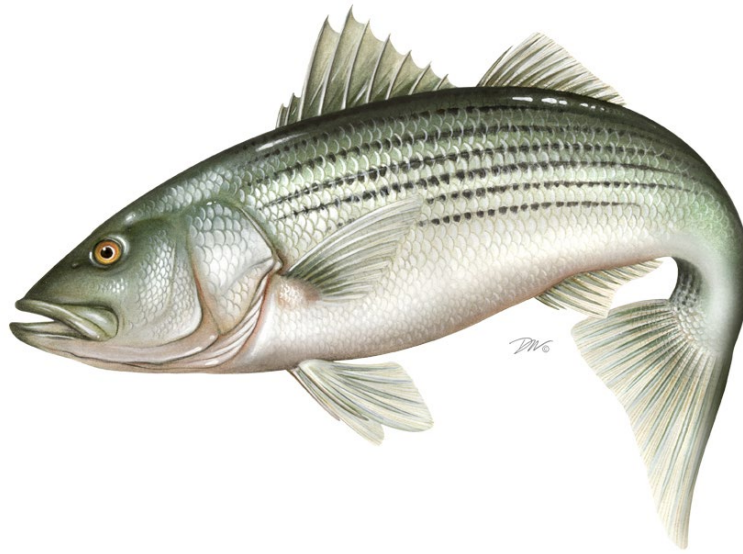


**ATLANTIC STATES MARINE FISHERIES COMMISSION**

**REVIEW OF THE INTERSTATE FISHERY MANAGEMENT PLAN**

**FOR ATLANTIC STRIPED BASS**  
*(Morone saxatilis)*

**2022 FISHING YEAR**



Prepared by the Striped Bass Plan Review Team

Approved August 2023

Updated July 2024 (MD and RI commercial harvest data)



*Sustainable and Cooperative Management of Atlantic Coastal Fisheries*

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## I. Status of the Fishery Management Plan

<u>Date of FMP Approval:</u>	Original FMP – 1981
<u>Amendments:</u>	Amendment 1 – 1984 Amendment 2 – 1984 Amendment 3 – 1985 Amendment 4 – 1989; Addendum I – 1991, Addendum II – 1992, Addendum III – 1993, Addendum IV – 1994 Amendment 5 – 1995; Addendum I – 1997, Addendum II – 1997, Addendum III – 1998, Addendum IV – 1999, Addendum V – 2000 Amendment 6 – 2003; Addendum I – 2007, Addendum II – 2010, Addendum III – 2012, Addendum IV – 2014, Addendum VI -2019 Amendment 7 – 2022; Addendum I – 2023
<u>Management Unit:</u>	Migratory stocks of Atlantic striped bass from Maine through North Carolina
<u>States With Declared Interest:</u>	Maine - North Carolina, including Pennsylvania
<u>Additional Jurisdictions:</u>	District of Columbia, Potomac River Fisheries Commission, National Marine Fisheries Service, United States Fish and Wildlife Service
<u>Active Boards/Committees:</u>	Atlantic Striped Bass Management Board, Advisory Panel, Technical Committee, Stock Assessment Subcommittee, Tagging Subcommittee, Plan Review Team, and Plan Development Team

### Original FMP and Amendments 1-5

The Atlantic States Marine Fisheries Commission (Commission) developed a Fisheries Management Plan (FMP) for Atlantic Striped Bass in 1981 in response to poor juvenile recruitment and declining landings. The FMP recommended increased restrictions on commercial and recreational fisheries, such as minimum size limits and harvest closures on spawning grounds. Two amendments were passed in 1984 recommending additional management measures to reduce fishing mortality. To strengthen the management response and improve compliance and enforcement, the Atlantic Striped Bass Conservation Act (P.L. 98-613) was passed in late 1984. The Striped Bass Act<sup>1</sup> mandated the implementation of striped bass regulations passed by the Commission and gave the Commission authority to recommend to the Secretaries of Commerce and Interior that states be found out of compliance when they failed to implement management measures consistent with the FMP.

The first enforceable plan under the Striped Bass Act, Amendment 3, was approved in 1985, and required size regulations to protect the 1982 year class – the first modest size cohort since the

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<sup>1</sup> The 1997 reauthorization of the Striped Bass Act also required the Secretaries of Commerce and Interior provide a biennial report to Congress highlighting the progress and findings of studies of migratory and estuarine Striped Bass. The ninth such report was recently provided to Congress (Shepherd et al. 2017).

previous decade. The objective was to increase size limits to allow at least 95% of the females in the 1982 year class to spawn at least once. Smaller size limits were permitted in producer areas than along the coast. Several states, beginning with Maryland in 1985, opted for a more conservative approach and imposed a total moratorium on striped bass landings for several years. The amendment contained a trigger mechanism to relax regulations when the 3-year moving average of the Maryland juvenile abundance index (JAI) exceeded an arithmetic mean of 8.0 – which was attained with the recruitment of the 1989 year class. Also, in 1985, the Commission determined the Albemarle Sound-Roanoke River (A-R) stock in North Carolina contributed minimally to the coastal migratory population, and was therefore allowed to operate under an alternative management program.

Amendment 4, implemented in 1989, aimed to rebuild the resource rather than maximize yield. The amendment allowed state fisheries to reopen under a target fishing mortality (F) of 0.25, which was half the estimated F needed to achieve maximum sustainable yield (MSY). The amendment allowed an increase in the target F once spawning stock biomass (SSB) was restored to levels estimated during the late 1960s and early 1970s. The dual size limit concept was maintained (coastal versus producer areas), and a recreational trip limit and commercial season was implemented to reduce the harvest to 20% of that in the historic period of 1972-1979. A series of four addenda were implemented from 1990-1994 to maintain protection of the 1982 year class.

In 1990, to provide additional protection to striped bass and ensure the effectiveness of state regulations, NOAA Fisheries passed a final rule (55 Federal Register 40181-02) prohibiting possession, fishing (catch and release fishing), harvest, and retention of Atlantic striped bass in the Exclusive Economic Zone (EEZ), with the exception of a defined transit zone within Block Island Sound. Atlantic striped bass may be transported through this defined area provided that the vessel is not used to fish while in the EEZ and the vessel remains in continuous transit, and that the fish were legally caught in adjoining state waters.

In 1995, the Atlantic striped bass migratory stock was declared recovered by the Commission (the A-R stock was declared recovered in 1997) and Amendment 5 was adopted to increase the target F to 0.33, midway between the existing F target (0.25) and  $F_{MSY}$ . Target F was allowed to increase again to 0.40 after two years of implementation. Regulations were developed to achieve the target F (which included measures to restore commercial harvest to 70% of the average landings during the 1972-1979 historical period) and states were allowed to submit proposals to implement alternative regulations that were deemed conservationally equivalent to the Amendment 5 measures. From 1997-2000, a series of five addenda were implemented to respond to the latest stock status information and adjust the regulatory program to achieve each change in target F.

#### Amendment 6

In 2003, Amendment 6 was adopted to address five limitations within the existing management program: 1) potential inability to prevent the Amendment 5 exploitation target from being exceeded; 2) perceived decrease in availability or abundance of large striped bass in the coastal migratory population; 3) a lack of management direction with respect to target and threshold biomass levels; 4) inequitable effects of regulations on the recreational and commercial fisheries, and coastal and

producer area sectors; and 5) excessively frequent changes to the management program. Accordingly, Amendment 6 completely replaced the existing FMP for Atlantic striped bass.<sup>2</sup>

The goal of Amendment 6 is “to perpetuate, through cooperative interstate management, migratory stocks of striped bass; to allow commercial and recreational fisheries consistent with the long-term maintenance of a broad age structure, a self-sustaining spawning stock; and also to provide for the restoration and maintenance of their essential habitat.” In support of this goal, the following objectives are included:

1. Manage striped bass fisheries under a control rule designed to maintain stock size at or above the target female spawning stock biomass level and a level of fishing mortality at or below the target exploitation rate.
2. Manage fishing mortality to maintain an age structure that provides adequate spawning potential to sustain long-term abundance of striped bass populations.
3. Provide a management plan that strives, to the extent practical, to maintain coastwide consistency of implemented measures, while allowing the States defined flexibility to implement alternative strategies that accomplish the objectives of the FMP.
4. Foster quality and economically viable recreational, for-hire, and commercial fisheries.
5. Maximize cost effectiveness of current information gathering and prioritize state obligations in order to minimize costs of monitoring and management.
6. Adopt a long-term management regime that minimizes or eliminates the need to make annual changes or modifications to management measures.
7. Establish a fishing mortality target that will result in a net increase in the abundance (pounds) of age 15 and older striped bass in the population, relative to the 2000 estimate.

Amendment 6 modified the F target and threshold, and introduced a new set of biological reference points (BRPs) based on female SSB, as well as a list of management triggers based on the BRPs. The coastal commercial quotas were restored to 100% of the states’ average landings during the 1972-1979 historical period, except for Delaware’s coastal commercial quota which remained at the level allocated in 2002<sup>3</sup>. In the recreational fisheries, all states were required to implement a two-fish bag limit with a minimum size limit of 28 inches, except for the Chesapeake Bay fisheries, North Carolina fisheries that operate in the A-R, and states with approved alternative regulations. The Chesapeake Bay and A-R regulatory programs were predicated on a more conservative F target than the coastal migratory stock, which allowed these states/jurisdictions (hereafter states) to implement separate seasons, harvest caps, and size and bag limits as long as they remain under that F target. No minimum

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<sup>2</sup> While NOAA Fisheries continues to implement a complete ban on the fishing and harvest of striped bass in the EEZ, Amendment 6 includes a recommendation to consider reopening the EEZ to striped bass fisheries. In September 2006, NOAA Fisheries concluded that it would be imprudent to open the EEZ to striped bass fishing because it could not be certain that opening the EEZ would not lead to increased effort and an overfishing scenario.

<sup>3</sup> The decision to hold Delaware’s commercial quota at the 2002 level is based on tagging information that indicated F on the Delaware River/Bay stock is too high, and uncertainty regarding the status of the spawning stock for the Delaware River/Bay.

size limit can be less than 18 inches under Amendment 6. The same minimum size standards regulate the commercial fisheries as the recreational fisheries, except for a minimum 20 inch size limit in the Delaware Bay spring American shad gillnet fishery.

States are permitted the flexibility to deviate from these regulations by submitting conservation equivalency proposals to the Plan Review Team (PRT). All proposals are subject to technical review and approval by the Atlantic Striped Bass Management (Board). It is the responsibility of the state to demonstrate through quantitative analysis that the proposed management program is equivalent to the standards in the FMP, or will not contribute to the overfishing of the resource.

Five addenda to Amendment 6 have been implemented. Addendum I, approved in 2007, established a bycatch monitoring and research program to increase the accuracy of data on striped bass discards and recommended development of a web-based angler education program. Also in 2007, President George W. Bush issued an Executive Order (E.O. 13449) prohibiting the sale of striped bass (and red drum) caught within the EEZ. Addendum II was approved in 2010 and established a new definition of recruitment failure such that each index would have a fixed threshold rather than a threshold that changes annually with the addition of each year's data. Addendum III was approved in 2012 and requires all states with a commercial fishery for striped bass to implement a uniform commercial harvest tagging program. The Addendum was initiated in response to significant poaching events in the Chesapeake Bay and aims to limit illegal harvest of striped bass.

Addendum IV was triggered in response to the 2013 benchmark assessment, which indicated a steady decline in SSB since the mid-2000s. The Addendum established new F reference points, and changed commercial and recreational measures to reduce F to a level at or below the new target. Chesapeake Bay fisheries were required to implement lower reductions than coastal states (20.5% compared to 25%) since their fisheries were reduced by 14% in 2013 based on their management program. The addendum maintained the flexibility to implement alternative regulations through the conservation equivalency process. This practice has resulted in a variety of regulations among states. All states promulgated regulations prior to the start of their 2015 seasons.

Addendum VI was initiated in response to the 2018 benchmark assessment which indicated the stock is overfished and experiencing overfishing<sup>4</sup>. Approved in October 2019, the Addendum aimed to reduce total removals by 18% relative to 2017 levels in order to achieve F target in 2020. Specifically, the Addendum reduced all state commercial quotas by 18%, and implemented a 1 fish bag limit and a 28" to less than 35" slot limit for ocean fisheries and a 1 fish bag limit and an 18" minimum size limit in Chesapeake Bay to reduce total recreational removals by 18% in both regions. The Addendum's

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<sup>4</sup> In February 2017, the Board initiated development of Draft Addendum V to consider liberalizing coastwide commercial and recreational regulations. The Board's action responded to concerns raised by Chesapeake Bay jurisdictions regarding continued economic hardship endured by its stakeholders since the implementation of Addendum IV and information from the 2016 stock assessment update indicating that F was below target in 2015, and that total removals could increase by 10% to achieve the target F. However, the Board chose to not advance the draft addendum for public comment largely due to harvest estimates having increased in 2016 without changing regulations. Instead, the Board decided to wait until it reviews the results of the 2018 benchmark stock assessment before considering making changes to the management program.

measures were designed to apply the needed reductions proportionally to both the commercial and recreational sectors, although states were permitted to submit alternative regulations through conservation equivalency that achieve an 18% reduction in total removals statewide. The Board reviewed and approved management options for 2020 on a state-by-state basis in February, and all states promulgated regulations by April 1.

