

Tautog
Tautoga onitis

Common Names: blackfish, tog, white chinner, black porgy

Interesting Facts:

* **Tautog have several specialized adaptations for living around hard structures, including a blunt nose, thick lips, and powerful jaws.**

* **They have conical (pointy) teeth in front, crushing teeth in back, and a set of pharyngeal teeth in their throat, which allow them to pick-up, crush, and sort hard prey such as mollusks and crustaceans.**

* **Their rubbery skin has a heavy slime covering that protects them while swimming around rocks.**

Maximum Age/Size: 35 years/3.1'

Age/Length at Maturity: 3-4 years/7 - 12"

Age/Length at Recruitment: 6 years/14"

Stock Status: Overfished and experiencing overfishing

Species Profile: Tautog

Significant Reductions Needed to Rebuild Struggling Fish Stock

Introduction

Tautog is an important recreational species caught throughout the Mid-Atlantic from Massachusetts through North Carolina. While still significantly less than the recreational fishery, the commercial fishery has increased over the last decade to supply Asian markets with live fish. A slow growth rate and high site fidelity (aggregation around structure and return to spawning grounds) make tautog particularly susceptible to overfishing. The 2011 stock assessment update found that the stock is overfished with overfishing occurring. Spawning stock biomass (SSB) has remained at low levels for over a decade and management measures have proven insufficient to rebuild the stock. The Board approved Addendum VI in March 2011 to lower the fishing mortality rate target (F_{TARGET}) to 0.15 and initiate rebuilding.

Life History

A member of the wrasse (Labridae) family, tautog is a stout fish with an arched head and broad tail. Juveniles are greenish in color and become darker with age. Fishermen have given tautog the nickname “blackfish” due to its dark mottled sides that are either dull black, brown, blackish green, or blackish blue. Anglers also call tautog “white chin” because this coloring pattern is commonly found on large males.

Tautog are slow growing and can live 35 to 40 years. Males and females are sexually mature at three to four years of age, but studies have shown that larger females produce significantly more (and potentially higher quality) eggs than smaller females.

Tautog are distributed along the Northeast Atlantic coast, from Nova Scotia to Georgia, with the greatest abundances occurring in the U.S. between Cape Cod, Massachusetts, and Chesapeake Bay. North of Cape Cod, tautog generally remain close to shore in waters less than 60 feet. South of Cape Cod, they inhabit waters 40 miles offshore at depths up to 120 feet. During spring, as water temperatures approach 48° F, tautog migrate inshore to spawn in estuaries and nearshore marine waters. They may remain inshore throughout the summer, then move to deeper (80- 150 feet) offshore wintering areas as fall approaches and water temperatures drop below 52° F. Toward the southern end of their range, some adults may remain offshore throughout the year.

Tautog are daytime feeders, and feeding activity peaks at dawn and dusk. Adults feed primarily on oysters, mussels, and invertebrates, while juvenile diets consist of amphipods and copepods. There are no species that preferentially feed on tautog, but fish-eating birds such as cormorants prey on



Photo courtesy of Paul Caruso, MA DMF

juveniles; and smooth dogfish, barn-door skate, red hake, silver hake, sea raven, and goosefish have been reported to feed on both adults and juveniles.

Throughout their life, tautog aggregate around structured habitats. Shallow, vegetated estuaries and inshore areas serve as juvenile nurseries, while larger juveniles cohabitate with adults in deeper offshore waters. North of Long Island, tautog are generally found around rocks and boulders. Toward the southern end of its range, tautog often inhabit wrecks, jetties, natural and artificial reefs, and shellfish beds. They are also found near the mouths of estuaries and other inlets. Adults stay close to their preferred home site and, although they may move away during the day to feed, they return to the same general location at night where they become dormant and may actually sleep. This aggregation around structure makes tautog easy to catch, even when biomass levels are low. The easy catchability and slow growth rate make tautog highly susceptible to overfishing and slow to rebuild.

Commercial and Recreational Fisheries

The tautog fishery is primarily recreational, extending from Massachusetts to Virginia with the majority of landings occurring in state waters between Cape Cod and Chesapeake Bay. The fishery occurs primarily in the spring and fall, although many Mid-Atlantic fishermen pursue tautog year-round, and there is an active fishery off the Virginia coast in the winter.

