

**NOAA
FISHERIES**

Biennial Report to Congress on the Progress and Findings of Studies of Striped Bass Populations

2019

Cover Photo credit: Terry Seuss, United States Fish and Wildlife Service

Introduction

The 1997 reauthorization of the Atlantic Striped Bass Conservation Act mandated biennial reports to Congress and to the Atlantic States Marine Fisheries Commission (Commission) from the secretaries of the Department of Commerce and the Department of the Interior. The report highlights the progress and findings of studies of migratory and estuarine Atlantic striped bass (*Morone saxatilis*). This document is the 10th such report to Congress and includes catch and landings data available through 2018 with an emphasis on calendar years 2017 and 2018, and the most recent information available on stock status.

Status of the Stock

The coastwide Atlantic striped bass population includes four major components: the Hudson River, Delaware River/Bay, Chesapeake Bay, and Albemarle Sound-Roanoke River. The coastal migratory Atlantic stock includes primarily Hudson River, Delaware River/Bay, and Chesapeake Bay–origin fish, and is managed by the Commission. The Commission delegated management authority of the Albemarle Sound-Roanoke River stock to the State of North Carolina.

Atlantic Stock (Commission Managed)

The most recent benchmark stock assessment was peer-reviewed by an independent panel of scientific experts at the 66th Northeast Regional Stock Assessment Workshop/Stock Assessment Review Committee in November 2018, and was approved by the Striped Bass Management Board for management use in April 2019.

Results indicate the Atlantic striped bass stock is overfished, and overfishing is occurring (see Figures 1 and 2).

Total fishing mortality in 2017 was estimated at 0.31, which is above both the target (0.20) and threshold (0.24) fishing mortality reference points (see Figure 1).

In 2017, female spawning stock biomass was estimated at 151 million pounds (68,476 metric tons), which is below the spawning stock biomass



Recreational fishing (Mellisa Errend) for striped bass. Photo credit: Scott Steinback, NOAA Fisheries, Northeast Fisheries Science Center.

threshold of 202 million pounds (91,436 metric tons) and below the target of 252 million pounds (114,295 metric tons) (see Figure 2).

The spawning stock biomass has declined since a time-series high in 2003. The decrease in biomass is largely attributed to high fishing mortality coupled with a period of low recruitment during the mid-2000s (see Figure 3), and is also reflected in a declining trend of coast-wide catch from 2007 to 2017 (see Figure 4).

Definitions

Fishing mortality (F) – 1. Roughly the proportion of the fishable stock that is caught in a year. 2. A measurement of the rate of removal from a population by fishing.

Migratory – Individuals that leave the inshore rivers and estuaries and move into offshore habitats along the Atlantic Coast.

Overfished – A stock is overfished or depleted if the stock has reached critically low biomass or abundance.

Overfishing – A stock is experiencing overfishing if fishing is negatively affecting the stock through reduced growth and/or recruitment.

Spawning Stock Biomass (SSB) – The total weight of the fish in a stock that are large enough to spawn; the biomass of all fish beyond the age or size class in which 50 percent of the individuals are mature.

Resident – Individuals that remain in nearshore, river, and estuarine systems year-round and contribute minimally to the Atlantic complex.



Josh Newhard (USFWS) holding tagged striped bass caught during winter 2017 hook and line tagging trips. Photo credit: Josh Newhard, USFWS.

Figure 1. Atlantic Striped Bass Stock Fishing Mortality (F) Estimates from 1982 to 2017 from the Statistical Catch at Age Model and Biological Reference Points.

Source: Atlantic States Marine Fisheries Commission Atlantic Striped Bass Benchmark Stock Assessment, 2018