Addendum VI also required the mandatory use of circle hooks when fishing with bait to reduce release mortality in recreational striped bass fisheries. States are encouraged to promote the use of circle hooks through various public outreach and education platforms to garner support and compliance with this important conservation measure. In October 2020, the Board approved state implementation plans for circle hook requirements, with the caveat that no exemptions to Addendum VI mandatory circle hook requirements will be permitted. Circle hook regulations were required to be implemented no later than January 1, 2021. In March 2021, the Board approved a clarification on the definition of bait and methods of fishing<sup>5</sup> that require circle hooks, which must be implemented by states as part of Addendum VI compliance. Per Commission standards, states could implement more restrictive measures. The Board also approved guidance on how to address incidental catch of striped bass when targeting other species with non-circle hooks with bait attached. This guidance was not a compliance criterion since incidental catch was not originally part of Addendum VI.

#### Amendment 7

Amendment 7 was approved in May 2022, and consolidates Amendment 6 and its associated addenda into a single document. The purpose of Amendment 7 is to update the management program to align with current fishery needs and priorities given the status and understanding of the resource and fishery has changed considerably since implementation of Amendment 6 in 2003. Amendment 7 builds upon the Addendum VI to Amendment 6 action to address overfishing and initiate rebuilding in response to the overfished finding from the 2018 stock assessment, requiring the Board to rebuild the stock by 2029. Amendment 7 established new requirements for the following components of the FMP: management triggers, conservation equivalency, additional measures to address recreational release mortality, and the stock rebuilding plan.

For management triggers, Amendment 7 established an updated recruitment management trigger that is more sensitive to low recruitment than the previous trigger, and it required a specific management response to low year class strength. The response requires re-evaluation of the fishing mortality management triggers to account for low recruitment. If one of those triggers trips after reevaluation, the Board is required to take action to reduce fishing mortality. Amendment 7 also updated the spawning stock biomass triggers by establishing a deadline for implementing a rebuilding plan. The Board must implement a rebuilding plan within two years of when a spawning stock biomass trigger is tripped.

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<sup>5</sup> Definition of Bait and Methods of Fishing: Circle hooks are required when fishing for striped bass with bait, which is defined as any marine or aquatic organism live or dead, whole or parts thereof. This shall not apply to any artificial lure with bait attached.

For conservation equivalency (CE), Amendment 7 does not allow CE to be used for most recreational striped bass fisheries when the stock is overfished. Amendment 7 also provided constraints around the use of Marine Recreational Information Program data for CE proposals and defines the overall percent reduction/liberalization a proposal must achieve, including required uncertainty buffers. These restrictions are intended to minimize the risks due to uncertainty when CE is used for non-quota managed striped bass fisheries.

For recreational release mortality, Amendment 7 established a new gear restriction which prohibits gaffing striped bass when fishing recreationally. This is in addition to the existing circle hook requirement when fishing recreationally with bait. Additionally, Amendment 7 required striped bass caught on any unapproved method of take (e.g., caught on a J-hook with bait) must be returned to the water immediately without unnecessary injury. This provision, which is related to incidental catch, was previously a recommendation in Addendum VI to Amendment 6.

For stock rebuilding, Amendment 7 addressed the 2022 stock assessment and how it would inform efforts to meet the 2029 stock rebuilding deadline. Given concerns about recent low recruitment and the possibility of continued low recruitment, Amendment 7 required the 2022 stock assessment's rebuilding projections to use a low recruitment assumption to conservatively account for that future possibility. Amendment 7 also established a mechanism for the Board to respond more quickly to the 2022 assessment results if action was needed to achieve stock rebuilding by 2029.

All provisions of Amendment 7 were effective May 5, 2022 except for gear restrictions. States had to implement new gear restrictions by January 1, 2023. Amendment 7 also maintained the same recreational and commercial measures specified in Addendum VI to Amendment 6, which were implemented in 2020. As such, all approved Addendum VI conservation equivalency programs and state implementation plans are maintained until such measures are changed in the future.

#### Addendum I to Amendment 7

Addendum I to Amendment 7 was approved in May 2023 to allow for voluntary ocean commercial quota transfers contingent on stock status. The addendum was developed to provide some, more immediate relief to states seeking a change to their commercial quota after the Board decided that changes to the commercial quota system would not be considered in the then ongoing development of Draft Amendment 7. When the stock is overfished, no quota transfers will be allowed. When the stock is not overfished, the Board can decide every one to two years whether it will allow voluntary transfers of ocean commercial quota. The Board can also set criteria for allowable transfers, including a limit on how much and when quota can be transferred in a given year, and the eligibility of a state to request a transfer based on its landings.

#### 2023 Emergency Action

The Board approved an emergency action in May 2023 to change the recreational size limit to 28 – 31", effective for 180 days from May 2, 2023 through October 28, 2023. This action responded to the unanticipated magnitude of 2022 recreational harvest, which was nearly double that of 2021, and new stock rebuilding projections, which estimate the probability of the spawning stock rebuilding to its



biomass target by 2029 drops from 97% under the lower 2021 fishing mortality rate to less than 15% if the higher 2022 fishing mortality rate continues each year.

The Board implemented the emergency 31-inch maximum size limit for 2023 to reduce harvest of the strong 2015-year class. The 31-inch maximum size limit applies to all existing recreational fishery regulations where a higher (or no) maximum size applies, excluding the May Chesapeake Bay trophy fisheries which already prohibit harvest of fish less than 35 inches. All bag limits, seasons, and gear restrictions will remain the same. Jurisdictions were required to implement the required measure as soon as possible but no later than July 2, 2023. If it deems necessary, the Board may extend the emergency action for two additional periods of up to one year each at a future Board meeting.

### Pending Action

The Board initiated Addendum II to Amendment 7 in May 2023 to address the concerns about increased removals and stock rebuilding beyond 2023. The Draft Addendum is intended to follow the 2023 emergency action, and will consider 2024 management measures designed to reduce fishing mortality to the target. Specifically, the Draft Addendum will propose options for the ocean recreational fishery, including modifications to the slot limit with harvest season closures as a secondary non-preferred option. It will also propose options for the Chesapeake Bay recreational fisheries, as well as all commercial fisheries, including maximum size limits.

For measures beyond 2024, the Board intends to consider the results of the upcoming 2024 stock assessment update to inform subsequent management action. To enable an expedited management response to the 2024 stock assessment update, the Draft Addendum will propose a provision that would enable the Board to respond to the results of the stock assessment updates via Board action if the stock is projected to not rebuild by 2029.

The Board will consider Draft Addendum II at the Summer 2023 Meeting, when it will consider approving the document for public comment.

## **II. Status of the Stocks**

The biological reference points (BRPs) currently used for management are based on the 1995 estimate of female spawning stock biomass (SSB). The 1995 estimate of female SSB is used as the SSB threshold because many stock characteristics (such as an expanded age structure) were reached by this year and the stock was declared recovered. The SSB target is equal to 125% of SSB threshold.

The accepted model is a forward projecting statistical catch-at-age (SCA) model which uses catch-at-age data and fishery-dependent and -independent survey indices to estimate annual population size and fishing mortality (NEFSC 2019). Indices of abundance track relative changes in the population over time while catch data provide information on the scale of the population size. Age structure data (numbers of fish by age) provide additional information on recruitment (number of age-1 fish entering the population) and trends in mortality.

The most recent assessment for striped bass was an update completed in 2022 with data through 2021 (ASMFC 2022a). Prior to this, the 2018 Benchmark Stock Assessment had determined that striped bass were overfished and experiencing overfishing in the terminal year (2017) (NEFSC 2019). Following the implementation of new management measures in 2020, the 2022 Stock Assessment Update found that the stock was no longer experiencing overfishing in 2021 ( $F = 0.14$ , below the threshold of 0.20 and the target of 0.17) but remained overfished (Female SSB = 143 million pounds, below both the target of 235 million pounds and the threshold of 188 million pounds) (Figures 1 and 2). These reference points were calculated using the “low recruitment assumption” (per Amendment 7’s requirement under a tripped recruitment trigger), which resulted in a lower, more conservative  $F$  target and threshold compared to the 2018 benchmark assessment. Although below the threshold and considered overfished, female SSB in 2021 was still estimated to be more than three-times of that during the early 1980s, when the stock was considered collapsed (Figure 1).

The 2022 assessment also indicated a period of strong recruitment (numbers of age-1 fish entering the population) from 1994–2004, followed by a period of low recruitment from 2005–2011 (although not as low as the period of stock collapse in the early 1980s) (Figure 1). This period of low recruitment contributed to the decline in SSB that the stock has experienced since 2010. Recruitment of age-1 fish was high in 2012, 2015, 2016, and 2019 (corresponding to strong 2011, 2014, 2015, and 2018 year classes, respectively); however, estimates of age-1 striped bass were below the long-term average in 2018, 2020, and 2021. Recruitment in 2021 was estimated at 116 million age-1 fish, which is below the time series average of 136 million fish.

The 2022 assessment also included short-term projections to determine the probability of SSB being at or above the SSB target by 2029. These projections used the “low recruitment assumption”, which restricts the estimates of age-1 recruitment to those occurring during 2008–2021, rather than the longer time series of 1993–2021. These projections indicated that under the 2021 fishing mortality rate, there was a 97% probability the stock will be rebuilt by 2029.

However, concerns over high recreational removals in 2022 compared to 2021, the terminal year of the most recent assessment update, prompted the Board to request updated stock projections using 2022 preliminary removals. These estimates of preliminary 2022 removals and updated stock projections were presented to the Board in May 2023. These 2022 removals were used to estimate  $F$  in 2022. Since striped bass catch and  $F$  rates vary from year-to-year (even under the same regulations), the average  $F$  from 2019-2022 (excluding 2020 due to uncertainty associated with COVID-19 impacts) was applied to 2023-2029 in the new projections. Under this  $F$  rate, the new projections estimate the probability of rebuilding SSB to its target by 2029 drops from 97% to 15%.

It should be noted that these projections are not the same as a full stock assessment update where the model would be re-run to include the 2022 catch-at-age and index data. Accordingly, the status of the stock remains overfished but no longer experiencing overfishing as per the 2022 stock assessment update. The next stock assessment for striped bass is currently scheduled for 2024 (an update with data through 2023).

### III. Status of the Fishery in the Ocean and Chesapeake Bay

#### Total Removals

In 2022, total Atlantic striped bass removals (commercial and recreational, including harvest, commercial dead discards and recreational release mortality) were estimated at 6.8 million fish, which is a 32% increase from 2021 total removals (Table 3; Figure 5). This 2022 increase was driven by an increase in recreational removals, as commercial removals slightly decreased. In 2022, the commercial sector accounted for about 10% of total removals in numbers of fish (9% harvest and 1% dead discards), and the recreational sector accounted for 90% of removals in numbers of fish (51% harvest and 39% release mortality) (Table 4).

#### Commercial Fishery

The commercial fishery (ocean and Chesapeake Bay) harvested 4.38 million pounds (622,222 fish) in 2022, which is a 1% increase by weight relative to 2021 (3% decrease by number; Tables 5-6).

The ocean commercial quota utilization slightly increased from 76% in 2021 to about 79% in 2022, with two New England states (Massachusetts and Rhode Island) reporting quota overages. This is the highest ocean quota utilization in the past five years; ocean quota utilization in 2020-2021 was particularly low at 51% and 55%, respectively. In the ocean, each state that allows commercial harvest utilized 97-109% of their ocean quota in 2022, with the exception of North Carolina which had zero ocean harvest.

In the Chesapeake Bay, quota utilization slightly increased from 83% in 2021 to 84% in 2022. In the past five years, 2018-2019 were the highest quota utilization years at about 91-92% utilized, while 2020 was the lowest recent quota utilization at 76%.

Quota utilization is important to consider when calculating reductions in commercial removals. The projections for Addendum VI assumed the same quota utilization rate as 2017. As quota utilization changes from year to year, the realized reduction in commercial removals will change.

The PRT notes there are several factors that contribute to changes in commercial harvest levels under the same quota level from 2020-2022. Year class availability could be a factor, particularly in the ocean, with the relatively strong 2015-year class becoming more available to ocean fisheries. If stock abundance is increasing overall, that could also contribute to more fish being available. Availability also depends on when and how long striped bass stay within state waters (vs. offshore in the EEZ) during the season. Another factor is the impacts of COVID-19 during 2020-2021, but those impacts likely varied among states, varied between 2020 and 2021, and varied depending on timing within the season.

Commercial harvest from Chesapeake Bay accounted for 58% of the 2022 total commercial harvest by weight. Of total commercial harvest (combined ocean and Chesapeake Bay) by weight, Maryland landed 33%, Virginia landed 19%, and Massachusetts landed 18% (Table 6; Figure 6). Additional harvest came from New York (15%), the Potomac River (10%), Delaware (3%), and Rhode Island (confidential). The proportion of commercial harvest coming from Chesapeake Bay is much higher in numbers of fish;

roughly 83% in 2022 (Table 7). This is because fish harvested in Chesapeake Bay have a lower average weight than fish harvested in ocean fisheries. In 2022, coastwide commercial dead discards were estimated at 81,200<sup>6</sup> fish, which accounts for about 1% of total removals in 2022 (Table 3).

From 2004-2014, coastwide commercial landings averaged 6.8 million pounds per year. From 2015-2019, commercial landings decreased to an average of 4.7 million pounds due to implementation of reduced quotas through Addendum IV. From 2020-2022, coastwide commercial landings decreased again to an average 4.1 million pounds due to further reduced quotas through Addendum VI.

### Recreational Fishery

Total recreational catch (harvest and live releases) coastwide was estimated at 33.1 million fish in 2022, which is a 38% increase from 2021 (Table 8). This overall coastwide increase was a combination of a large increase in harvest and a marginal increase in live releases.