In the late 1980s to early 1990s, total harvest (commercial landings and recreational harvest) fluctuated between ten and six million pounds (see Figure 1). Harvest declined slightly in the late 1990s after states began implementing the requirements of the fishery management plan (FMP), fluctuating between five and two million pounds. Recreational landings account for roughly 90% of total harvest. The commercial fishery generally occurs between Rhode Island and Massachusetts. Historically, otter trawls have been the predominant commercial fishing gear, although floating fish traps and gillnets have also landed significant numbers of tautog. In recent years, there has also been a slight increase in landings by pots and hook-and-line, largely the result of a growing market for live fish.

Stock Status

The 2011 stock assessment update estimated that SSB has remained at low levels for the last decade, with 2009 SSB estimated at 23.3 million pounds — 39% of the target SSB (59.1 million pounds) (see Figure 2). Current coastwide F is estimated at 0.38,

Figure 1. Tautog Recreational Harvest, Commercial Landings & Total Fishing Mortality (Source: Personal communication from the NMFS, Fisheries Statistics Division, Silver Spring, MD and 2011 Tautog Stock Assessment Update)

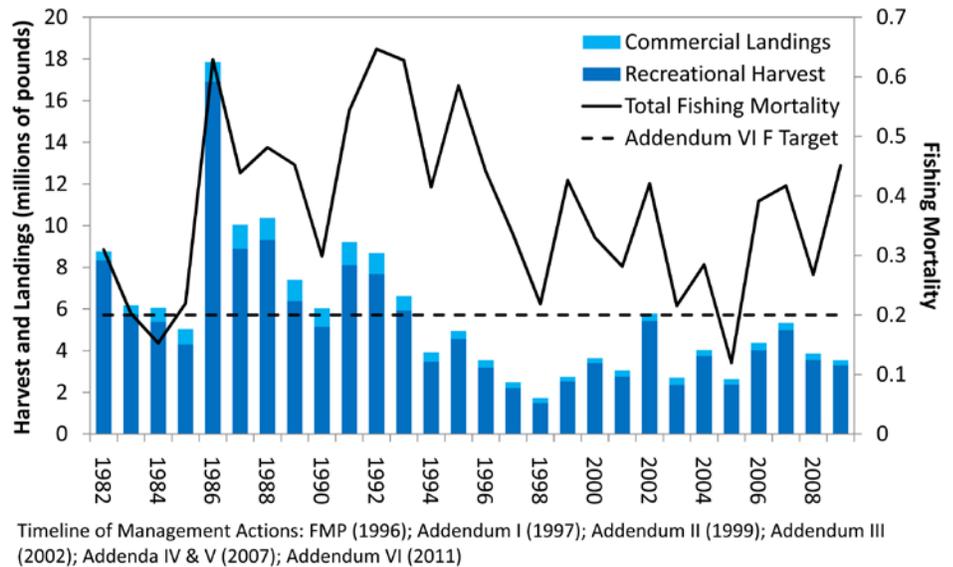
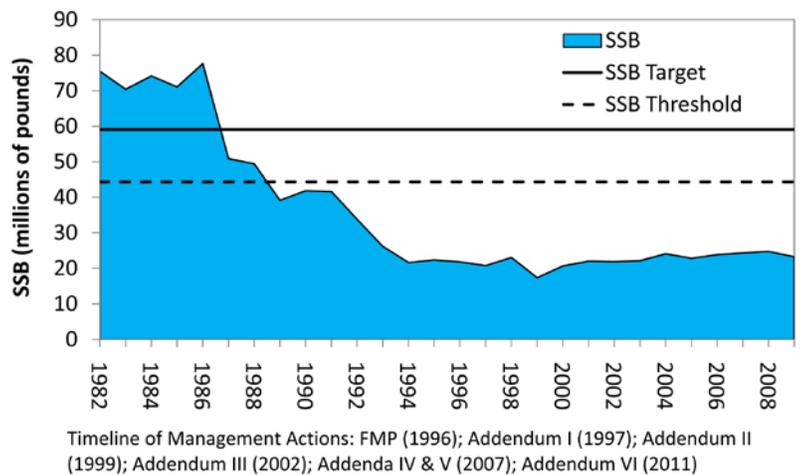


Figure 2. Tautog Spawning Stock Biomass (SSB) Source: 2011 Tautog Stock Assessment Update



well above Addendum IV's target of $F=0.20$. Overfishing has occurred since 2005.

