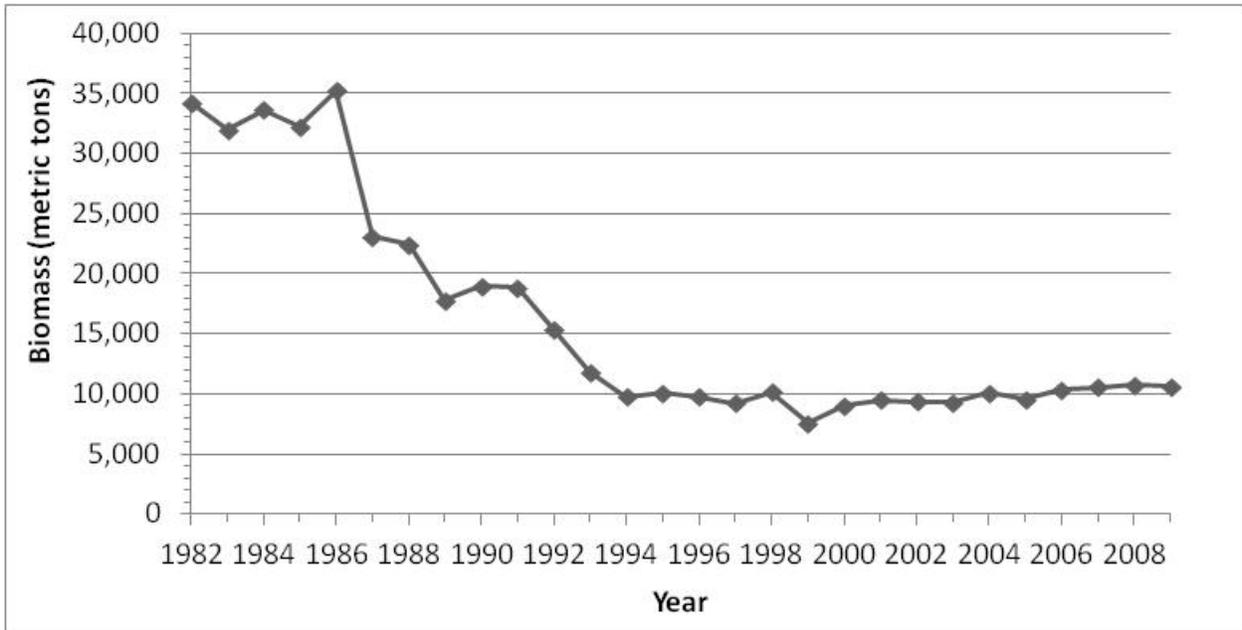


Figure 3. Spawning stock biomass (metric tons) for tautog throughout its range (ASMFC 2012).