Under the same management measures as 2020-2021, total recreational harvest in 2022 increased to 3.4 million fish (35.8 million pounds), which is an 88% increase by number relative to 2021 (127% increase by weight) (Tables 9-10). This increase was likely due to the increased availability of the strong 2015-year class in the ocean slot in 2022. New Jersey landed the largest proportion of recreational harvest in number of fish<sup>7</sup> (33%), followed by New York (26%), Maryland (19%), and Massachusetts (14%) (Table 10). The proportion of coastwide recreational harvest in numbers from Chesapeake Bay was estimated at 20% in 2022, compared to 35% in 2021. By weight, the proportion of recreational harvest from the Chesapeake Bay was estimated at 9% in 2022, compared to 20% in 2021. This decrease in the proportion of recreational harvest from the Chesapeake Bay, and therefore increased proportion of ocean recreational harvest, aligns with the availability of the strong 2015-year class in the ocean fishery.

The vast majority of recreational striped bass catch (over 90%) is released alive either due to angler preference or regulation (i.e., closed season, undersized, or already caught the bag limit) (Figure 7). The stock assessment assumes, based on previous studies, that 9% of fish that are released alive die as a result of being caught. In 2022, recreational anglers caught and released an estimated 29.6 million fish, of which 2.7 million are assumed to have died (Table 8). This represents a 3% increase in live releases coastwide from 2021.

In 2022, combined private vessel/shore modes of the recreational striped bass fishery accounted for 95% of recreational removals, and the for-hire components (charter and head boats) accounted for 5%. Coastwide in 2022, private vessel/shore mode recreational removals increased by 42% relative to 2021, while for-hire recreational removals decreased by 7%. However, this trend differs by region and by mode. In the ocean, private vessel/shore mode removals increased by 52% and for-hire removals

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<sup>6</sup> Commercial dead discard estimate for 2022 was estimated using the harvest-to-discard ratio from 2021. The entire time series for commercial dead discards will be re-estimated during the 2024 stock assessment using a generalized additive model (GAM).

<sup>7</sup> By weight, New Jersey had the largest proportion of recreational harvest (38%), followed by New York (30%), Massachusetts (15%), and Maryland (9%).

increased by 22% in 2022. In the Chesapeake Bay, private vessel/shore mode removals increased by only 3%, and for-hire removals decreased by 27%.

The ocean and Chesapeake Bay regions experienced different changes in recreational catch in 2022 relative to 2021. The ocean region saw an increase in both recreational harvest (132% increase in numbers of fish) and live releases (7% increase) relative to 2021. On the other hand, the Chesapeake Bay saw a much smaller increase in recreational harvest (7% increase) and a decrease in live releases (18% decrease) relative to 2021. Again, the large increase in ocean recreational harvest is likely due to the availability of the strong 2015 year class in the ocean slot in 2022, when many of those age-7 fish reached a length above the legal minimum size of 28 inches.

The number of trips directed at striped bass (primary and secondary target) also shows a differing trend between the ocean and the Chesapeake Bay. In 2022, the number of ocean directed trips increased by 31% relative to 2021, while the number of Chesapeake Bay directed trips decreased slightly by about 2% (Table 12).

The PRT notes there are several factors that contribute to trends in recreational catch and effort, including year class availability, overall stock abundance, nearshore availability of bait and striped bass, and angler behavior. The relatively strong 2015-year class moving into the ocean and becoming available to the ocean slot (i.e., those 2015-year class fish surpassing 28-inches), is likely the primary driver of increased recreational catch in the ocean in 2022. Angler effort and behavior is also important to consider; when more fish are available in the fishery, effort can often increase in response.

#### **IV. Albemarle Sound and Roanoke River Management Area**

##### *Fishery Management Plan*

While striped bass in North Carolina's ocean waters are managed under the Interstate FMP, Addendum IV to Amendment 6 formally defers management of the A-R stock to the state of North Carolina using A-R stock-specific BRPs approved by the Board (NCDMF 2013, 2014).

Estuarine striped bass in North Carolina are currently managed under Amendment 1 to the North Carolina Estuarine Striped Bass Fishery Management Plan (FMP) and its subsequent revision and recent supplement (NCDMF 2013, 2014, 2019). It is a joint plan between the North Carolina Marine Fisheries Commission (NCMFC) and the North Carolina Wildlife Resources Commission (NCWRC). Amendment 1, adopted in 2013, lays out separate management strategies for the Albemarle Sound-Roanoke River (A-R) stock and the estuarine (non-migratory) Central and Southern striped bass stocks in the Tar-Pamlico, Neuse, and Cape Fear rivers. Management programs in Amendment 1 for the A-R stock utilize annual total allowable landings (TAL), daily possession limits, open and closed harvest seasons, gill net mesh size and yardage restrictions, seasonal small mesh gill net attendance requirements, single barbless hook requirements in some areas, minimum size limits, and a no-harvest slot limit in the Roanoke River to maintain a sustainable harvest and reduce regulatory discard mortality in all sectors.

Amendment 2 to the North Carolina Estuarine Striped Bass FMP was adopted in November 2022. Amendment 2 maintains for the A-R stock the use of a TAL to manage harvest as informed by stock

assessments, and requires pound for pound payback for any overages. The Roanoke River Management Area continues to have a 18-22” harvest slot limit, and the Albemarle Sound Management Area has a new 18-25” harvest slot limit to protect larger striped bass. Single barbless hooks are still required in the Roanoke River from April-June, and a new requirement to use non-offset barbless circle hooks when fishing with bait in the inland Roanoke River waters is in place from May-June. Adaptive management continues to allow for adjustments to the TAL, bag limits, seasons, and gear.

As of May 2022, striped bass fisheries in the Atlantic Ocean of North Carolina are now managed under ASMFC’s Amendment 7 to the Interstate FMP. North Carolina is required to inform the Commission of changes to striped bass management in the A-R System.

*Status of the Albemarle Sound-Roanoke River Striped Bass Stock*

The most recent A-R stock assessment, the 2022 Stock Assessment Update, uses a forward-projecting fully-integrated, age-structured statistical model estimating population parameters and reference points for the A-R striped bass stock for 1991-2021 (Lee et al. 2022). The 2022 stock assessment is an update of the 2020 Benchmark Stock Assessment (Lee et al. 2020). The 2020 benchmark stock assessment model was peer reviewed by an outside panel of experts and approved for management use by the Board in May 2021. The 2022 assessment update was also peer reviewed in January 2023.

The A-R stock is managed using reference points for female spawning stock biomass (SSB) and fishing mortality (*F*) with threshold values based on 35% spawning potential ratio and target values based on 45% spawning potential ratio. The 2022 assessment estimated female SSB in 2021 (terminal year) was 16.1 metric tons, which is below the SSB threshold of 125 metric tons. The assessment estimated *F* in 2021 was 0.77, which is above the *F* threshold of 0.22. These results indicate the stock is overfished and overfishing is occurring (Figures).

	<b><i>Target</i></b>	<b><i>Threshold</i></b>	<b><i>Terminal Year (2021) Estimate</i></b>
<b><i>Female SSB</i></b>	164 metric tons	125 metric tons	16 metric tons
<b><i>Fishing Mortality (F)</i></b>	0.14	0.20	0.77

Due to the depressed condition of the stock, the population will be monitored through an annual review of data and the stock assessment will be updated if warranted.

In response to similar findings from the previous 2020 stock assessment, North Carolina implemented a 2020 Revision to Amendment 1 that lowered the annual TAL for Albemarle Sound and Roanoke River management areas in order to reduce *F* to the target level. The current TAL is 51,216 pounds, which is a 57% reduction from 2017 landings (NCDMF 2020). The TAL remains in place until a new TAL is determined.

### Albemarle Sound and Roanoke River Atlantic Striped Bass Fisheries

In 2022, commercial harvest in the ASMA was 24,026 pounds (4,824 fish). There is no commercial harvest in the RRMA. Recreational harvest in the ASMA was 8,417 pounds (2,789 fish), and recreational harvest in the RRMA was 6,069 pounds (1,949 fish).

## **V. Status of Research and Monitoring**

Amendment 6, its Addenda I-VI, and Amendment 7 (approved May 2022) set the regulatory and monitoring measures for the coastwide striped bass fishery for 2022. Amendments 6 and 7 require certain states to implement fishery-dependent monitoring programs for striped bass. All states with commercial fisheries or substantial recreational fisheries are required to define the catch and effort composition of these fisheries. Additionally, all states with a commercial fishery must implement a commercial harvest tagging program.

Amendments 6 and 7 also require certain states to monitor the striped bass population independent of the fisheries. Juvenile abundance surveys 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). 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 (Albemarle Sound-Roanoke River). NOAA Fisheries, USFWS, Massachusetts, New York, New Jersey, Maryland, Virginia, and North Carolina are also required to continue their tagging programs, which provide data used to determine survivorship and migration patterns.

## **VI. Status of Management Measures and Issues**

### Ocean Commercial Quota

In 2022, the ocean commercial quota was 2,411,154 pounds and was not exceeded. While two states (Massachusetts and Rhode Island) reported overages, the total ocean quota was not exceeded. Table 11 contains final 2022 quotas per Addendum VI and approved conservation equivalency programs and harvest that occurred in 2022.

### Chesapeake Bay Commercial Quota

In 2022, the Chesapeake Bay-wide quota was 3,001,648 pounds and was allocated to Maryland, the PRFC, and Virginia based on historical harvest. In 2022, the Bay-wide quota was not exceeded. Table 11 contains jurisdiction-specific quotas and harvest that occurred in 2022 for Chesapeake Bay<sup>8</sup>.

### Chesapeake Bay Spring Harvest of Migrant Striped Bass

Historically, recreational fishermen in Chesapeake Bay are permitted to take adult migrant fish during a limited seasonal fishery, commonly referred to as the Spring Trophy Fishery. From 1993 to 2007 the fishery operated under a quota. Beginning in 2008, the Board approved non-quota management until stock assessment indicates that corrective action is necessary to reduce  $F$  on the coastal stock. The

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<sup>8</sup> Maryland commercial landings for 2022 are considered preliminary.

Spring Trophy Fishery is currently managed via bag limits and minimum sizes and Maryland and the Potomac River. The Commonwealth of Virginia closed the spring trophy season beginning in 2019.

The 2022 estimate of migrant fish harvested during the Maryland trophy season from May 1-May 15 was 1,365 fish (486 by charter vessels; 879 fish by private vessels).

For the entire time period of May 1 through June 15 when migrant fish are available to the Chesapeake Bay fisheries, a total of 2,814 migrant fish were harvested in Maryland (937 fish by charter vessels; 1,877 fish by private vessels), which is a 53% decrease compared to 2021 and below the 2006-2022 average of 33,075 fish.

#### Wave-1 Recreational Harvest Estimates

Evidence suggests that North Carolina, Virginia, and possibly other states have had sizeable wave-1 (January/February) recreational striped bass fisheries beginning in 1996 (NEFSC 2018b). MRIP, formerly the Marine Recreational Fisheries Statistics Survey (MRFSS), has sampled for striped bass in North Carolina during wave-1 since 2004 (other states are not currently covered during wave-1). Virginia harvest in wave-1 is estimated for stock assessment via the ratio of landings and tag returns in wave-6 and regression analysis (refer to the methods described in NEFSC 2018a for more detail).

However, based on fishery-independent data collected by NCDMF, ASMFC and USFWS, striped bass distributions on their overwintering grounds during December through February has changed significantly since the mid-2000s. The migratory portion of the stocks has been well offshore in the EEZ (>3 miles) affecting both Virginia's and North Carolina's striped bass winter ocean fisheries in recent years. Furthermore, North Carolina has reported zero recreational striped bass harvest during wave-1 and wave-6 in the ocean for 2012-2022, and Virginia has reported zero recreational ocean harvest for seven of the last nine years. Similarly, North Carolina's commercial fishery has reported zero striped bass landings from the ocean since 2013.

#### Addendum III to Amendment 6/Amendment 7 Section 3.1.1: Commercial Fish Tagging Program

Addendum III to Amendment 6 and Section 3.1.1 of Amendment 7 include compliance requirements for monitoring commercial fishery harvest tagging programs. In 2022, all states implemented commercial tagging programs consistent with the tagging program requirements. Table 16 describes commercial tagging programs by state.

The PRT emphasizes the importance of tag accounting to account for unused tags at the end of each fishing year in all states. Due to the early deadlines for commercial tagging reports (60 days before the commercial fishery opens), tag accounting for the previous year is often preliminary or not yet available at that time. To address this, the PRT reiterates the importance of states reporting all tag accounting results in their annual state compliance reports (i.e., tags issues, tags used, tags returned, tags missing/broken/not accounted for). The PRT recommends that Commission staff work with the Law Enforcement Committee and the PRT to regularly follow-up with all states on tag accounting and other questions about state commercial tagging programs as needed. Additionally, the PRT recommends the Board task the PRT with a specific review of the commercial tagging program in the



near-term to review the program components, such as the biological metrics used to allocate tags, since it has been ten years since the tagging program was implemented.

#### Addendum VI to Amendment 6: 18% Reduction in Removals

2022 was the third implementation year of Addendum VI, which implemented measures to reduce total striped bass removals by 18% relative to 2017 levels in order to achieve the fishing mortality target in 2020. Tables 13a-13c list total removals (harvest plus discards/release mortality for commercial and recreational) in numbers of fish for 2017 and 2020-2022. In 2022, only a 3% reduction in total removals coastwide (numbers of fish) was realized relative to total removals coastwide in 2017. Again, this is due to the increase in ocean recreational harvest in 2022 with the availability of the strong 2015 year-class. For the ocean region in 2022, total ocean removals were 15% above total ocean removals in 2017. On the other hand, for the Chesapeake Bay in 2022, total Bay removals were 36% below 2017 Bay removals in 2017.