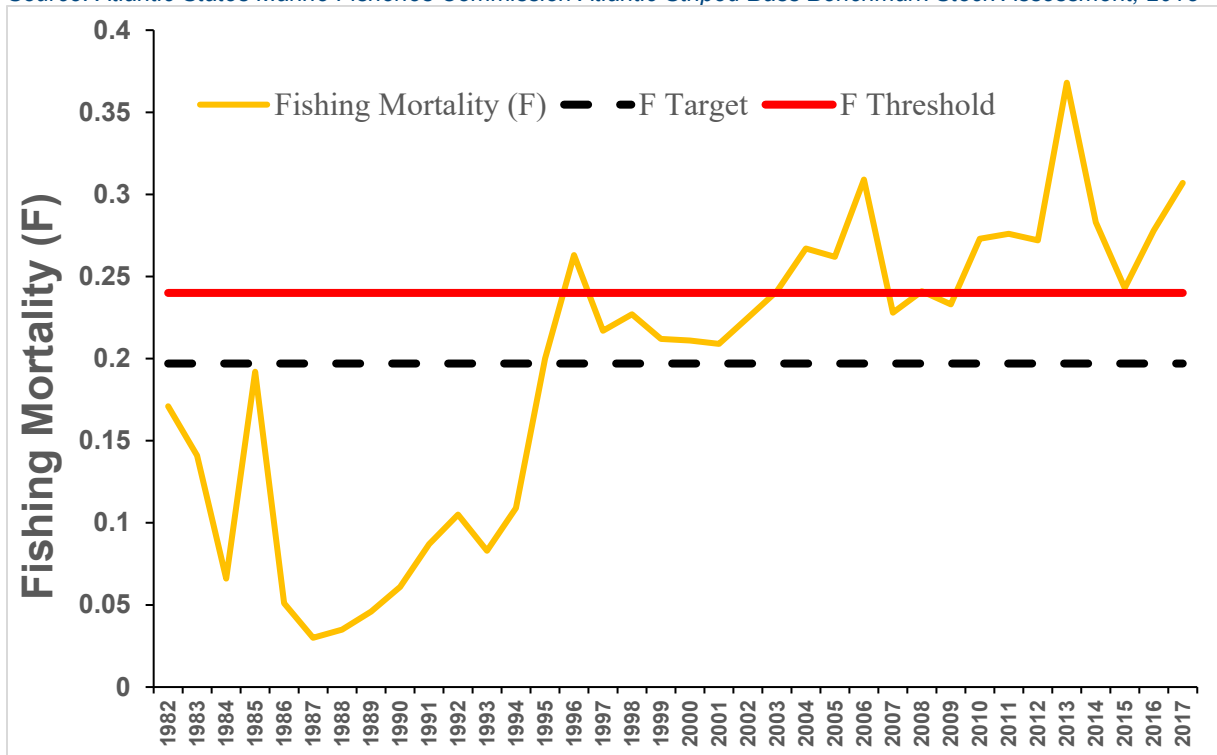


Figure 2. Atlantic Striped Bass Female Spawning Stock Biomass (SSB) Estimates from 1982 to 2017 from the Statistical Catch at Age) Model and Biological Reference Points.

Source: Atlantic States Maine Fisheries Commission Atlantic Striped Bass Benchmark Stock Assessment, 2018

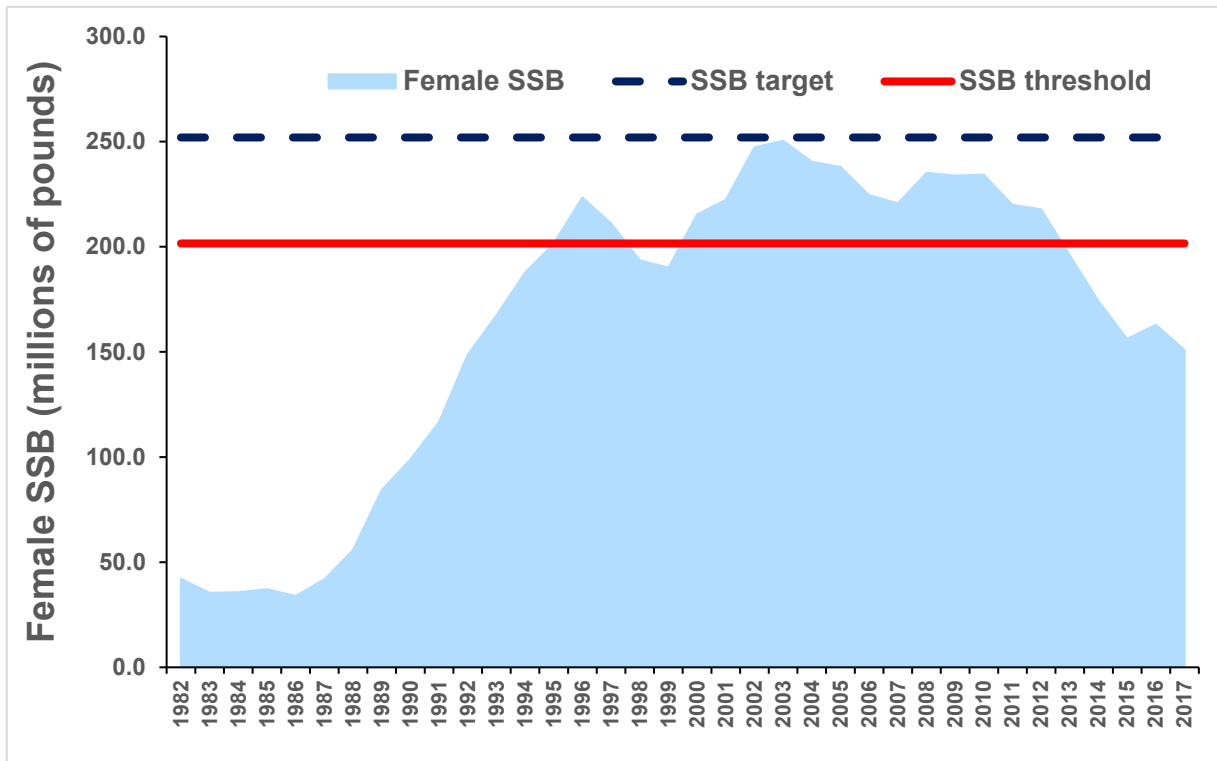


Figure 3. Atlantic Striped Bass Stock Recruitment (Abundance of Age-1 Fish) and Total Abundance Estimates from 1982 to 2017 from the Statistical Catch-At-Age Model.

