

Species Profile: Bluefish

2019 Stock Assessment Finds Resource Overfished; ASMFC & MAFMC to Address Rebuilding in Draft Amendment

Introduction

Bluefish are one of the most popular sport fish along the Atlantic coast. A highly mobile species, they are renowned for their predatory instinct, razor sharp teeth, and aggressive behavior. In the late 1970s, anglers petitioned the Mid-Atlantic Fishery Management Council (Council) to develop a Fishery Management Plan (FMP) for bluefish to address concerns over population declines. The Bluefish FMP, passed in 1989, was the first management plan developed jointly by an interstate commission and regional fishery management council.

Roughly a decade later, concern about the continued decline in bluefish abundance once again necessitated joint management action. By this time, a coastwide collaborative research group had begun studying the dynamics of the coastal bluefish population to aid in management. Amendment 1 (1998) marked the start of a long-term plan to restore bluefish through progressive harvest restrictions. In 2009, stock biomass exceeded its target level, and the stock was declared rebuilt a year earlier than planned.

Stock status has changed once again following the 2019 operational stock assessment, which revealed the stock is overfished. This change in stock status is largely due to the revised estimates of recreational effort from the Marine Recreational Information Program (MRIP). The Council and the Commission are working cooperatively to develop a plan that will rebuild the stock.

Life History

Bluefish are a migratory, pelagic species found throughout the world in most temperate coastal regions, except the eastern Pacific. Bluefish migrate seasonally, moving north in spring and summer as water temperatures rise and moving south in autumn and winter to the South Atlantic Bight. During the summer, concentrations of bluefish are found in waters from Maine to Cape Hatteras, North Carolina. During winter's colder months they tend to be found offshore between Cape Hatteras and Florida. Bluefish generally school by size, with schools covering up to tens of square miles.

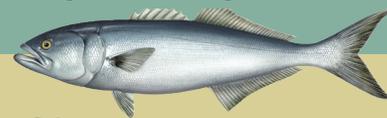
Bluefish are fast growers and opportunistic predators, feeding voraciously on almost any prey they can capture. Over 70 species of fish have been found in their stomach contents, including butterfish, mackerel, and lobster. Razor sharp teeth and a shearing jaw movement allow bluefish to ingest large parts, which increases the maximum prey size bluefish can catch. Bluefish live up to 12 years and may exceed 39 inches and 31 pounds.

Bluefish reach sexual maturity at age two and spawn offshore from Massachusetts through Florida. Discrete groups spawn at different times and are referred to by the season in which they spawn: the spring-spawned cohort and the summer-spawned cohort. (A cohort is defined as a group of fish spawned during a given period, usually within a year; also known as a year-class or age-class.) Recent research has also identified a fall-spawned cohort, demonstrating an expanded and prolonged spawning season. The cohorts mix extensively on the fishing grounds and probably comprise a single genetic stock.

Recreational & Commercial Fisheries

Bluefish are predominantly a recreational fishery, with recreational harvest accounting for approximately 87% of total removals in recent years. As

Species Snapshot



Bluefish

Pomatomus saltatrix

Management Unit

Maine to Florida

Common Names

Snapper, baby blues, choppers, elf, tailors

Interesting Facts

- Widely distributed around the world in tropical and subtropical waters
- Voracious predators, known to be cannibalistic
- Fish exhibit a feeding behavior known as the "bluefish blitz," where large schools of big fish attack bait fish near the surface, churning the water like a washing machine.
- As in all extremely active predators, the digestive enzymes in bluefish are powerful and their meat will spoil quickly, so they need to be cooked soon after capture.