Tables 14 and 15 list the realized change for recreational removals (in numbers of fish) and commercial harvest (in pounds) by state for 2017, 2021, and 2022. Table 14 also includes the predicted reduction in recreational removals from state conservation equivalency plans, where applicable. The PRT notes that differences in performance are influenced by many factors, including changes in effort, fish availability/year classes, and environmental factors, even under the same management measures. The TC has discussed the challenge of trying to evaluate performance since the effects of different management measures cannot be isolated from the effects of effort changes and fish availability. There is a lot of year-to-year variability even under consistent regulations due to different year classes moving through the stock and variability in effort and angler behavior. During the TC's review of Addendum VI conservation equivalency proposals in 2019, the TC noted there is a high level of uncertainty in the percent reductions calculated due to the effect of changes in angler behavior (effort) and the size structure and distribution of the population (availability of legal and sub-legal fish), and these changes are difficult to account for and cannot be accurately quantified.

#### Amendment 7 Recreational Gear Requirements

All states have implemented the required circle hook regulations. The PRT notes differences among the definitions of bait implemented by the states (see FMP Review for 2021 Fishing Year) with some definitions being more restrictive than the Board-approved definition. A few states have not defined bait, which could be considered more restrictive (per Commission standards, states can implement more restrictive measures). Additionally, some state regulations are more restrictive by not specifying any exemptions, as compared to the Board-approved exemption for bait on artificial lures.

Amendment 7 includes two additional recreational gear requirements required to be implemented by January 1, 2023 regarding gaffing and incidental catch:

- It shall be unlawful for any person to gaff or attempt to gaff any striped bass at any time when fishing recreationally.
- Striped bass caught on any unapproved method of take must be returned to the water immediately without unnecessary injury.

The PRT notes that all states have prohibited gaffing, except for the District of Columbia (DC) which does not specifically prohibit gaffing, but notes that gaffing is not listed as a legal gear in DC. For the incidental catch requirement, many states have implemented the provision as written (or nearly as written) in Amendment 7, but some states have referred to alternative regulatory language to meet the requirement (Table 18). Most alternative language notes that anglers can only take or catch striped bass via methods/gear that are legally allowed in that state's regulations.

### Juvenile Abundance Index Analysis

The following states are required to conduct striped bass young-of-year juvenile abundance index (JAI) surveys on an annual basis: Maine for the Kennebec River; New York for the Hudson River; New Jersey for the Delaware River; Maryland for the Maryland Chesapeake Bay tributaries; Virginia for the Virginia Chesapeake Bay tributaries; and North Carolina for the A-R stock.

The PRT and the Striped Bass Technical Committee (TC) annually review the JAIs per the recruitment trigger specified in the FMP. As of May 2022, the new Amendment 7 recruitment trigger is effective and reads as follows:

If any of the four JAIs used in the stock assessment model to estimate recruitment (NY, NJ, MD, VA) shows an index value that is below 75% of all values (i.e., below the 25th percentile) in the respective JAI from 1992-2006\* (which represents a period of high recruitment) for three consecutive years, then an interim F target and interim F threshold calculated using the low recruitment assumption will be implemented, and the F-based management triggers will be reevaluated using those interim reference points. If an F-based trigger is tripped upon reevaluation, the striped bass management program must be adjusted to reduce F to the interim F target within one year.

For the 2023 review of JAIs, the analysis evaluates the 2020, 2021, and 2022 JAI values per the Amendment 7 recruitment trigger. One state (Maryland) met the criteria of the Amendment 7 recruitment trigger (Figure 8). Maryland's JAI values for 2020 (1.12), 2021 (1.65), and 2022 (1.78) were below the Maryland JAI trigger level of 4.16. This trips the recruitment trigger in 2023, requiring F reference points using the low recruitment assumption to be calculated, which already occurred during the 2022 stock assessment update. The current reference points from the 2022 stock assessment update already use the low recruitment assumption.

New York's JAI (Hudson River) was above its trigger level (11.70) from 2020-2022 with values ranging from 15.89 to 35.39. New Jersey's JAI (Delaware River) was below its trigger level (1.07) in 2021 and 2022 with values of 0.67 and 0.77, respectively. A 2020 JAI value for New Jersey is not available due to COVID-19 restrictions. Virginia's JAI was above its trigger level (8.22) in 2020 with a value of 13.89, but fell below the trigger level in 2021 and 2022 with values of 6.3 and 7.95, respectively.

Maine's JAI (Kennebec River) and North Carolina's JAI (Albemarle-Roanoke) are not part of the recruitment trigger, but are still required monitoring for those states (Figure 9). Maine's JAI was below the level of recruitment failure in both 2020 and 2021 with values of 0.02 and 0.0, respectively. North Carolina's JAI value in 2022 was 0.5, the fifth consecutive year below the level of recruitment failure.

### Law Enforcement Reporting

States are asked to report any law enforcement issues that occurred the previous season in annual compliance reports. The most common violations noted coastwide were recreationally harvested fish under or over the legal size limit.

## **VII. Plan Review Team Comments and Recommendations**

A summary of 2022 fishery regulations by state is provided in Table 1 and Table 2. Each state's commercial tag monitoring program is described in Table 16 and state compliance with fishery-independent and -dependent monitoring requirements are summarized in Table 17.

**Based on annual state compliance reports (ASMFC 2023), the PRT determined that all states in 2022 implemented a management and monitoring program consistent with the provisions of Addendum VI to Amendment 6 and Amendment 7 (effective May 2022).**

The PRT had previously noted inconsistencies with Addendum VI implementation, including New York's inclusive slot limit and Maryland's summer closure dates, which are described in the FMP Reviews for the 2021 and 2020 Fishing Years (ASMFC 2022b, ASMFC 2021). The Board did not express any concern with these inconsistencies during prior compliance reviews.

The PRT developed the following **recommendations**:

- The PRT reiterates the importance of states reporting all tag accounting results in their annual state compliance reports (i.e., tags issued, tags used, tags returned, tags missing/broken/not accounted for). The PRT recommends that Commission staff work with the Law Enforcement Committee and the PRT to regularly follow-up with all states on tag accounting and other questions about state commercial tagging programs as needed.
- The PRT recommends the Board task the PRT with a specific review of the commercial tagging program in the near-term to review the program components, such as the biological metrics used to allocate tags, since it has been ten years since the tagging program was implemented.

The PRT notes the following **additional comments**:

- All states have prohibited gaffing, except for the District of Columbia (DC) which does not specifically prohibit gaffing, but notes that gaffing is not listed as a legal gear in DC. For the incidental catch requirement, many states have implemented the provision as written (or nearly as written) in Amendment 7, but some states have referred to alternative regulatory language to meet the requirement (Table 18). Most alternative language notes that anglers can only take or catch striped bass via methods/gear that are legally allowed in that state's regulations. **If the Board has any concerns with the proposed alternative language, the Board should discuss those concerns as soon as possible.**
- While the New York spawning stock monitoring program in the Hudson River does meet the FMP's fishery-independent monitoring requirements, it does not provide an index of relative

abundance to characterize the Hudson River stock which was identified as a high priority research recommendation at SAW 66.

### **VIII. Research Recommendations**

Research recommendations were developed by the 2018 Benchmark Stock Assessment Subcommittee and the 66<sup>th</sup> SARC and are listed in the final [stock assessment report](#) starting on report page 569 (NEFSC 2019).

## IX. References

- ASMFC. 2021. Review of the Interstate Fishery Management Plan for Atlantic Striped Bass (*Morone saxatilis*): 2020 Fishing Year.
- ASMFC. 2022a. Atlantic Striped Bass Stock Assessment Update, Atlantic States Marine Fisheries Commission, Arlington, VA. 191p.
- ASMFC. 2022b. Review of the Interstate Fishery Management Plan for Atlantic Striped Bass (*Morone saxatilis*): 2021 Fishing Year.
- ASMFC. 2023. Atlantic Striped Bass Annual Compliance Reports.
- Lee, L.M., T.D. Tears, Y. Li, S. Darsee, and C. Godwin (editors). 2020. Assessment of the Albemarle Sound-Roanoke River striped bass (*Morone saxatilis*) in North Carolina, 1991-2017. North Carolina Division of Marine Fisheries, NCDMF SAP-SAR-2020-01, Morehead City, North Carolina. 171 p.
- Lee, L.M., C.J.C. Schlick, N. Hancock, C.H. Godwin, and J. McCargo (editors). 2022. Assessment of the Albemarle Sound-Roanoke River Striped Bass (*Morone saxatilis*) stock in North Carolina, 1991–2021. North Carolina Division of Marine Fisheries, NCDMF SAP-SAR-2022-03, Morehead City, North Carolina. 98 p.
- North Carolina Department of Marine Fisheries (NCDMF). 2013. Amendment 1 to the North Carolina Estuarine Striped Bass Fishery Management Plan. North Carolina Department of Environment and Natural Resources. North Carolina Division of Marine Fisheries. Morehead City, NC. 826 pp.
- NCDMF. 2014. November 2014 Revision to Amendment 1 to the North Carolina Estuarine Striped Bass Fishery Management Plan. North Carolina Department of Environment and Natural Resources. North Carolina Division of Marine Fisheries. Morehead City, NC. 15 pp.
- NCDMF. 2019. Supplement A to Amendment 1 to the North Carolina Estuarine Striped Bass Fishery Management Plan. North Carolina Department of Environment and Natural Resources. North Carolina Division of Marine Fisheries. Morehead City, NC. 40 pp.
- NCDMF. 2020. November 2020 Revision to Amendment 1 to the North Carolina Estuarine Striped Bass Fishery Management Plan. North Carolina Department of Environment and Natural Resources. North Carolina Division of Marine Fisheries. Morehead City, NC. 12 pp.
- Northeast Fisheries Science Center (NEFSC). 2019a. 66<sup>th</sup> Northeast Regional Stock Assessment Workshop (66<sup>th</sup> SAW) Assessment Report. US Dept Commer. Northeast Fish Sci Cent Ref Doc. 19-08; 719 p.
- Northeast Fisheries Science Center (NEFSC). 2019b. 66<sup>th</sup> Northeast Regional Stock Assessment Workshop (66<sup>th</sup> SAW) Assessment Summary Report. US Dept Commer. Northeast Fish Sci Cent Ref Doc. 19-01; 45 p.

Shepherd, G.R., R.W. Laney, M. Appelman, D. Honabarger and C.L. Wright. 2017. Biennial Report to Congress on the Progress and Findings of Studies of Striped Bass Populations --2017. National Marine Fisheries Service, Silver Spring, MD. 11 p.

**X. Tables**

Table 1. Summary of Atlantic striped bass commercial regulations in 2022. Source: 2023 State Compliance Reports. Minimum sizes and slot size limits are in total length (TL). \*Commercial quota reallocated to recreational bonus fish program.

STATE	SIZE LIMITS (TL) and TRIP LIMITS	SEASONAL QUOTA	OPEN SEASON
<b>ME</b>	Commercial fishing prohibited		
<b>NH</b>	Commercial fishing prohibited		
<b>MA</b>	≥35" minimum size; no gaffing undersized fish. 15 fish/day with commercial boat permit; 2 fish/day with rod and reel permit.	735,240 lbs. Hook & Line only.	6.16-11.15 (or when quota reached); open fishing days of Monday, Tuesday and Wednesday, with Thursday and Friday added on October 1 (if quota remains). Cape Cod Canal closed to commercial striped bass fishing.
<b>RI</b>	Floating fish trap: 26" minimum size unlimited possession limit until 70% of quota reached, then 500 lbs. per licensee per day	Total: 148,889 lbs., split 39:61 between the trap and general category. Gill netting prohibited.	4.1 – 12.31
	General category (mostly rod & reel): 34" min. 5 fish/vessel/day limit.		5.20-6.30; 7.1-12.31, or until quota reached. Closed Fridays, Saturdays, and Sundays during Jul-Dec.
<b>CT</b>	Commercial fishing prohibited; bonus program in CT suspended indefinitely in 2020.		
<b>NY</b>	26"-38" size; (Hudson River closed to commercial harvest)	640,718 lbs. Pound Nets, Gill Nets (6-8" stretched mesh), Hook & Line.	5.15 – 12.15, or until quota reached. Limited entry permit only.
<b>NJ*</b>	Commercial fishing prohibited; bonus program: 1 fish/permit at 24" to <28"	215,912 lbs.	5.15 – 12.31 (permit required)
<b>PA</b>	Commercial fishing prohibited		
<b>DE</b>	Gill Net: 20" min in DE Bay/River during spring season. 28" in all other waters/seasons.	Gillnet: 135,350 lbs. No fixed nets in DE River.	Gillnet: 2.15-5.31 (2.15-3.30 for Nanticoke River) & 11.15-12.31; drift nets only 2.15-28 & 5.1-31; no trip limit.
	Hook and Line: 28" min	Hook and line: 7,124 lbs.	Hook and Line: 4.1–12.31, 200 lbs./day trip limit

(Table 1 continued – Summary of commercial regulations in 2022).