The Tautog Technical Committee (TC) reviewed the results of the assessment update and recommended implementing an F_{TARGET} of 0.15 or lower to stop overfishing and improve the chances of rebuilding. The TC's review highlighted that tautog's life history makes it particularly susceptible to overfishing and slow to rebuild. It advised that SSB will not increase under the current F (0.38) and will not exceed the SSB threshold (44.3 million pounds) until 2019 under $F = 0.15$ (see Figure 3 on page 6).

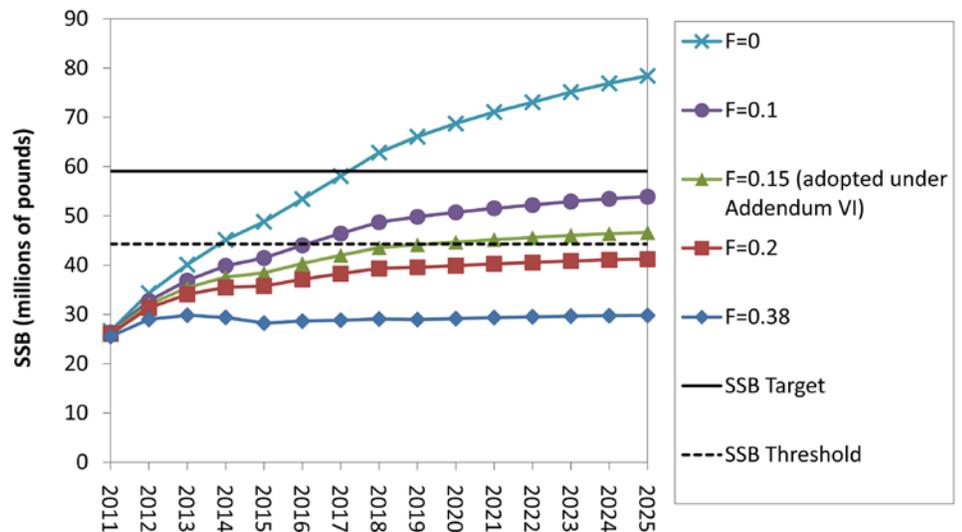
Atlantic Coastal Management

In March 1996, the Tautog Management Board approved the FMP to address increases in recreational and commercial fishing pressure on tautog stocks. The FMP's primary objective was to reduce fishing mortality. It also included a 14" minimum size limit. Under the F rate controlled management plan, states

must implement regulations to achieve the F_{TARGET} but can use a combination of measures (seasons, bag limits, quotas, etc.) as best meets their individual needs. The 1996 FMP established an $F_{TARGET} = 0.15$ but set an interim F rate of 0.24 for 1997 and 1998, allowing states to gradually reduce their fisheries. In 1997, the Board approved Addendum I to extend the deadline to achieve $F_{TARGET} = 0.15$ until April 1, 2000. Addendum II (November 1999) further extended implementation until April 1, 2002, and Addendum III (February 2002) changed the F_{TARGET} from 0.15 to 40%SSB ($= 0.30$).

The Board developed Addenda IV and V in response to the 2005 assessment and 2006 update results showing that stock biomass was flat and had not responded to management measures. The TC reviewed the updated stock assessment and recommended reducing the F_{TARGET} to 0.15 or lower to rebuild the stock. In response to the assessment, TC recommendations, and public input, the Board implemented Addenda IV and V, which reduced the F_{TARGET} to 0.20. All states implemented regulations to

Figure 3. Projections of Growth in Tautog Spawning Stock Biomass (SSB) Under Various Fishing Mortality Rates (Source: 2011 Tautog Stock Assessment Update)



achieve the $F = 0.20$ by January 2008.

Five years later, the 2011 assessment update found that the stock continues to be overfished, SSB remains flat, and management measures have been insufficient to rebuild the stock. In response, the Board approved Addendum VI which establishes a new $F_{TARGET} = 0.15$ and requires a 56% reduction in coastwide exploitation. States are required to implement measures

to achieve the F_{TARGET} by January 1, 2012. The Board will continue to closely monitor the status of the resource to determine whether the Addendum VI measures effectively reduce harvest to rebuild the stock. For more information, please contact Christopher Vonderweidt, FMP Coordinator, at cvonderweidt@asmfc.org.