Source: Atlantic States Marine Fisheries Commission Atlantic Striped Bass Benchmark Stock Assessment, 2018

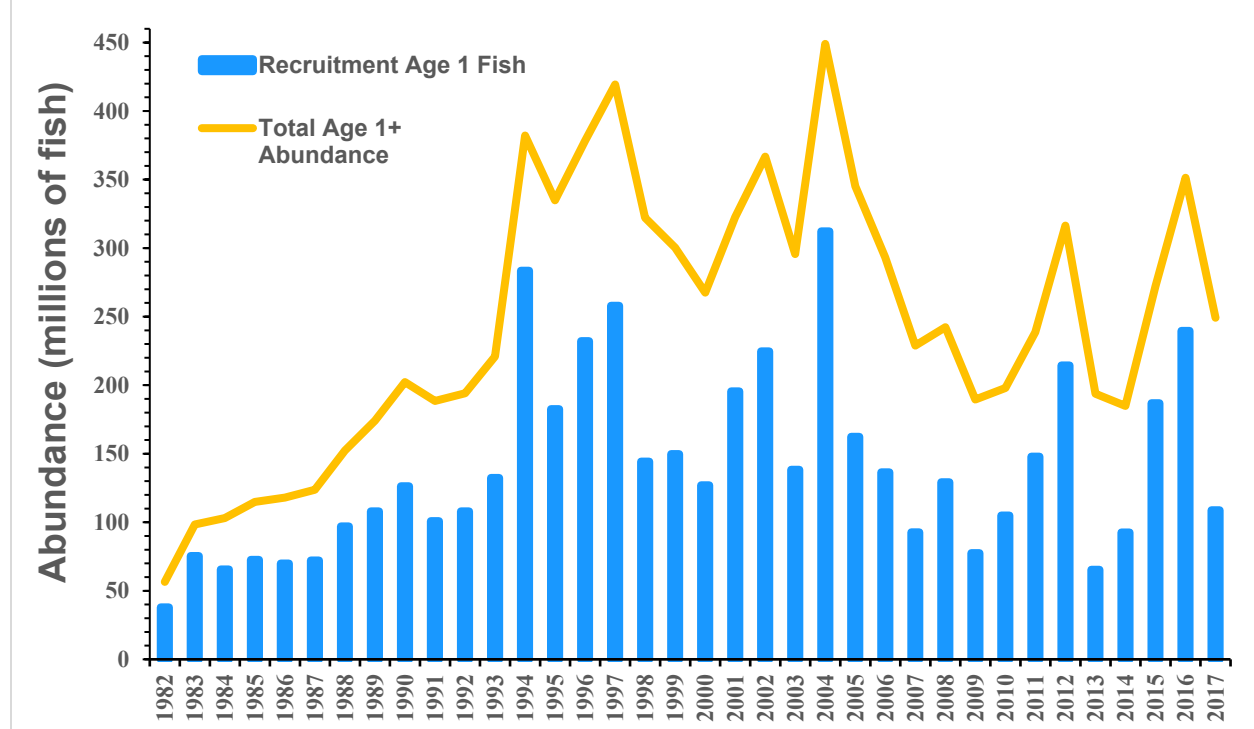
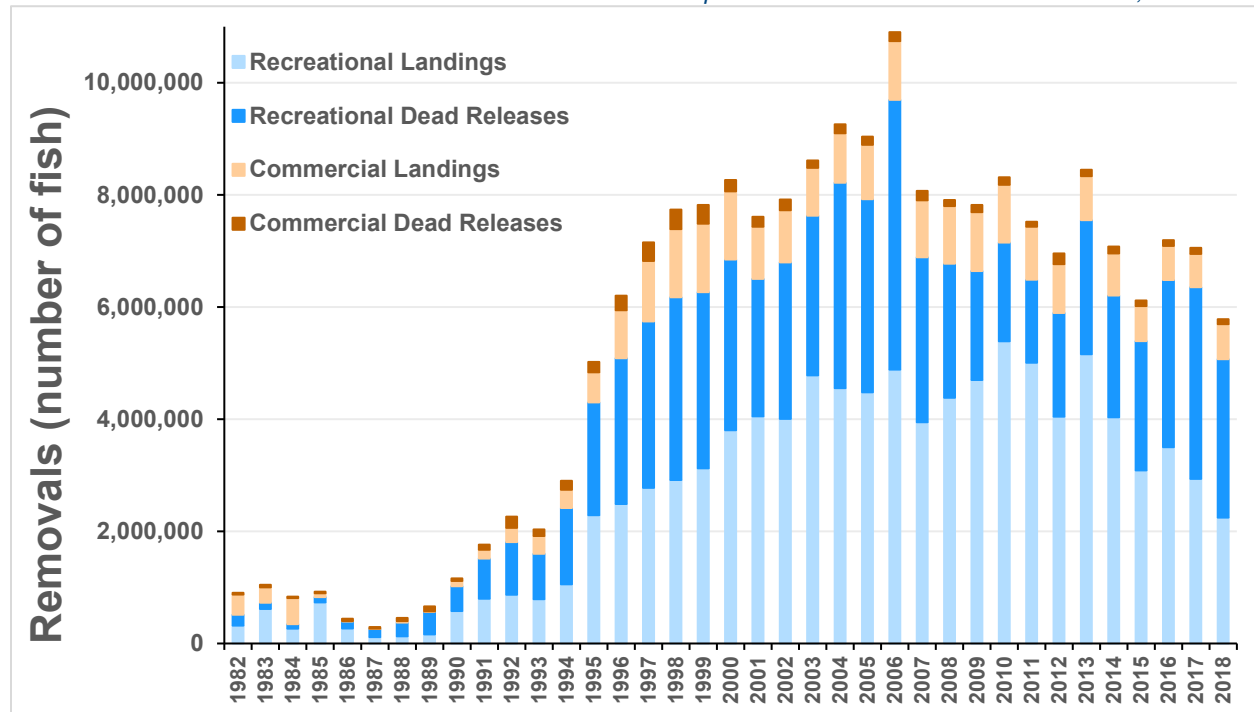