STATE	SIZE LIMITS (TL) and TRIP LIMITS	SEASONAL QUOTA	OPEN SEASON
MD	Chesapeake Bay and Rivers: 18–36” Common pool trip limits: Hook and Line - 250 lbs./license/week Gill Net - 300 lbs./license/week	1,445,394 lbs. (part of Bay-wide quota)	Bay Pound Net: 6.1-12.31 Bay Haul Seine: 1.1-2.28; 6.1-12.31 Bay Hook & Line: 6.1-12.31 Bay Drift Gill Net: 1.1-2.28, 12.1-12.31
	Ocean: 24” minimum	Ocean: 89,094 lbs.	1.1-5.31, 10.1-12.31
PRFC	18” min all year; 36” max 2.15–3.25	572,861 lbs. (split between gear types; part of Bay-wide quota)	Hook & Line: 1.1-3.25, 6.1-12.31 Pound Net & Other: 2.15-3.25, 6.1-12.15 <u>Gill Net</u> : 11.9.2021-3.25.2022 Misc. Gear: 2.15-3.25, 6.1-12.15
VA	Chesapeake Bay and Rivers: 18” min; 28” max size limit 3.15–6.15	983,393 lbs. (part of Bay-wide quota)	1.16-12.31
	Ocean: 28” min	125,034 lbs.	
NC	Ocean: 28” min	295,495 lbs. (split between gear types)	Seine fishery was not opened Gill net fishery was not opened Trawl fishery was not opened



Table 2. Summary of Atlantic striped bass recreational regulations in 2022. Source: 2023 State Compliance Reports. Minimum sizes and slot size limits are in total length (TL).

STATE	SIZE LIMITS (TL)/REGION	BAG LIMIT	GEAR/FISHING RESTRICTIONS	OPEN SEASON
ME	≥ 28" and <35"	1 fish/day	Hook and line only and no gaffing of striped bass. Regulations define bait as it pertains to the required use of circle hooks; immediate release w/o unnecessary injury if incidentally caught on unapproved hook type; maintains the circle hook exemption for rubber and latex tube rigs.	All year, except spawning areas are closed 12.1-4.30 and C&R only 5.1-6.30
NH	≥ 28" and <35"	1 fish/day	Gaffing and culling prohibited; Use of corrodible non-offset circle hooks required if angling with bait. If taken contrary to restrictions, return fish to water immediately w/o unnecessary injury.	All year
MA	≥ 28" and <35"	1 fish/day	Hook & line only; no high-grading; gaffs and other injurious removal devices prohibited. Inline circle hook requirement when fishing with bait, except with artificial lures; mandatory release of catch on any unapproved method of take. No filleting at-sea except aboard for-hire vessels provided skin remains and ratio of 2 filets/fish.	All year
RI	≥ 28" and <35"	1 fish/day	Circle required while fishing recreationally with bait for striped bass (except for artificial lures with bait attached); must release if caught on unapproved method of take	All year
CT	≥ 28" and <35"	1 fish/day	Inline circle hooks only when using whole, cut or live natural bait. Exemption of artificial lures/ release of incidental noncircle hook provision. Spearing and gaffing prohibited. If taken contrary to the provisions, shall, without avoidable injury, be returned immediately to the waters.	All year
NY	Ocean and DE River: 28 -35"	1 fish/day	Angling only. Spearing permitted in ocean waters. C&R only during closed season, except no targeting in Hudson River during closed season. Circle hook requirements. No gaffing. Mandatory release of catch on any unapproved method of take.	Ocean: 4.15-12.15 Delaware River: All year
	HR: 18 -28"	1 fish/day		Hudson River: 4.1-11.30

(Table 2 continued – Summary of recreational regulations in 2022).

STATE	SIZE LIMITS/REGION	BAG LIMIT	GEAR/FISHING RESTRICTIONS	OPEN SEASON
<b>NJ</b>	≥ 28 to < 38"	1 fish/day	Circle hooks required when fishing with bait; must release if caught on unapproved method of take	Closed 1.1 – Feb 28 in all waters except in the Atlantic Ocean, and closed 4.1-5.31 in the lower DE River and tribs
<b>PA</b>	Upstream from Calhoun St Bridge: 1 fish/day at ≥ 28" to <35"	1 fish/day	Unlawful to take or attempt to take fish unless the method is specifically authorized. Circle hooks required when fishing with bait downstream from Calhoun St. Bridge.	All year
	Downstream from Calhoun St Bridge: 1 fish/day at ≥ 28" to <35 (except 4.1-5.31)			All year. 2 fish/day at 21"-<24" slot from 4.1 – 5.31
<b>DE</b>	≥ 28" and <35"	1 fish/day	Hook & line, spear (for divers) only. Inline circle hooks required when fishing for striped bass using cut or whole natural baits	All year. C&R only 4.1-5.31 in spawning grounds. 20"-25" slot from 7.1-8.31 in DE River, Bay & tributaries
<b>MD</b>	Ocean: ≥ 28" and <35"	1 fish/day	Circle hooks if chumming, live-lining, or bait fishing and targeting striped bass; no gaffing	All year
	Chesapeake Bay and tribs <sup>^</sup>	C&R only	Circle hook requirement with bait; no eels; no stinger hooks; barbless hooks when trolling; max 6 lines when trolling; no gaffing	1.1-2.28, 3.1-3.31, 12.11-12.31
	Chesapeake Bay: 35" min	1 fish/day	Geographic restrictions apply; Circle hook requirement with bait; no eels bait; no gaffs	5.1-5.15
	Chesapeake Bay: 1 fish/day, 19" minimum size; 2/fish/day for charter with only 1 fish >28"		Geographic restrictions apply; circle hooks if chumming, livelining, or bait fishing and targeting striped bass; no gaffing	5.16-5.31
	Chesapeake Bay and tribs: 1 fish/day, 19" minimum size; 2/fish/day for charter with only 1 fish >28"		All Bay and tribs open; circle hooks if chumming, livelining, or bait fishing and targeting striped bass; no gaffing	6.1-7.15, 8.1-12.10

<sup>^</sup> Susquehanna Flats: C&R only Jan 1 – March 31 (circle hooks when bait fishing); 1 fish at 19"-26" slot May 16 – May 31 (circle hooks if chumming, livelining, or bait fishing and targeting striped bass).

(Table 2 continued – Summary of recreational regulations in 2022).

STATE	SIZE LIMITS/REGION	BAG LIMIT	GEAR/FISHING RESTRICTIONS	OPEN SEASON
PRFC	Spring Trophy: 35" minimum size	1 fish/day	No more than two hooks or sets of hooks for each rod or line; no live eel; no high-grading; non-offset Circle Hooks are required when fishing for striped bass using cut or whole natural bait; no spearing or gaffing	5.1-5.15
	Summer and Fall: 20" min	2 fish/day	No more than two hooks or sets of hooks for each rod or line; non-offset Circle Hooks are required when fishing for striped bass using cut or whole natural bait; no spearing or gaffing; any fish caught other than lawful fishing activities immediately released	5.16-7.6 and 8.21-12.31; closed 7.7-8.20 (No Direct Targeting)
DC	18" minimum size	1 fish/day	Hook and line only; unlawful to take fish except as specified	5.16-12.31
VA	Ocean: 28"-36" slot limit	1 fish/day	Hook & line, rod & reel, hand line, spearing only. No gaffing. Circle hooks required if/when using live bait. Unlawful to take/attempt take by any other gear/method	1.1-3.31, 5.16-12.31
	Ocean Spring Trophy: NO SPRING TROPHY SEASON			
	Chesapeake Bay Spring Trophy: NO SPRING TROPHY SEASON			
	Bay Spring/Summer: 20"-28" slot limit	1 fish/day	Hook & line, rod & reel, hand line, spearing only. No gaffing. Circle hooks required if/when using live bait. Unlawful to take/attempt take by any other gear/method	5.16-6.15
	Bay Fall: 20 - 36" slot limit	1 fish/day		10.4-12.31
NC	≥ 28" and <35"	1 fish/day	No gaffing allowed. Circle hooks required when fishing with natural bait	All year

Table 3. Total removals (harvest plus discards/release mortality) of Atlantic striped bass by sector in numbers of fish, 1993-2022 calendar years. Note: Harvest is from state compliance reports/MRIP (June 2023), discards/release mortality is from ASMFC. Estimates exclude inshore harvest from NC.

Year	Commercial		Recreational		Total Removals
	Harvest	Dead Discards*	Harvest	Release Mortality	
1993	314,526	114,317	789,037	812,404	2,030,284
1994	325,401	165,700	1,055,523	1,360,872	2,907,496
1995	537,412	192,368	2,287,578	2,010,689	5,028,047
1996	854,102	257,506	2,487,422	2,600,526	6,199,556
1997	1,076,561	324,445	2,774,981	2,969,781	7,145,769
1998	1,215,219	346,537	2,915,390	3,259,133	7,736,278
1999	1,223,572	347,186	3,123,496	3,140,905	7,835,158
2000	1,216,812	213,863	3,802,477	3,044,203	8,277,354
2001	931,412	175,815	4,052,474	2,449,599	7,609,300
2002	928,085	187,084	4,005,084	2,792,200	7,912,453
2003	854,326	126,274	4,781,402	2,848,445	8,610,447
2004	879,768	156,026	4,553,027	3,665,234	9,254,055
2005	970,403	142,385	4,480,802	3,441,928	9,035,518
2006	1,047,648	152,308	4,883,961	4,812,332	10,896,250
2007	1,015,114	158,078	3,944,679	2,944,253	8,062,124
2008	1,027,824	108,830	4,381,186	2,391,200	7,909,039
2009	1,050,055	133,317	4,700,222	1,942,061	7,825,654
2010	1,031,448	132,373	5,388,440	1,760,759	8,313,020
2011	944,777	82,015	5,006,358	1,482,029	7,515,180
2012	870,684	192,190	4,046,299	1,847,880	6,957,053
2013	784,379	112,620	5,157,760	2,393,425	8,448,184
2014	750,263	114,065	4,033,746	2,172,342	7,070,415
2015	621,952	88,614	3,085,725	2,307,133	6,103,425
2016	609,028	91,186	3,500,434	2,981,430	7,182,077
2017	592,670	98,801	2,937,911	3,421,110	7,050,492
2018	621,123	101,264	2,244,765	2,826,667	5,793,819
2019	653,807	85,262	2,150,936	2,589,045	5,479,050
2020	583,070	58,641	1,709,973	2,760,231	5,111,915
2021	644,207	85,676	1,841,902	2,583,788	5,155,573
2022	622,222	81,200	3,454,021	2,667,846	6,825,288

\* Commercial dead discard estimate for 2022 was estimated using the harvest-to-discard ratio from 2021. The entire time series for commercial dead discards will be re-estimated during the 2024 stock assessment using a generalized additive model (GAM).

Table 4. Proportion of total removals (harvest plus discards/release mortality) of Atlantic striped bass by sector in numbers of fish, 1993-2022. Note: Harvest is from state compliance reports/MRIP (June 2023), discards/release mortality is from ASMFC. Estimates exclude inshore harvest from NC.

Year	Commercial		Recreational	
	Harvest	Dead Discards*	Harvest	Release Mortality
1993	15%	6%	39%	40%
1994	11%	6%	36%	47%
1995	11%	4%	45%	40%
1996	14%	4%	40%	42%
1997	15%	5%	39%	42%
1998	16%	4%	38%	42%
1999	16%	4%	40%	40%
2000	15%	3%	46%	37%
2001	12%	2%	53%	32%
2002	12%	2%	51%	35%
2003	10%	1%	56%	33%
2004	10%	2%	49%	40%
2005	11%	2%	50%	38%
2006	10%	1%	45%	44%
2007	13%	2%	49%	37%
2008	13%	1%	55%	30%
2009	13%	2%	60%	25%
2010	12%	2%	65%	21%
2011	13%	1%	67%	20%
2012	13%	3%	58%	27%
2013	9%	1%	61%	28%
2014	11%	2%	57%	31%
2015	10%	1%	51%	38%
2016	8%	1%	49%	42%
2017	8%	1%	42%	49%
2018	11%	2%	39%	49%
2019	12%	2%	39%	47%
2020	11%	1%	33%	54%
2021	12%	2%	36%	50%
2022	9%	1%	51%	39%

\* Commercial dead discard estimate for 2022 was estimated using the harvest-to-discard ratio from 2021. The entire time series for commercial dead discards will be re-estimated during the 2024 stock assessment using a generalized additive model (GAM). Note: Percent may not sum to 100 due to rounding.

Table 5. Total harvest of Atlantic striped bass by sector, 1993-2022 calendar years. Note: Harvest is from state compliance reports/MRIP (Query June 2023). Estimates exclude inshore harvest from North Carolina.