Largest & Oldest Recorded

31 lbs., 12 oz.; 12 years old

Age/Length at Maturity

2 years/14.9-20.1"

Age/Length at Recruitment

1 year/9.3-11.1"

Stock Status

Overfished but not experiencing overfishing

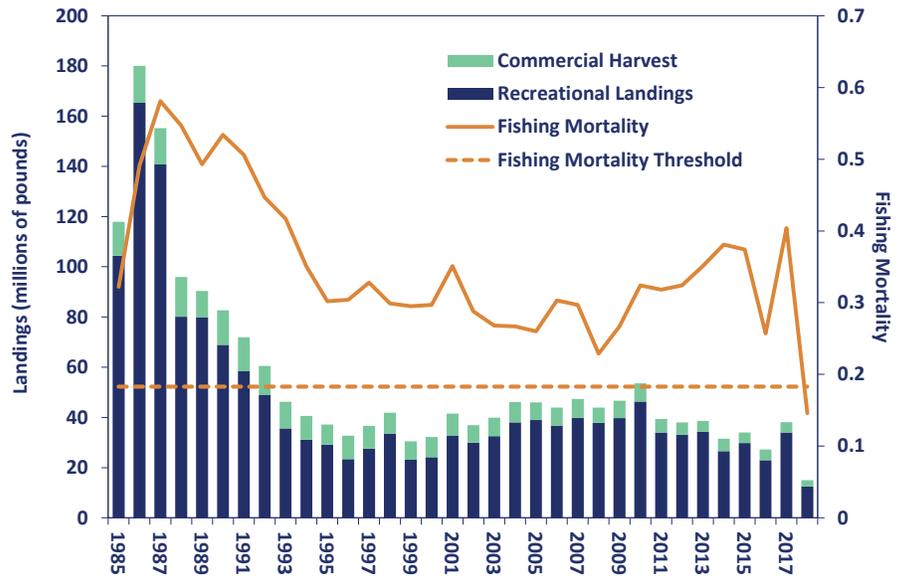


Photo (c) Toni Kerns

bluefish migrate seasonally up and down the Atlantic coast, anglers from Maine to Florida target these voracious predators near inlets, shoals, and rips, where they come to feed on large schools of bait. The species' aggressive feeding behavior and the fight it puts up on the line make it a very popular sportfish. Recreational harvest peaked at 165 million pounds in 1986, but quickly declined in the 80s and 90s to its current average annual recreational harvest of approximately 32 million pounds. In 2018, anglers harvested a time series low of approximately 13 million pounds, representing a 63% decrease by weight, and a 26% decrease in number of fish from 2017. The difference in percentages indicate that bluefish harvested in 2018 were considerably smaller than those harvested in 2017. Bluefish recreational discards have averaged approximately two-thirds of the total recreational catch in numbers of fish since 1999.

Bluefish Commercial and Recreational Landings

Source: Bluefish Operational Stock Assessment, 2019



Commercial fishermen target bluefish using a variety of gears including trawls, gillnets, haul seines, and pound nets. Commercial landings decreased from 16.5 million pounds in 1981 to 7.3 million pounds in 1999. Since a state-specific quota system was implemented in 2000, commercial landings have averaged around 6.3 million pounds annually. 2018 marked a commercial landings time series low of 2.44 million pounds. Qualitative reports indicate that this low commercial landings year was an availability issue. The majority of bluefish were landed in Massachusetts, Rhode Island, New York, North Carolina, and Florida in 2018.