Figure 4. Commercial and Recreational Atlantic Striped Bass Stock Removals.

Source: Atlantic States Marine Fisheries Commission Atlantic Striped Bass Benchmark Stock Assessment, 2018



Albemarle Sound and Roanoke River Stock (North Carolina Managed)

The 2020 North Carolina state-specific benchmark stock assessment for the Albemarle Sound-Roanoke River stock was completed in August 2020. Based on results of the 2020 benchmark stock assessment, the Albemarle Sound-Roanoke River striped bass stock is overfished and overfishing is occurring.

The Albemarle Sound-Roanoke River female spawning stock biomass has declined since 2004 (see Figure 5), which is also reflected in a declining trend of catch from 2004 to 2017 (see Figure 6).

Female spawning stock biomass in 2017 was estimated at 78,576 pounds (36 metric tons), which is below the spawning stock biomass threshold of 267,390 pounds (121 metric tons) and below the target of 350,371 pounds (159 metric tons). These spawning stock biomass reference points are specific to the Albemarle Sound-Roanoke River stock (see Figure 5).

In 2017, fishing mortality for the Albemarle Sound-Roanoke River stock was estimated at 0.27, which is above the target of 0.13 and above the threshold of 0.18. These fishing mortality reference points are also specific to the Albemarle Sound-Roanoke River stock (see Figure 7).

Figure 5. Albemarle-Roanoke Striped Bass Female Spawning Stock Biomass (SSB) and Recruitment (Abundance of Age-1 Fish) Estimates from 1991 to 2017 and Biological Reference Points.

Source: Albemarle Sound-Roanoke River Striped Bass Benchmark Stock Assessment, 2020