Year	Numbers of Fish			Pounds		
	Commercial	Recreational	Total	Commercial	Recreational	Total
1993	314,526	789,037	1,103,563	1,800,176	10,163,767	11,963,943
1994	325,401	1,055,523	1,380,924	1,877,197	14,737,911	16,615,108
1995	537,412	2,287,578	2,824,990	3,775,278	27,072,321	30,847,599
1996	854,102	2,487,422	3,341,524	4,822,864	28,625,685	33,448,549
1997	1,076,561	2,774,981	3,851,542	6,078,566	30,616,093	36,694,659
1998	1,215,219	2,915,390	4,130,609	6,551,623	29,603,199	36,154,822
1999	1,223,572	3,123,496	4,347,068	6,485,079	33,564,988	40,050,067
2000	1,216,812	3,802,477	5,019,289	6,715,044	34,050,817	40,765,861
2001	931,412	4,052,474	4,983,886	6,266,953	39,263,154	45,530,107
2002	928,085	4,005,084	4,933,169	6,152,583	41,840,025	47,992,608
2003	854,326	4,781,402	5,635,728	6,750,799	54,091,836	60,842,635
2004	879,768	4,553,027	5,432,795	7,340,822	53,031,074	60,371,896
2005	970,403	4,480,802	5,451,205	7,120,647	57,421,174	64,541,821
2006	1,047,648	4,883,961	5,931,609	6,780,541	50,674,431	57,454,972
2007	1,015,114	3,944,679	4,959,793	7,047,179	42,823,614	49,870,793
2008	1,027,824	4,381,186	5,409,010	7,190,800	56,665,318	63,856,118
2009	1,050,055	4,700,222	5,750,277	7,217,484	54,411,389	61,628,873
2010	1,031,448	5,388,440	6,419,888	6,996,713	61,431,360	68,428,073
2011	944,777	5,006,358	5,951,135	6,789,792	59,592,092	66,381,884
2012	870,684	4,046,299	4,916,983	6,516,761	53,256,619	59,773,380
2013	784,379	5,157,760	5,942,139	5,819,678	65,057,289	70,876,967
2014	750,263	4,033,746	4,784,009	5,937,949	47,948,610	53,886,559
2015	621,952	3,085,725	3,707,677	4,829,997	39,898,799	44,728,796
2016	609,028	3,500,434	4,109,462	4,848,772	43,671,532	48,520,304
2017	592,670	2,937,911	3,530,581	4,816,395	37,952,581	42,768,976
2018	621,123	2,244,765	2,865,888	4,741,342	23,069,028	27,810,370
2019	653,807	2,150,936	2,804,743	4,284,831	23,556,287	27,841,118
2020	583,070	1,709,973	2,293,043	3,620,031	14,858,984	18,479,015
2021	644,207	1,841,902	2,486,109	4,335,360	15,781,510	20,116,870
2022	622,222	3,454,021	4,076,243	4,357,989	35,805,246	40,163,235

Table 6. Commercial harvest by region in pounds (x1000), 1996-2022 calendar years. Source: State compliance reports.

^Estimates exclude inshore harvest.

Year	Ocean								Chesapeake Bay				Grand Total
	MA	RI	NY	DE	MD	VA	NC^	Total	MD	PRFC	VA	Total	
1996	695.9	122.6	504.4	120.5	75.7	165.9	58.2	1,743.2	1,487.7	346.8	1,245.2	3,079.7	4,822.9
1997	784.9	96.5	460.8	166.0	94.0	179.1	463.1	2,244.4	2,119.2	731.9	983.0	3,834.2	6,078.6
1998	810.1	94.7	485.9	163.2	84.6	375.0	273.0	2,286.6	2,426.7	726.2	1,112.2	4,265.1	6,551.6
1999	766.2	119.7	491.8	187.1	62.6	614.8	391.5	2,633.7	2,274.8	653.3	923.4	3,851.4	6,485.1
2000	796.2	111.8	542.7	140.6	149.7	932.7	162.4	2,836.0	2,261.8	666.0	951.2	3,879.0	6,715.0
2001	815.4	129.7	633.1	198.8	113.9	782.4	381.1	3,054.3	1,660.9	658.7	893.1	3,212.6	6,267.0
2002	924.9	129.2	518.6	160.6	93.2	710.2	441.0	2,977.6	1,759.4	521.0	894.4	3,174.9	6,152.6
2003	1,055.5	190.2	753.3	191.5	103.9	166.4	201.2	2,662.1	1,721.8	676.6	1,690.4	4,088.7	6,750.8
2004	1,214.2	232.3	741.7	182.2	134.2	161.3	605.4	3,271.2	1,790.3	772.3	1,507.0	4,069.6	7,340.8
2005	1,102.2	215.6	689.8	173.1	46.9	185.2	604.5	3,017.4	2,008.7	533.6	1,561.0	4,103.3	7,120.6
2006	1,322.3	221.4	688.4	179.5	91.1	195.0	74.2	2,771.8	2,116.3	673.5	1,219.0	4,008.7	6,780.5
2007	1,039.3	240.6	731.5	188.7	96.3	162.3	379.5	2,838.1	2,240.6	599.3	1,369.2	4,209.1	7,047.2
2008	1,160.3	245.9	653.1	188.8	118.0	163.1	288.4	2,817.7	2,208.0	613.8	1,551.3	4,373.1	7,190.8
2009	1,134.3	234.8	789.9	192.4	127.3	140.4	190.0	2,809.1	2,267.3	727.8	1,413.3	4,408.4	7,217.5
2010	1,224.5	248.9	786.8	185.4	44.8	127.8	276.4	2,894.7	2,105.8	683.2	1,313.0	4,102.0	6,996.7
2011	1,163.9	228.2	855.3	188.6	21.4	158.8	246.4	2,862.5	1,955.1	694.2	1,278.1	3,927.3	6,789.8
2012	1,218.5	239.9	683.8	194.3	77.6	170.8	7.3	2,592.0	1,851.4	733.7	1,339.6	3,924.7	6,516.8
2013	1,004.5	231.3	823.8	191.4	93.5	182.4	0.0	2,526.9	1,662.2	623.8	1,006.8	3,292.8	5,819.7
2014	1,138.5	216.9	531.5	167.9	120.9	183.7	0.0	2,359.4	1,805.7	603.4	1,169.4	3,578.5	5,937.9
2015	866.0	188.3	516.3	144.1	34.6	138.1	0.0	1,887.5	1,436.9	538.0	967.6	2,942.5	4,830.0
2016	938.7	174.7	575.0	136.5	19.7	139.2	0.0	1,983.9	1,425.5	537.1	902.3	2,864.9	4,848.8
2017	823.4	175.3	701.2	141.8	80.5	133.9	0.0	2,056.1	1,439.8	492.7	827.8	2,760.3	4,816.4
2018	753.7	116.8*	617.2	155.0	79.8	134.2	0.0	1,856.7	1,424.3	449.4	951.0	2,824.7	4,681.5
2019	584.7	144.2	358.9	132.6	82.8	138.0	0.0	1,441.2	1,475.2	417.3	951.1	2,843.6	4,284.8
2020	386.9	115.9	530.5	138.0	83.6	77.2	0.0	1,332.2	1,273.8	400.3	613.8	2,287.9	3,620.0
2021	732.1	130.3	629.5	140.3	88.7	119.9	0.0	1,840.7	1,351.5	411.3	731.9	2,494.7	4,335.4
2022	770.1	99.9*	623.3	139.2	88.9	121.7	0.0	1,843.2	1,363.4	428.5	722.9	2,514.7	4,357.9

\*Rhode Island general category harvest (mostly rod and reel) shown only; floating fish trap landings confidential in 2018 and 2022.

Table 7. Commercial harvest and discards by region in numbers of fish (x1000), 1996-2022 calendar years. Source: harvest is from state compliance reports, discards is from ASMFC. ^Estimates exclude inshore harvest.

Year	Ocean								Chesapeake Bay				Discards**			Grand Total Removals
	MA	RI	NY	DE	MD	VA	NC^	Total	MD	PRFC	VA	Total	Ocean	Bay	Total	
1996	37.3	18.6	40.5	20.7	9.0	14.1	3.3	143.5	486.2	46.2	178.2	710.6	165.3	92.2	257.5	1,111.6
1997	44.0	7.1	37.6	33.2	8.4	17.3	25.8	173.4	620.3	87.7	195.2	903.2	237.9	86.5	324.4	1,401.0
1998	44.3	8.8	45.1	31.4	10.3	41.1	14.2	195.2	729.6	93.3	197.1	1,020.1	308.3	38.2	346.5	1,561.8
1999	40.9	11.6	49.9	34.8	10.2	48.7	21.1	217.2	776.0	90.6	139.8	1,006.3	312.5	34.7	347.2	1,570.8
2000	42.1	9.4	54.9	25.2	13.3	54.5	6.5	205.8	787.6	91.5	132.0	1,011.0	183.0	30.9	213.9	1,430.7
2001	45.8	10.9	58.3	34.4	11.1	42.3	25.0	227.7	538.8	87.8	77.1	703.7	140.0	35.8	175.8	1,107.2
2002	49.8	11.7	47.1	30.4	10.2	38.8	23.2	211.3	571.7	80.3	64.7	716.8	142.7	44.4	187.1	1,115.2
2003	56.4	15.5	68.4	31.5	11.6	10.5	5.8	199.6	427.9	83.1	143.7	654.7	91.9	34.3	126.3	980.6
2004	63.6	16.0	70.4	28.4	14.1	10.4	31.0	233.9	447.0	92.6	106.3	645.9	106.5	49.5	156.0	1,035.8
2005	60.5	14.9	70.6	26.3	6.1	11.3	27.3	217.1	563.9	80.6	108.9	753.3	85.3	57.1	142.4	1,112.8
2006	70.5	15.4	73.6	30.2	10.9	11.5	2.7	214.9	645.1	92.3	95.4	832.7	97.1	55.2	152.3	1,200.0
2007	54.2	13.9	78.5	31.1	11.6	10.6	16.8	216.7	587.6	86.5	124.3	798.4	93.4	64.6	158.1	1,173.2
2008	61.1	16.6	73.3	31.9	14.0	10.8	13.4	221.0	580.7	82.0	144.1	806.8	63.1	45.7	108.8	1,136.7
2009	59.4	16.8	82.6	21.8	12.5	8.9	9.0	211.1	605.6	89.6	143.8	839.0	59.2	74.1	133.3	1,183.4
2010	60.4	15.7	82.4	19.8	5.4	9.4	13.7	206.8	579.2	90.6	154.9	824.7	39.2	93.2	132.4	1,163.8
2011	58.7	14.3	87.4	20.5	2.1	12.2	10.9	206.0	488.9	96.1	153.7	738.7	34.1	47.9	82.0	1,026.8
2012	61.5	15.0	67.1	15.7	6.9	10.8	0.3	177.3	465.6	90.7	137.0	693.4	25.1	167.1	192.2	1,062.9
2013	58.6	13.8	76.2	17.7	7.6	10.0	0.0	183.8	391.5	78.0	131.0	600.5	37.3	75.3	112.6	897.0
2014	58.0	10.5	52.9	14.9	8.5	10.0	0.0	154.8	362.2	81.5	151.8	595.5	49.1	65.0	114.1	864.3
2015	42.3	11.3	45.6	11.0	2.6	7.7	0.0	120.4	298.3	71.0	132.2	501.5	37.1	51.5	88.6	710.6
2016	48.0	11.7	51.0	8.8	1.2	7.6	0.0	128.3	284.9	73.7	122.2	480.8	45.1	46.1	91.2	700.2
2017	41.2	10.1	61.6	9.5	3.5	7.6	0.0	133.5	263.6	67.5	128.0	459.2	78.4	20.4	98.8	691.5
2018	37.8	4.6*	52.2	11.4	3.5	6.9	0.0	116.4	286.4	64.4	148.4	499.3	56.8	44.5	101.3	716.9
2019	29.6	7.3	29.6	8.2	3.3	6.9	0.0	84.9	356.7	62.6	149.6	568.9	18.2	67.1	85.3	739.1
2020	19.6	5.037	49.3	8.4	3.4	4.42	0.0	90.2	299.9	66.6	126.4	492.9	24.8	33.8	58.6	641.7
2021	36.9	4.6	58.8	9.2	3.6	6.6	0.0	119.6	310.4	68.0	146.2	524.6	14.0	71.7	85.7	729.9
2022	33.0	3.9*	53.8	8.2	3.4	6.3	0.0	108.5	295.3	71.7	146.7	513.7	13.2	68.0	81.2	703.4

\*\* Commercial dead discard estimate for 2022 was estimated using the harvest-to-discard ratio from 2021. The entire time series for commercial dead discards will be re-estimated during the 2024 stock assessment using a generalized additive model. \*RI general category harvest only; floating fish trap confidential for 2018, 2022.



Table 8. Total recreational catch, releases, and release mortality in numbers of fish by region (x1000), 1996-2022. Source: MRIP (Query June 2023).  
 Estimates exclude inshore harvest from North Carolina.

Year	Harvest (A+B1)			Releases (B2)			Total Catch (A+B1+B2)			Release Mortality (9% of B2)		
	Ocean	Bay	Total	Ocean	Bay	Total	Ocean	Bay	Total	Ocean	Bay	Total
1996	1,362	1,125	2,487	22,384	6,511	28,895	23,746	7,636	31,382	2,015	586	2,601
1997	1,514	1,261	2,775	22,819	10,178	32,998	24,333	11,439	35,773	2,054	916	2,970
1998	1,647	1,268	2,915	29,294	6,918	36,213	30,941	8,187	39,128	2,637	623	3,259
1999	1,758	1,366	3,123	26,139	8,760	34,899	27,897	10,125	38,022	2,353	788	3,141
2000	2,198	1,604	3,802	25,090	8,734	33,824	27,289	10,338	37,627	2,258	786	3,044
2001	2,758	1,294	4,052	21,073	6,145	27,218	23,831	7,440	31,270	1,897	553	2,450
2002	2,756	1,249	4,005	23,653	7,371	31,024	26,409	8,620	35,030	2,129	663	2,792
2003	3,124	1,658	4,781	20,678	10,971	31,649	23,802	12,628	36,431	1,861	987	2,848
2004	3,078	1,475	4,553	27,868	12,857	40,725	30,946	14,332	45,278	2,508	1,157	3,665
2005	3,182	1,299	4,481	28,663	9,580	38,244	31,845	10,879	42,724	2,580	862	3,442
2006	2,789	2,095	4,884	41,239	12,232	53,470	44,028	14,327	58,354	3,711	1,101	4,812
2007	2,327	1,618	3,945	25,135	7,579	32,714	27,462	9,196	36,659	2,262	682	2,944
2008	3,025	1,356	4,381	21,878	4,691	26,569	24,904	6,046	30,950	1,969	422	2,391
2009	2,898	1,803	4,700	16,740	4,838	21,578	19,638	6,641	26,279	1,507	435	1,942
2010	3,906	1,483	5,388	13,606	5,957	19,564	17,512	7,440	24,952	1,225	536	1,761
2011	3,617	1,389	5,006	12,644	3,823	16,467	16,261	5,212	21,473	1,138	344	1,482
2012	3,071	975	4,046	11,242	9,290	20,532	14,314	10,265	24,578	1,012	836	1,848
2013	3,723	1,435	5,158	19,463	7,131	26,594	23,186	8,565	31,751	1,752	642	2,393
2014	2,276	1,758	4,034	15,107	9,031	24,137	17,382	10,789	28,171	1,360	813	2,172
2015	1,770	1,316	3,086	15,419	10,216	25,635	17,189	11,532	28,721	1,388	919	2,307
2016	1,817	1,683	3,500	17,794	15,333	33,127	19,611	17,016	36,627	1,601	1,380	2,981
2017	1,738	1,200	2,938	28,963	9,050	38,012	30,701	10,249	40,950	2,607	814	3,421
2018	1,195	1,050	2,245	22,739	8,669	31,407	23,933	9,719	33,652	2,046	780	2,827
2019	1,342	809	2,151	21,131	7,636	28,767	22,473	8,445	30,918	1,902	687	2,589
2020	923	787	1,710	22,710	7,959	30,669	23,633	8,746	32,379	2,044	716	2,760
2021	1,189	653	1,842	24,281	4,427	28,709	25,470	5,081	30,551	2,185	398	2,584
2022	2,756	697	3,454	26,031	3,611	29,643	28,788	4,309	33,097	2,343	325	2,668

Table 9. Recreational harvest by region in pounds (x1000), 1996-2022. Source: MRIP (Query June 2023). ^Estimates exclude NC inshore harvest.