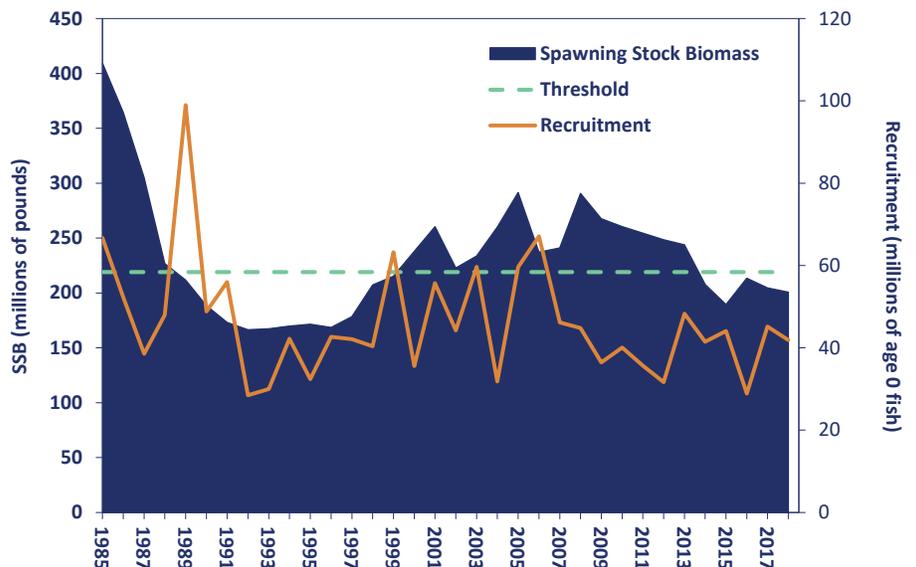
Status of the Stock

Based on the 2019 operational stock assessment and peer review conducted by the Northeast Regional Stock Assessment Workshop, bluefish are overfished, but did not experience overfishing in 2018 relative to the updated biological reference points defined in the assessment. The updated stock assessment incorporated data through 2018 and included revised estimates of recreational effort from MRIP. MRIP uses surveys to estimate how many fishing trips recreational anglers take every year and how many fish per trip they catch. In 2018, MRIP transitioned from a phone-based survey to a mail-based survey to estimate the number of angler trips. The new, improved survey showed the number of trips taken across the time series was much higher than had been previously estimated, and as a result, estimates of recreational catch were much higher for bluefish. This had a significant influence in scaling up recruitment estimates as well as projections for potential biomass. The biological reference points for spawning stock biomass (SSB) increased relative to the estimates of existing SSB, causing a switch from the not overfished status in the 2015 benchmark assessment to the overfished designation in the 2019 operational assessment.

SSB in 2018 was estimated to be 201 million pounds, which is 92% of the SSB threshold of 219 million pounds.

Bluefish Spawning Stock Biomass (SSB) and Recruitment

Source: Bluefish Operational Stock Assessment, 2019



million pounds. Fishing mortality (F) in 2018 was estimated to be 0.146, below the F threshold ($F_{MSY\ PROXY} = F35\% = 0.183$). Though the assessment indicated bluefish are not experiencing overfishing in 2018, the stock has experienced overfishing, relative to the updated reference points, in all prior years dating back to 1985. This fundamental shift in managers' understanding of the status of the fishery is largely due to the new estimates of recreational catch.

Atlantic Coastal Management

Bluefish is managed under Amendment 1 to the Interstate FMP for Bluefish and Addendum I. Amendment 1 allocates 83% of the resource to recreational fisheries and 17% to commercial fisheries. However, the commercial quota can be increased up to 10.5 million pounds if the recreational fishery is projected to not land its entire allocation for the upcoming year. The commercial fishery is controlled through state-by-state quotas based on historic landings from 1981-1989, while the recreational fishery is currently managed using a 15 fish bag limit. A coastwide biological sampling program to improve the quantity and quality of information used in future bluefish stock assessments was implemented in 2012 through Addendum I.

The Commission and Council approved an acceptable biological catch (ABC) limit of 16.28 million pounds for the 2020 fishing season, an approximate 25% decrease from 2019 levels, in response to the findings of the 2019 operational stock assessment. After accounting for discards, the ABC translates to a commercial quota of 2.77 million pounds and a recreational harvest limit of 9.48 million pounds. The Commission and Council will meet jointly in December to set coastwide recreational measures in an effort to restrict harvest to the limit.

In December 2017, the Board and Council initiated an amendment with the goal of reviewing and possibly revising the FMP goals and objectives, allocations between sectors and states, and the quota transfer process. The scoping and public information document was distributed and received public input the summer of 2018. However, the amendment development process was put on hold while the Board, Council, and stakeholders awaited the results of the 2019 operational stock assessment. Following the overfished designation, the Council's Fishery Management Action Team is in the process of incorporating a rebuilding plan into the amendment to restore the stock to its target level. Input from technical staff, the advisory panel, and the public will be relied upon to produce the draft amendment.

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