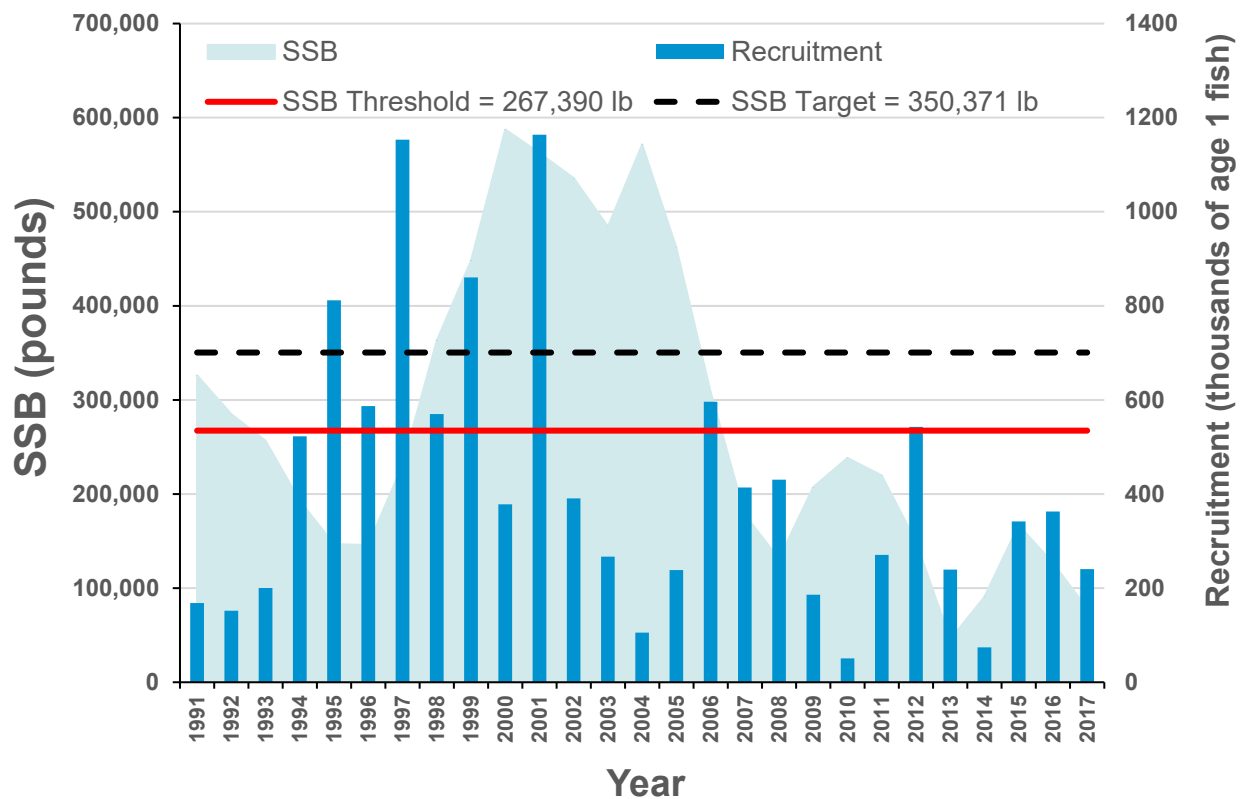


Figure 6. Commercial and Recreational Albemarle-Roanoke Striped Bass Stock Removals.

Source: Albemarle Sound-Roanoke River Striped Bass Benchmark Stock Assessment, 2020 ¹

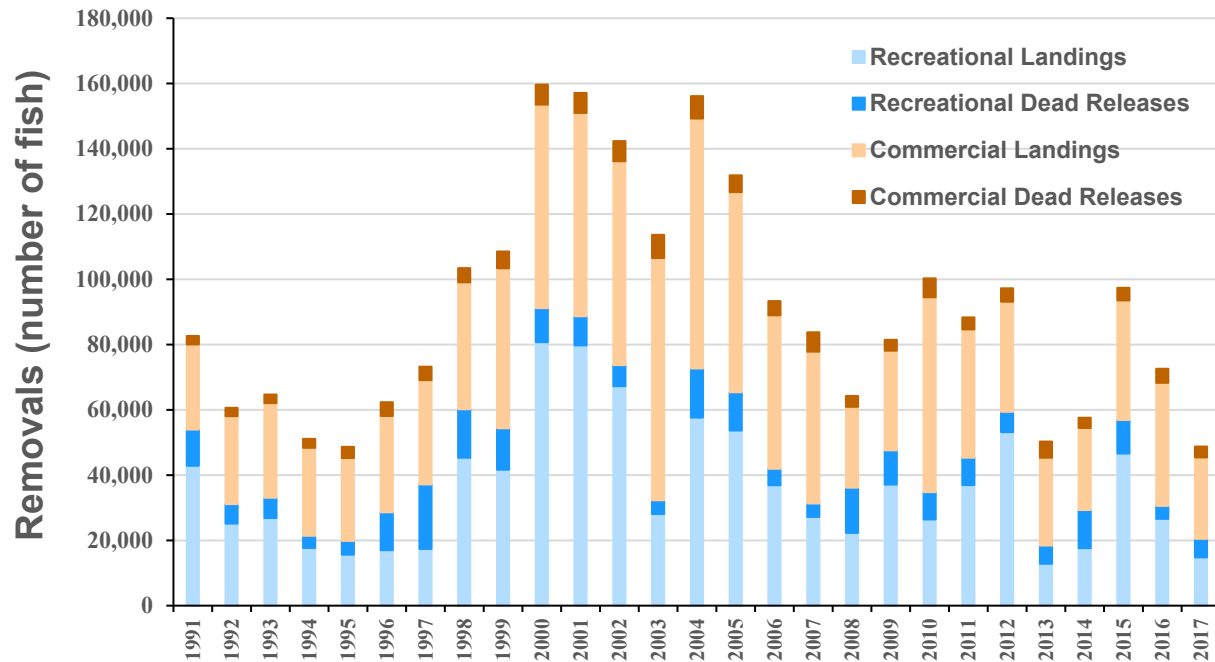
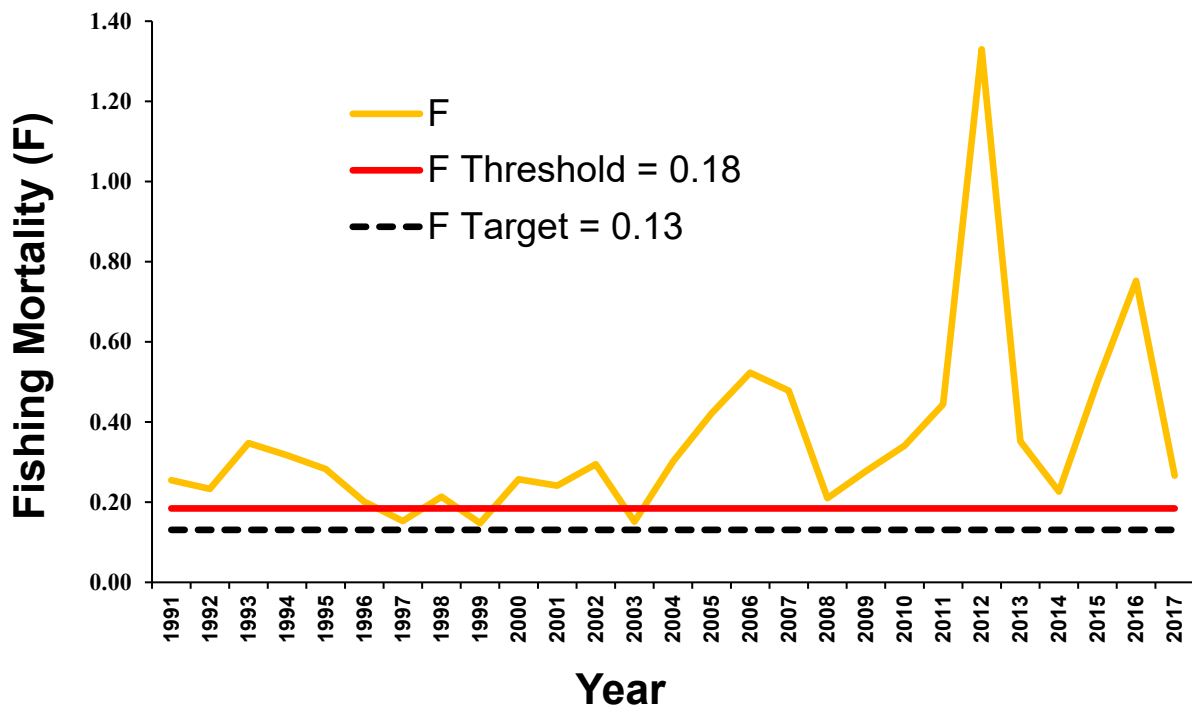