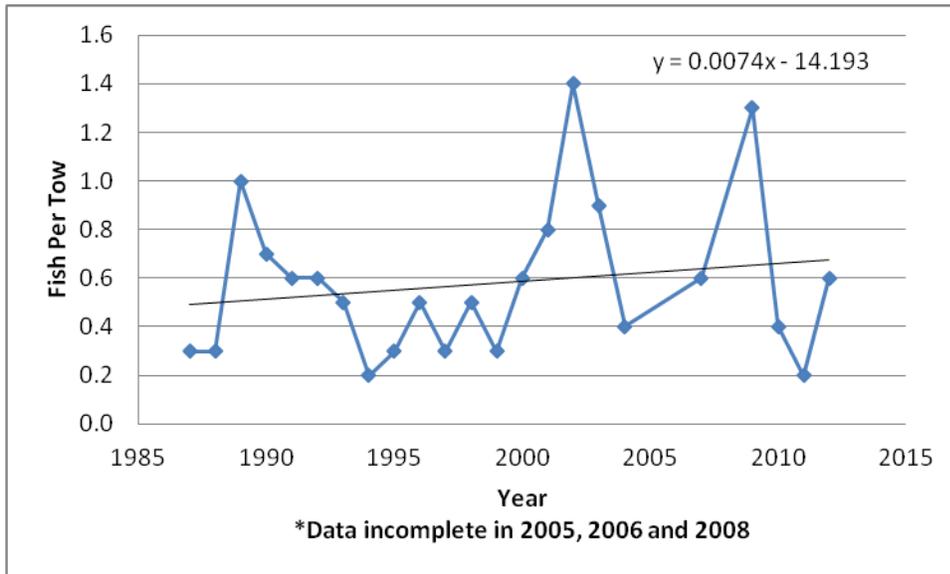


Figure 4. Catch per unit effort (fish/tow) of tautog in western and southern bays of Long Island and Peconic Bay. Data from the NY Annual Trawl Survey (J. Maniscalco, personal communication).

I. New York Rarity, if known:

Historic	<u># of Animals</u>	<u># of Locations</u>	<u>% of State</u>
prior to 1970	_____	_____	_____
prior to 1980	_____	_____	_____
prior to 1990	_____	_____	_____

Details of historic occurrence:

Tautogs historically inhabited the Hudson River estuary, New York Bight and New York Sound (M. Richardson, personal communication) See locations in Table 1.

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

Details of current occurrence:

Tautogs currently inhabit the Hudson River estuary, New York Bight and New York Sound (M. Richardson, personal communication). See locations in Table 1.

Table 1: Data from the Western Long Island Seine Survey (1984-2011), Crustaceans Ventless Lobster Trawl Survey (2007-2009), Crustaceans WLIS Lobster Trawl Survey (2003-2009), Ocean Trawl (2010) and the Peconic Bay Small Mesh Trawl Survey (2006-2012). Years listed below only represent years with tautog occurrences, not necessarily the total duration of the surveys.

Waterbody	Years
Atlantic Ocean	2010
Cold Spring Harbor	2001,2003-2007,2011
Connetquot River	1984,1988
Cutchogue Harbor	2006-2009,2011-2012
Flanders Bay	2007-2009,2011-2012
Gardiners Bay	1988
Great Peconic Bay	1986-1987,2006-2012
Great South Bay Brookhaven	1988,1991
Great South Bay Islip	1984-2001
Hempstead Harbor	1984-1990,2005-2011
Jamaica Bay	1985-2009,2011
Little Neck Bay	1985-1986,1988-1992,1995-2007,2010
Little Peconic Bay	2006-2012
Long Island Sound East	2007-2009
Long Island Sound West	1984-1985,1990,2003-2004,2006-2009
Manhasset Bay	1984-1993,1995-2008,2011
Moriches Bay	2001
Novack Bay	2006-2012
Outside State Waters-Long Island Sound	2003-2004,2006-2009
Oyster bay Harbor	2003-2008,2011
Port Jefferson Harbor	1985,1988,1993-1994,1997,1999,2001-2005
Shelter Island Sound North	2006-2012
Shelter Island Sound South	2006-2012
Shinnecock Bay	1987,2001-2002
South Oyster Bay	1984-1985,1987-1989
Southold Bay	2006,2009-2010
Staten Island	1984-1989
Stony Brook Harbor	1988
Westchester Shoreline	2003-2004,2006-2009

New York's Contribution to Species North American Range:

% of NA Range in New York	Classification of New York Range
<input type="checkbox"/> 100 (endemic)	<input checked="" type="checkbox"/> Core
<input type="checkbox"/> 76-99	<input type="checkbox"/> Peripheral
<input type="checkbox"/> 51-75	<input type="checkbox"/> Disjunct
<input type="checkbox"/> 26-50	Distance to core population:
<input checked="" type="checkbox"/> 1-25	_____

III. Primary Habitat or Community Type:

1. Estuarine, Brackish Shallow Subtidal, Artificial Structure
2. Estuarine, Brackish Shallow Subtidal, Benthic Geomorphology, Shellfish Bed
3. Estuarine Submerged Structure
4. Marine Submerged Artificial Structure/Reef
5. Estuarine, Brackish Shallow Subtidal, Aquatic Bed
6. Marine Eelgrass Meadow

Habitat or Community Type Trend in New York:

Declining Stable Increasing Unknown

Time frame of decline/increase: Not specified

Habitat Specialist? Yes No

Indicator Species? Yes No

Habitat Discussion:

Tautog eggs are buoyant and are generally confined to coastal waters. Eggs and larvae are found in highest concentrations on the inner continental shelf off southern New England and Long Island. Younger larvae tend to stay near the water's surface, while older, larger larvae spend more time in deeper waters. Adults are associated with reefs and manmade structures (Arendt et al. 2001). Smaller juveniles utilize sea lettuce and other macroalgal habitats, moving to eelgrass (*Zostera sp.*) and rocky habitats as they grow (Sograd et al. 1992). The most important habitat parameter affecting the distribution of tautog is the availability of cover. They can be found around rocky shores, breakwaters, off-lying ledges, submerged wrecks, piers, docks, and jetties. Tautogs are also found over boulder-strewn bottoms and on mussel beds in shallow water (Bigelow and Schroeder 1953). Tautogs are opportunistic sight feeders, consuming a variety of invertebrates including mollusks, especially blue mussels (*Mytilus edulis*), barnacles and various crustaceans (Olla et al. 1974).

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:

Adults undergo inshore-offshore migration, typically triggered by a change in water temperature, dropping to 10°C. Adults are rarely seen inshore before the middle of April or after November (Bigelow and Schroeder 1953, Cooper 1966, Briggs and O'Connor 1971). Spawning occurs at or

near the mouth of estuaries and inshore waters from April/May until early August (Sogard et al. 1992, Able and Fahay 1998). Tautogs are slow growing and can live up to 34 years. Males become sexually mature at age 3 and females around age 4 (Copper 1967, White et al. 2003). Spawning frequency is estimated to occur every 1.2 days, with a total of 58 spawn days per female. Females aged 3-9 are estimated to produce 160,000-10,500,000 eggs (Chenoweth 1963, White 2003). No species is known to preferentially feed on tautog. Juveniles are preyed upon by piscivorous birds including cormorants and piscivorous fishes (Nichols and Breder 1927).

IV. Threats:

A direct threat to tautog is over exploitation of the fishery from recreational and commercial fishing. Threats that can affect tautog habitat include degradation/loss of structured, complex estuarine habitat; salvaging/disturbing shipwrecks used as refuge; high water temperatures affecting egg development;; use of heavy bottom trawls and dredges that disturb shelter sites; and contaminants including cadmium and petroleum (Steimle and Shaheen 1999).

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

No Unknown

Yes

As a sportfish, tautog can be caught recreationally from 5 October until 14 December. The size limit is 16" and a daily possession limit is 4 individuals. Anglers must register with the recreational marine fishing registry prior to pursuit of this species (NYSDEC 2012a). It is illegal to take tautog for commercial purposes while fishing aboard a party or charter boat or while fishing recreationally from a private boat. A commercial food fish license is required to harvest tautog for commercial purposes. Commercial fishing regulations for tautog restrict the fishing season from 8 April until the last day of February. The minimum length is set at 15 inches with a maximum daily limit of 25 per vessel; except 10 per vessel when fishing lobster pot gear and more than six lobsters are in possession (NYSDEC 2012b). It is unlawful to harvest tautog using fish pots or traps unless the trap has a circular escape vent of at least 3 1/8" diameter. Fish pots and traps are also required to have escape panels attached with biodegradable fasteners. The harvest tautog with gill or trammel nets is prohibited. It is unlawful to take or possess tautog on any vessel using rock hopper trawl gear equipped with rollers greater than 18".

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

A fisheries management plan was drafted in 1996 for tautog (ASMFC 1996), to reduce fishing mortality through interim and final fishing mortality targets. The plan also outlines a number of

research and monitoring needs that are essential to ensure better management of tautog stock. Addendums I-VI have been added from 1998-2011 that aim to further restrict the take of this species throughout its range (ASMFC 1996). As previously noted, harvest for the live market, by both licensed and illegal fishermen, is heavily under-reported. This is a large source of fishing mortality that isn't well monitored or easily subject to regulation.

V. References

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