Year	Ocean												Chesapeake Bay			Grand Total
	ME	NH	MA	RI	CT	NY	NJ	DE	MD	VA	NC^	Total	MD	VA	Total	
1996	95	183	2,983	1,626	1,405	10,739	3,959	795	0.0	812	392	22,990	2,789	2,847	5,636	28,626
1997	223	538	5,133	1,997	2,263	8,543	2,179	374	0.0	1,096	865	23,211	3,203	4,203	7,405	30,616
1998	305	262	7,359	1,544	1,807	4,889	4,182	645	579	545	636	22,754	3,023	3,826	6,849	29,603
1999	196	181	4,995	1,904	1,327	7,414	9,473	312	3.8	110	339	26,256	2,323	4,986	7,309	33,565
2000	347	109	4,863	2,008	890	7,053	9,768	925	0.0	416	277	26,656	3,503	3,892	7,395	34,051
2001	446	334	7,188	2,044	1,101	5,058	12,314	695	314	382	1,082	30,959	2,928	5,376	8,304	39,263
2002	775	322	10,261	2,708	1,251	5,975	9,621	589	0.0	1,135	998	33,634	2,643	5,563	8,206	41,840
2003	458	466	10,252	4,052	2,666	10,788	12,066	763	14	392	966	42,882	5,246	5,964	11,210	54,092
2004	554	268	9,329	2,460	2,229	6,437	13,303	870	57	1,067	6,656	43,230	4,860	4,941	9,801	53,031
2005	546	384	7,541	3,155	3,133	11,637	14,289	680	7.7	487	3,947	45,808	7,753	3,860	11,614	57,421
2006	610	244	6,787	1,569	2,854	9,845	12,716	586	2.8	921	2,975	39,109	6,494	5,071	11,565	50,674
2007	422	93	7,010	2,077	2,786	10,081	8,390	207	0.0	516	1,965	33,547	5,249	4,027	9,277	42,824
2008	607	182	8,424	970	2,273	18,000	12,407	847	0.0	1,690	750	46,150	5,639	4,877	10,515	56,665
2009	781	222	9,410	2,185	1,458	7,991	17,040	940	138	48	187	40,399	8,672	5,340	14,012	54,411
2010	218	238	9,959	2,102	2,323	18,190	17,454	895	107	206	1,198	52,891	6,482	2,059	8,541	61,431
2011	245	659	11,953	3,066	981	13,151	15,715	605	8.6	308	4,467	51,157	6,220	2,214	8,435	59,592
2012	152	432	14,941	2,096	1,835	13,096	11,551	644	21	1.7	0.0	44,768	3,819	4,670	8,488	53,257
2013	331	831	9,025	4,428	4,236	16,819	19,451	1,073	1,051	67	0.0	57,313	5,137	2,607	7,744	65,057
2014	423	203	7,965	3,402	2,665	13,998	8,886	381	159	0.0	0.0	38,083	8,877	989	9,866	47,949
2015	132	202	7,799	1,394	2,585	8,695	9,982	340	28	0.0	0.0	31,156	7,786	957	8,743	39,899
2016	189	191	3,731	1,776	912	12,053	12,790	86	7.2	0.0	0.0	31,735	10,912	1,024	11,936	43,672
2017	318	394	5,664	1,655	1,560	8,885	10,886	666	0.0	1.8	0.0	30,030	7,309	613	7,922	37,953
2018	142	130	4,925	1,121	1,165	3,453	7,012	33	0.0	0.0	0.0	17,982	4,683	404	5,087	23,069
2019	415	291	2,698	2,300	685	7,072	6,674	44	7.3	0.0	0.0	20,187	3,145	224	3,370	23,556
2020	180	29	776	483	830	2,202	6,584	16	0.0	0.0	0.0	11,100	3,480	280	3,759	14,859
2021	89	36	1,826	597	201	1,492	8,313	132	0	0	0	12,686	2,682	414	3,095	15,782
2022	590	240	5,288	779	1,294	10,695	13,508	39	0	0	0	32,434	3,083	288	3,371	35,805

Table 10. Recreational harvest by region in numbers of fish (x1000), 1996-2022. Source: MRIP (Query June 2023). ^Estimates exclude NC inshore harvest.

Year	Ocean												Chesapeake Bay			Grand Total
	ME	NH	MA	RI	CT	NY	NJ	DE	MD	VA	NC^	Total	MD	VA	Total	
1996	4.1	11.0	156.6	100.6	95.9	511.6	301.2	59.7	0.0	89.6	31.7	1,362.0	564.2	561.3	1,125.5	2,487.4
1997	43.0	29.9	365.6	124.7	149.0	450.5	171.2	29.1	0.0	91.1	60.1	1,514.1	552.4	708.4	1,260.8	2,775.0
1998	65.3	14.8	500.9	91.1	114.1	383.8	289.2	51.0	24.3	71.3	41.2	1,647.0	596.2	672.2	1,268.4	2,915.4
1999	37.5	9.9	327.1	116.6	88.2	450.9	657.1	28.3	1.6	14.1	26.4	1,757.8	530.9	834.8	1,365.7	3,123.5
2000	77.3	6.0	306.2	156.8	84.0	494.6	939.8	88.3	0.0	27.2	18.1	2,198.3	810.9	793.3	1,604.2	3,802.5
2001	91.9	23.5	551.0	149.8	78.2	364.2	1,267.5	70.6	64.1	36.7	60.7	2,758.1	513.3	781.1	1,294.4	4,052.5
2002	135.2	28.1	723.5	181.5	92.5	439.3	957.6	65.7	0.0	76.4	56.3	2,756.1	464.4	784.6	1,249.0	4,005.1
2003	99.7	41.3	797.2	226.4	181.7	678.4	942.8	75.7	0.9	29.3	50.4	3,123.8	816.0	841.6	1,657.6	4,781.4
2004	118.3	22.1	666.7	159.6	134.5	458.1	1,042.1	66.6	11.0	75.9	323.2	3,078.1	657.5	817.4	1,474.9	4,553.0
2005	118.3	35.5	536.1	195.6	202.6	854.6	958.1	48.8	3.6	34.2	194.9	3,182.2	815.5	483.1	1,298.6	4,480.8
2006	140.9	20.9	483.2	129.3	168.3	614.8	972.2	44.5	0.4	80.6	134.2	2,789.0	1,342.0	753.0	2,094.9	4,884.0
2007	95.5	8.1	471.9	135.8	163.9	602.8	722.2	17.2	0.0	28.0	81.8	2,327.1	1,127.3	490.3	1,617.6	3,944.7
2008	133.4	11.9	514.1	73.4	132.8	1,169.9	791.0	67.7	0.0	94.4	36.9	3,025.4	779.7	576.1	1,355.8	4,381.2
2009	146.5	17.3	695.0	138.4	100.3	574.2	1,141.5	64.8	10.2	3.0	6.5	2,897.7	1,094.4	708.1	1,802.5	4,700.2
2010	37.3	21.4	808.2	162.0	170.2	1,449.0	1,091.4	61.4	12.5	25.3	67.1	3,905.9	1,139.3	343.2	1,482.6	5,388.4
2011	48.5	54.2	873.5	202.2	91.1	1,005.3	1,038.9	43.7	0.8	51.2	207.6	3,617.1	1,112.1	277.2	1,389.3	5,006.4
2012	31.4	37.3	1,010.6	130.7	137.1	927.5	742.4	51.3	2.9	0.3	0.0	3,071.5	716.7	258.1	974.8	4,046.3
2013	73.3	63.2	658.7	308.3	269.6	902.5	1,324.2	70.6	48.4	4.4	0.0	3,723.2	1,136.7	297.9	1,434.5	5,157.8
2014	86.4	16.5	523.5	172.0	131.8	804.5	501.9	26.2	12.6	0.0	0.0	2,275.5	1,627.0	131.2	1,758.2	4,033.7
2015	14.4	10.0	485.3	67.0	140.8	406.8	600.3	41.9	3.5	0.0	0.0	1,770.1	1,108.0	207.7	1,315.7	3,085.7
2016	14.2	17.6	230.1	128.4	63.3	697.7	659.6	5.9	0.5	0.0	0.0	1,817.2	1,545.1	138.1	1,683.2	3,500.4
2017	22.0	37.7	392.3	59.8	94.9	477.3	626.4	27.8	0.0	0.1	0.0	1,738.3	1,091.6	108.0	1,199.6	2,937.9
2018	16.0	13.4	389.5	39.2	85.5	181.7	465.3	4.2	0.0	0.0	0.0	1,194.6	993.3	56.8	1,050.1	2,244.8
2019	38.0	14.7	195.6	104.1	67.1	498.0	412.9	10.9	1.0	0.0	0.0	1,342.2	764.1	44.6	808.7	2,150.9
2020	19.0	3.2	67.2	36.9	71.2	203.7	520.1	1.6	0.0	0.0	0.0	922.9	734.8	52.2	787.0	1,710.0
2021	12.7	4.4	179.1	57.7	21.2	137.8	766.2	9.496	0.0	0.0	0.0	1,189	583.7	69.6	653.3	1,842.9
2022	57.6	23.4	479.9	66.4	116.2	882.9	1,126.5	4.0	0.0	0.0	0.0	2,757	642.2	55.0	697.2	3,454.0

Table 11. Results of 2022 commercial quota accounting in pounds. Source: 2023 state compliance reports. 2022 quota was based on Addendum VI and approved conservation equivalency programs.

State	2020-22 Quota <sup>^</sup>	2022 Harvest	2022 Overage
<b>Ocean</b>			
Maine*	154	-	-
New Hampshire*	3,537	-	-
Massachusetts	735,240	770,101	34,861
Rhode Island General Category	90,822	162,434	9,151
Rhode Island Floating Fish Trap	58,067	Confidential	Confidential (overage)
Connecticut*	14,607	-	-
New York	640,718	623,304	0
New Jersey**	215,912	-	-
Delaware	142,474	139,221	0
Maryland	89,094	88,069 <sup>+</sup>	0
Virginia	125,034	121,723	0
North Carolina	295,495	0	0
<b>Ocean Total</b>	<b>2,411,154</b>	<b>1,904,852</b>	<b>0</b>
<b>Chesapeake Bay</b>			
Maryland	1,445,394	1,223,606 <sup>+</sup>	0
Virginia	983,393	722,866	0
PRFC	572,861	440,087	0
<b>Bay Total</b>	<b>3,001,648</b>	<b>2,483,438</b>	<b>0</b>

Note: North Carolina's fishing year is December-November; PRFC's fishing year for gill nets is November-March.

\* Commercial harvest/sale prohibited, with no re-allocation of quota.

\*\* Commercial harvest/sale prohibited, with re-allocation of quota to the recreational fishery.

<sup>^</sup> Quota changed through conservation equivalency for MA (735,240 lbs), NY (640,718 lbs), NJ (215,912 lbs), DE (142,474 lbs), MD (ocean: 89,094 lbs; bay: 1,445,394 lbs), PRFC (572,861 lbs), VA (ocean: 125,034 lbs; bay: 983,393 lbs).

<sup>+</sup> Maryland commercial landings for 2022 are considered preliminary.

Table 12. Number of directed trips for Atlantic striped bass (primary and secondary target) from Maine through North Carolina (excluding inshore NC) for 2018-2022. Source: MRIP (Query June 2023).

<b>Year</b>	<b>Ocean</b>	<b>Chesapeake Bay</b>	<b>Coastwide Total</b>
<b>2018</b>	15,686,903	2,650,311	<b>18,337,214</b>
<b>2019</b>	16,189,653	1,967,387	<b>18,157,040</b>
<b>2020</b>	15,859,277	2,678,922	<b>18,538,199</b>
<b>2021</b>	16,017,420	2,183,568	<b>18,200,988</b>
<b>2022</b>	21,046,502	2,132,346	<b>23,178,848</b>

Tables 13a-13c. Total removals in numbers of fish (harvest plus discards/release mortality) of Atlantic striped bass by sector in numbers of fish for 2017, 2020, 2021, and 2022. Harvest is from state compliance reports/MRIP (Query June 2023), discards/release mortality is from ASMFC. Estimates exclude inshore harvest from North Carolina.