Figure 7. Albemarle-Roanoke Striped Bass Fishing Mortality (F) Estimates from 1991 to 2017 and Biological Reference Points.

Source: Albemarle Sound-Roanoke River Striped Bass Benchmark Stock Assessment, 2020



¹ The 2020 North Carolina state-specific benchmark stock assessment for the Albemarle Sound-Roanoke River stock used the recreational catch data collected from the North Carolina creel survey, which started in 1991.

Status of the Fishery

Atlantic Stock (Commission Managed)

Total commercial removals (landings and dead releases) were 0.70 million fish in 2017 and 0.71 million fish in 2018 (see Figure 4). The commercial landings for 2017 were 4.80 million pounds (2,179 metric tons) and 4.71 million pounds (2,139 metric tons) for 2018.

The coast-wide striped bass commercial landings by state for 2017 and 2018 are listed in Figure 7.

The commercial landings for 2017 had a landed value of \$23.39 million, and a landed value of \$19.24 million for 2018.²

Total recreational removals (landings and dead releases) in 2017 were 6.35 million fish and 5.07 million fish in 2018 (see Figure 4). Note: these numbers are derived from the revised Marine Recreational Information Program estimates and have increased relative to previous reports.

For all recreationally targeted species on the Atlantic Coast, Atlantic striped bass were the largest landings by weight for 2017 at 37.90 million pounds (17,190 metric tons) and for 2018 at 23.07 million pounds (10,464 metric tons).

Total Atlantic striped bass removals (commercial and recreational catch and dead releases) in 2017 are estimated at 7.06 million fish and in 2018, 5.78 million fish (see Figure 4).

Albemarle Sound and Roanoke River Stock (North Carolina Managed)

In 2017, commercial harvest in the Albemarle Sound Management Area was estimated at 75,991 pounds (17,659 fish) and the combined recreational harvest in the Albemarle Sound and Roanoke River Management Areas was estimated at 48,049 pounds (14,114 fish).

In 2018, commercial harvest in the Albemarle Sound Management Area was estimated at 116,141 pounds (27,783 fish) and the combined recreational harvest in the Albemarle Sound and Roanoke River Management Areas was estimated at 38,560 pounds (12,207 fish).

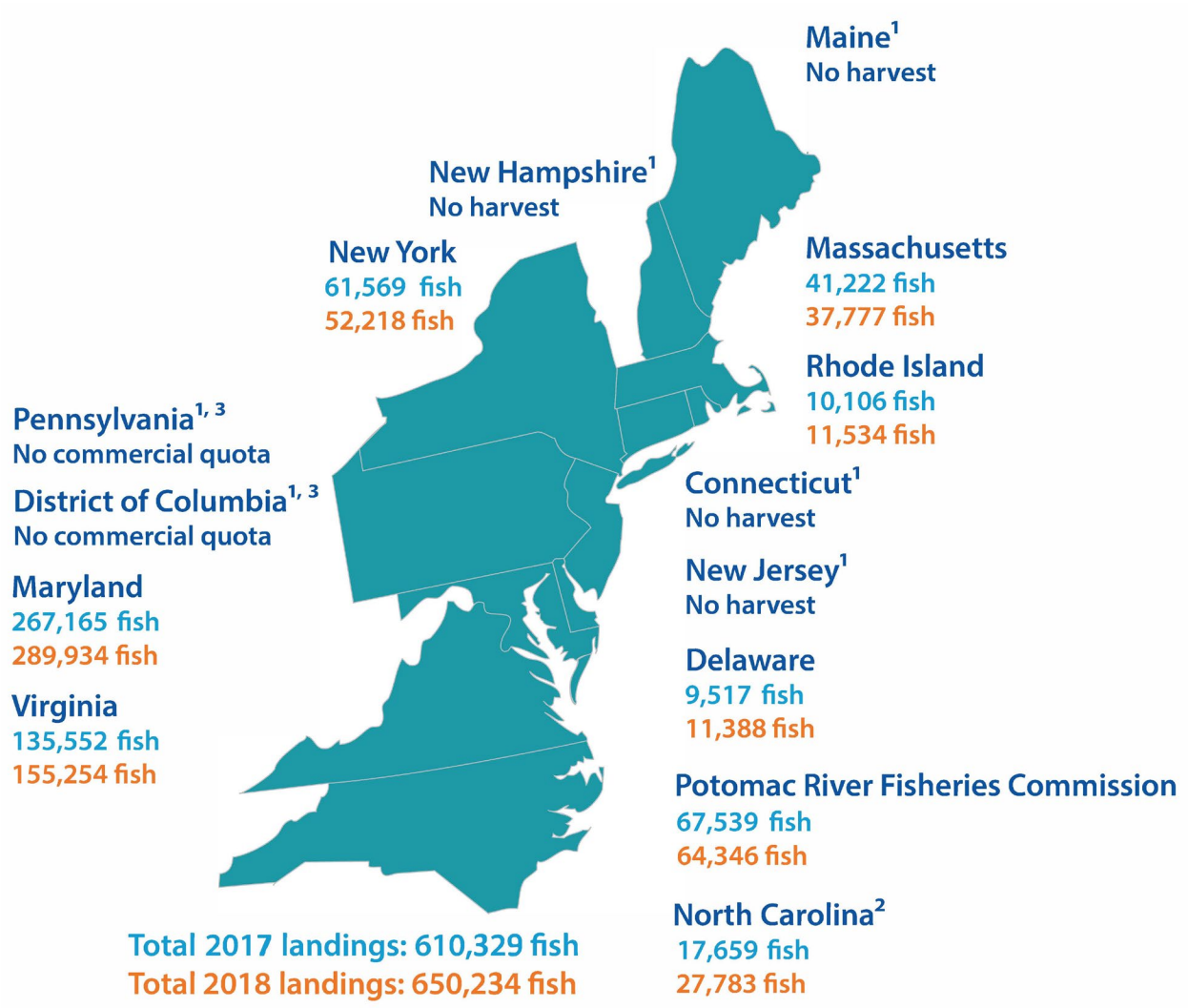


Recreational fishing on the Roanoke River (Kaden Blake and Will Grimes). Photo credit: Mitchell Blake.

² Based on the 2018 Fisheries of the United States Report.

Figure 7. Coast-Wide Striped Bass Commercial Landings – 2017 (numbers in blue) and 2018 (numbers in orange) (Landings do not include dead releases).

Sources: 2017 and 2018 Atlantic States Marine Fisheries Commission State Compliance Reports for Atlantic Striped Bass



¹ Commercial fishing for striped bass within these jurisdictions is prohibited.

² Includes only landings from within Albemarle Sound/Roanoke River.

³ Pennsylvania and the District of Columbia do not have a striped bass commercial quota.

Status of Monitoring

Implementation of fishery-dependent monitoring programs for striped bass continued for all jurisdictions with commercial fisheries or substantial recreational fisheries. These programs define the catch and effort composition of these fisheries.

All states and jurisdictions with a commercial fishery continued to implement commercial fish market tagging programs to stem the illegal harvest of striped bass.

The Commission Fishery Management Plan requires certain states to monitor the striped bass population independent of the fisheries.

Additional Resources

Atlantic States Marine Fisheries Commission – Atlantic Striped Bass webpage

www.asmfc.org/species/atlantic-stripped-bass

Atlantic States Marine Fisheries Commission – Striped Bass compliance reports

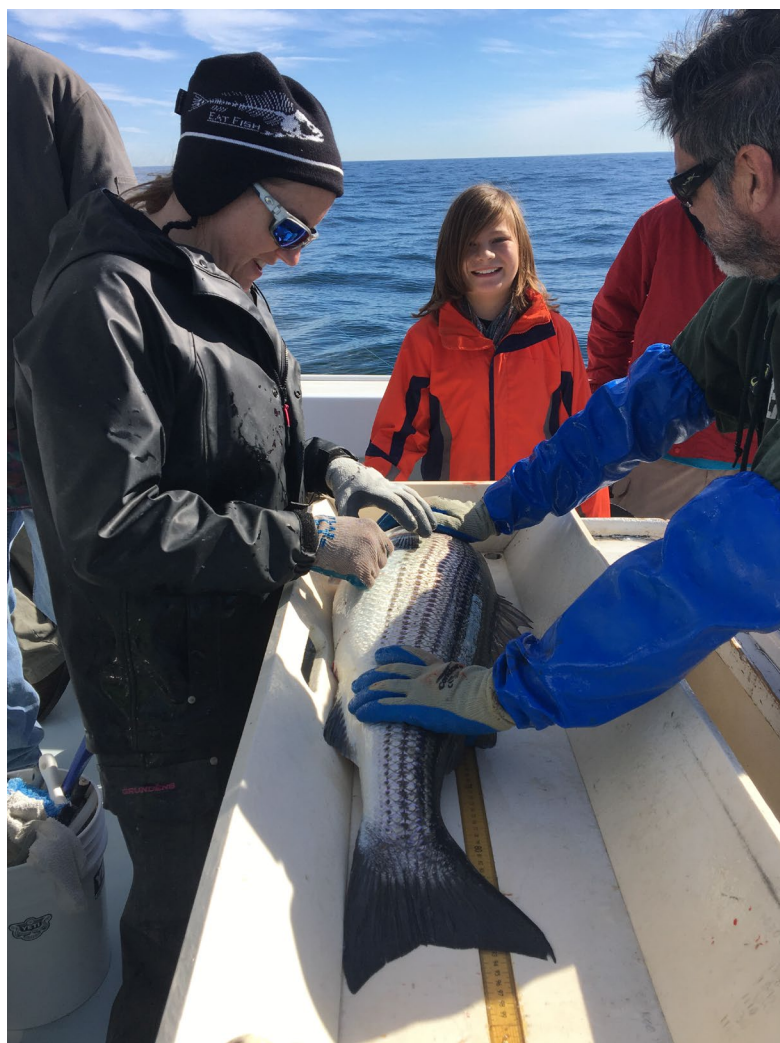
Available at www.asmfc.org or upon request from Commission staff.

FishWatch – Atlantic Striped Bass profile

www.fishwatch.gov/profiles/atlantic-stripped-bass

Marine Recreational Information Program (MRIP)

www.st.nmfs.noaa.gov/recreational-fisheries



Measuring and tagging a striped bass caught off VA 2020. Photo credit: Beth Versak, Maryland Department of Natural Resources.

Juvenile abundance indices are required from Maine (Kennebec River), New York (Hudson River), New Jersey (Delaware River), Maryland (Chesapeake Bay tributaries), Virginia (Chesapeake Bay tributaries), and North Carolina (Albemarle Sound).

The Commission's Striped Bass Technical Committee annually reviews the juvenile abundance indices for recruitment failure.

Spawning stock sampling is mandatory for New York (Hudson River), Pennsylvania (Delaware River), Delaware (Delaware River), Maryland (Upper Chesapeake Bay and Potomac River), Virginia (Rappahannock River and James River), and North Carolina (Roanoke River and Albemarle Sound).

NOAA's National Marine Fisheries Service (NOAA Fisheries), the U.S. Fish and Wildlife Service, Massachusetts, New York, New Jersey,

Maryland, Virginia, and North Carolina will continue their fishery-independent tag and release programs, which provide data used to determine survivorship and migration patterns.

In 2018, NOAA Fisheries' Marine Recreational Information Program implemented a more accurate and efficient way of estimating recreational saltwater fishing activity of shore and private boat anglers on the Atlantic and Gulf coasts and in Hawaii. The new Fishing Effort Survey (FES) improves the data used to manage fish stocks, including striped bass. In addition, data sets from the FES and the Access Point Angler Intercept Survey (the shoreside survey that collects catch information directly from saltwater anglers from Maine to Mississippi and in Hawaii) were calibrated and historical data updated based on those calibrations. Striped bass was one of the first stocks to use the revised data and estimates for its benchmark assessment in 2018.

Striped bass compliance reports are submitted annually and are reviewed by the Commission's Plan Review Team. Compliance reporting requirements are detailed in Amendment 6 and its Addenda I-IV. No compliance issues have been identified at this time.

Stock assessments are typically updated biennially by adding the most recent catch and survey information to the existing time series and running the Statistical Catch-at-Age model. Benchmark stock assessments are conducted roughly every 5 years and explore new analytical advances to model stock dynamics and status.

Management Changes and Actions

The 2018 benchmark stock assessment, which used updated recreational catch estimates, changed the determination of stock status. The benchmark assessment found the stock to be overfished since 2013 and experiencing overfishing. As a result, the Management Board approved Addendum VI to end overfishing and initiate stock rebuilding.

Addendum VI reduces all state commercial quotas by 18 percent, and implements a 1-fish bag limit and a 28- to less than 35-inch recreational slot limit for ocean fisheries and a 1-fish bag limit and an 18-inch minimum size limit for Chesapeake Bay recreational fisheries. Additionally, since catch and release practices contribute significantly to overall fishing mortality, the Addendum mandates the use of circle hooks when fishing with bait to reduce release mortality in recreational striped bass fisheries. Outreach and education will be a necessary element to garner support and compliance with this important conservation measure. States must implement mandatory circle hook requirements by January 1, 2021. All other provisions of Addendum VI were implemented by April 1, 2020.

Status of Research

Literature was surveyed in the 2017–2018 period for relevant new information on Atlantic striped bass and citations for those studies are provided below, categorized by topic.

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Habitat Use and Distribution

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Appendix

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