Table 13a. Coastwide removals in numbers of fish for 2017 and 2020-2022.

	Commercial		Recreational		Total	
	Commercial Removals	% Change from 2017	Recreational Removals	% Change from 2017	Total Removals	% Change from 2017
2017	691,471	-	6,359,021	-	7,050,492	-
2020	641,711	-7%	4,470,204	-30%	5,111,915	<b>-27.5%</b>
2021	729,883	+6%	4,425,690	-30%	5,155,573	<b>-27%</b>
2022	703,422	+2%	6,121,867	-4%	6,825,288	<b>-3.2%</b>

Table 13b. Ocean removals in numbers of fish for 2017 and 2020-2022.

	Commercial		Recreational		Total	
	Commercial Removals	% Change from 2017	Recreational Removals	% Change from 2017	Total Removals	% Change from 2017
2017	211,924	-	4,344,953	-	4,556,877	-
2020	115,044	-46%	2,966,848	-32%	3,081,891	<b>-32%</b>
2021	133,569	-37%	3,373,924	-22%	3,507,493	<b>-23%</b>
2022	121,757	-43%	5,099,654	+17%	5,221,412	<b>+15%</b>

Table 13c. Chesapeake Bay removals in numbers of fish for 2017 and 2020-2022.

	Commercial		Recreational		Total	
	Commercial Removals	% Change from 2017	Recreational Removals	% Change from 2017	Total Removals	% Change from 2017
2017	479,547	-	2,014,068	-	2,493,615	-
2020	526,667	+10%	1,503,357	-25%	2,030,024	<b>-19%</b>
2021	596,314	+24%	1,051,766	-48%	1,648,080	<b>-34%</b>
2022	581,665	+21%	1,022,212	-49%	1,603,877	<b>-36%</b>

Note: Some states chose a less than 18% commercial quota reduction in exchange for a greater than 18% reduction in recreational removals in their CE plans.

Table 14. Realized percent change in recreational removals in numbers of fish (harvest plus release mortality) of Atlantic striped bass by state relative to 2017 and predicted percent change in recreational removals from approved conservation equivalency plans (where applicable). Harvest is from MRIP (Query June 2023), release mortality is from ASMFC. Estimates exclude inshore harvest from North Carolina. NA = Percent reduction not calculated if implementing Addendum VI measure.

State	Realized % Change Recreational Harvest from 2017		Realized % Change Recreational Release Mortality from 2017		Realized % Change Rec. Removals (Harvest + Release Mortality) from 2017		Predicted % Change in Rec. Removals from CE Plan
	2021	2022	2021	2022	2021	2022	
Maine	-42%	+161%	-25%	-55%	-26%	-38%	NA
New Hampshire	-88%	-38%	-71%	-26%	-75%	-29%	NA
Massachusetts	-54%	+22%	-64%	-55%	-61%	-35%	NA
Rhode Island	-4%	+11%	+91%	-39%	+62%	-24%	NA
Connecticut	-78%	+23%	-41%	-46%	-48%	-34%	NA
New York	-71%	+85%	+13%	+146%	-42%	+106%	-23.8%
New Jersey	+22%	+80%	+237%	+186%	+76%	+106%	-25%
Delaware	-66%	-86%	+11%	+188%	-31%	+38%	-20%
Maryland	-47%	-41%	-50%	-56%	-48%	-47%	-20.6%
Virginia	-36%	-49%	-60%	-76%	-48%	-63%	-23.4%
North Carolina <sup>^</sup>	-	-	+305%	+570%	+305%	+570%	NA
<b>Coastwide Total</b>	<b>-37%</b>	<b>+18%</b>	<b>-24%</b>	<b>-22%</b>	<b>-30%</b>	<b>-4%</b>	

<sup>^</sup>Offshore recreational harvest for North Carolina was 0 fish in 2017 and 2020-2022. Offshore estimated release mortality for North Carolina was 463 fish in 2017, 0 fish in 2020, 1,875 fish in 2021, and 3,107 fish in 2022.

Note: Increased harvest in 2022 and increased recreational releases in NY, NJ, and DE contributed to realized reductions in total recreational removals being less than predicted for those states.

Table 15. Percent change in commercial harvest by weight of Atlantic striped bass by state relative to 2017 and percent change in commercial quota from 2017. Note: Harvest is from state compliance reports. Estimates exclude inshore harvest from North Carolina.

State	% Change in Commercial Harvest by weight from 2017		% Change in Commercial Quota <sup>+</sup>
	2021	2022	Add VI
<b>Ocean</b>			
Maine			
New Hampshire			
Massachusetts	-11%	-6%	-18%*
Rhode Island	-26%	Conf	-18%
Connecticut			
New York	-10%	-11%	-18%*
New Jersey			
Delaware	-1%	-2%	-1.8%
Maryland (ocean)	+10%	11%	-1.8%
Virginia (ocean)	-10%	-9%	-9.8%
North Carolina <sup>^</sup>	-	-	-18%
<b>Ocean Total</b>	<b>-10%</b>	<b>-10%</b>	
<b>Chesapeake Bay</b>			
Maryland (Ches. Bay)	-9%	-5%	-1.8%
PRFC (Ches. Bay)	-17%	-13%	-1.8%
Virginia (Ches. Bay)	-12%	-13%	-7.7%
<b>Chesapeake Bay Total</b>	<b>-12%</b>	<b>-9%</b>	
<b>Coastwide Total</b>	<b>-11%</b>	<b>-10%</b>	

+ 2020-2022 quota changed through conservation equivalency for MA, NY, NJ, DE, MD, PRFC, VA.

\*MA and NY quotas were based on an 18% reduction from 2017 quota and spawner-per-recruit (SPR) analysis that accounted for changing the commercial size limits.

<sup>^</sup>North Carolina reported no ocean commercial harvest in 2017, 2020-2022.

Note: Some states chose a less than 18% commercial quota reduction in exchange for a greater than 18% reduction in recreational removals in their CE plans.



Table 16. Status of Commercial Tagging Programs by state for 2022.

State	Total Participants	Tags Issued	Tags Used	Tags Returned /Broken	Tags Not Accounted For <sup>1</sup>	Point of Tag (sale/harvest)	Biological Metric <sup>2</sup> (Y/N)	Year, State and Unique ID on Tag (Y/N)	Size Limit on Tag (Y/N)	Tag Colors	Annual Tag Color Change (Y/N)
MA	124	58,560	32,989	24,931	640	Sale	Y	Y	Y	one tag color	Y
RI GC only <sup>3</sup>	18	6,210	3,918	1,807	485	Sale	Y	Y	N	two tag colors by gear	Y
NY	377	61,000	53,750	5,970	1,288	Harvest	Y	Y	N	one tag color	Y
DE*	243	17,310	8,197	9,113	0	Both	Y	Y	N	Harvest: two tag colors by gear Sale: one color	Y
MD <sup>±</sup>	612	442,850	286,426	tbd	tbd	Harvest	Y	Y	N	three tag colors by fishery and area	Y
PRFC	323	83,329	73,608	9,409	524	Harvest	Y	Y	N	five tag colors by gear	N
VA	364	198,400	152,940	39,061	6,399	Harvest	Y	Y	Y	two tag colors by area	Y
NC <sup>^</sup>	16	6,650	4,824	1,820	6	Sale	Y	Y	Y	three tag colors by area	N

<sup>1</sup> Tags not accounted for refers to unused tags that are not returned/not reported as lost or missing.

<sup>2</sup> States are required to allocate commercial tags to permit holders based on a biological metric. Most states use the average weight per fish from the previous year, or some variation thereof. Actual biological metric used is reported in Annual Commercial Tag Monitoring Reports.

<sup>3</sup> Rhode Island tag information only listed for the general category (GC) fishery, which is mostly rod/reel. Floating fish trap harvest for 2022 are confidential.

\*The number of tags noted in the table for Delaware are the tags issued to and used by harvesters. Tags are also issued to weigh stations where a second tag is attached to each striped bass, such that each fish has two tags. In 2022, 14,000 weigh station tags were issued, 8,197 were used, 5,803 were returned, and 0 not accounted for.

± Maryland's audit of unused tags has been delayed by staffing issues.

^ All commercial tags noted in the table for North Carolina were used in the Albemarle Sound management area.

Note: North Carolina's fishing year is December-November; PRFC's fishing year for gill nets is November-March.

Table 17. Status of compliance with monitoring and reporting requirements in 2022. JAI = juvenile abundance index survey, SSB = spawning stock biomass survey, TAG = participation in coastwide tagging program, Y = compliance standards met, N = compliance standards not met, NA = not applicable, R = recreational, C = commercial.

Jurisdiction	Fishery-independent Monitoring		Fishery-dependent Monitoring		Annual reporting Status
	Requirement(s)	Status	Requirement(s)	Status	
ME	JAI	Y	-	NA	Y
NH	-	NA	-	NA	Y
MA	TAG	Y	composition, catch & effort (C&R), tag program	Y	Y
RI	-	NA	composition (C&R), catch & effort (R), tag program	Y	Y
CT	-	NA	composition, catch & effort (R)	Y	Y
NY	JAI, SSB, TAG	Y	composition, catch & effort (C&R), tag program	Y	Y
NJ	JAI, TAG	Y	composition, catch & effort (R)	Y	Y
PA	SSB	Y	-	NA	Y
DE	SSB, TAG	Y	composition, catch & effort (C), tag program	Y	Y
MD	JAI, SSB, TAG	Y	composition, catch & effort (C&R), tag program	Y	Y
PRFC	-	NA	composition, catch & effort (C&R), tag program	Y	Y
DC	-	NA	-	NA	Y
VA	JAI, SSB, TAG	Y	composition, catch & effort (C&R), tag program	Y	Y
NC	JAI, SSB, TAG	Y	composition, catch & effort (C&R), tag program	Y	Y

Table 18. State implementation of new Amendment 7 recreational gear provisions required to be implemented by January 1, 2023:

- *It shall be unlawful for any person to gaff or attempt to gaff any striped bass at any time when fishing recreationally.*
- *Striped bass caught on any unapproved method of take must be returned to the water immediately without unnecessary injury.*

State	Gaffing Prohibition	Referred Language for Incidental Catch Provision
Maine	Yes	Striped bass incidentally caught on any unapproved hook type must be returned to the water immediately without unnecessary injury.
New Hampshire	Yes	Fish shall be taken only by angling unless otherwise specifically permitted. If a fish is unintentionally taken contrary to the prohibitions or restrictions contained in a provision of this title, such fish shall be immediately liberated and returned to the water without unnecessary injury.
Massachusetts	Yes	Striped bass caught on any unapproved method of take must be returned to the water immediately without unnecessary injury.
Rhode Island	Yes	Striped bass caught on any unapproved method of take must be returned to the water immediately without unnecessary injury.
Connecticut	Yes	Striped bass shall not be taken except by angling and the use of a gaff in the taking of striped bass is prohibited. Any striped bass taken contrary to the provisions of this section shall, without avoidable injury, be returned immediately to the waters from which taken.
New York	Yes	Striped bass caught on any unapproved method of take must be returned to the water immediately without unnecessary injury.
New Jersey	Yes	Striped bass caught on any unapproved method of take must be returned to the water immediately without unnecessary injury.
Pennsylvania	Yes	<p>Any fish caught that is not to be counted in the creel limit shall be immediately released unharmed into the water from which taken. Except as otherwise provided in § 53.24 or § 63.40 (relating to tournament and fishing derby permits; and fishing tournaments and fishing derbies), a fish placed on a stringer, or confined by any type of container, structure or device, or not returned immediately to the water, will be considered as part of the daily creel or possession limits. Fish returned to the water shall be handled carefully and be returned unharmed to the water from which take.</p> <p>It is unlawful to use a method for taking fish or attempting to take fish from the waters of this Commonwealth, including boundary lakes and rivers, unless the use of the method is specifically authorized by law or this part.</p>

State	Gaffing Prohibition	Referred Language for Incidental Catch Provision
Delaware	Yes	It is unlawful for any recreational fisherman to take or attempt to take any striped bass from the tidal waters of this State with any fishing equipment other than a hook and line or a spear while said recreational fisherman using the spear is underwater... ... Any striped bass taken from the tidal waters of this State that is not immediately returned, without unnecessary injury, to the same waters from which it was taken, is deemed taken and reduced to possession for purposes of this subsection.
Maryland	Yes	An individual may only use the gear specified in this regulation to catch fish for recreational purposes from tidal waters. An individual using gear in accordance with this chapter shall comply with all seasons, creel limits, size limits, and other species-specific rules as specified under this subtitle...
District of Columbia	No, but does not specify gaffs as legal gear	Except as otherwise permitted by these rules, a person shall fish only with rod, hook, and line, not to exceed three (3) lines in number and not having more than two (2) hooks to each line. Artificial lures or plugs with multiple or gang hooks are considered one unit.  It is unlawful to: Take fish except as specified in this chapter
PRFC	Yes	Any fish, whose size is prohibited or whose season is closed by these regulations, which may be caught or entrapped as an incident to other lawful fishing activities, shall be immediately released and returned to the waters where found...
Virginia	Yes	It shall be unlawful for any person fishing recreationally to take, catch, or attempt to take or catch any striped bass by any gear or method other than hook-and-line, rod and reel, hand line, or spearing.
North Carolina	Yes	Striped bass taken on any unapproved method must be returned to the water immediately without unnecessary injury.

**XI. Figures**

Figure 1. Atlantic striped bass female spawning stock biomass and recruitment, 1982-2021. Source: 2022 Stock Assessment Update.

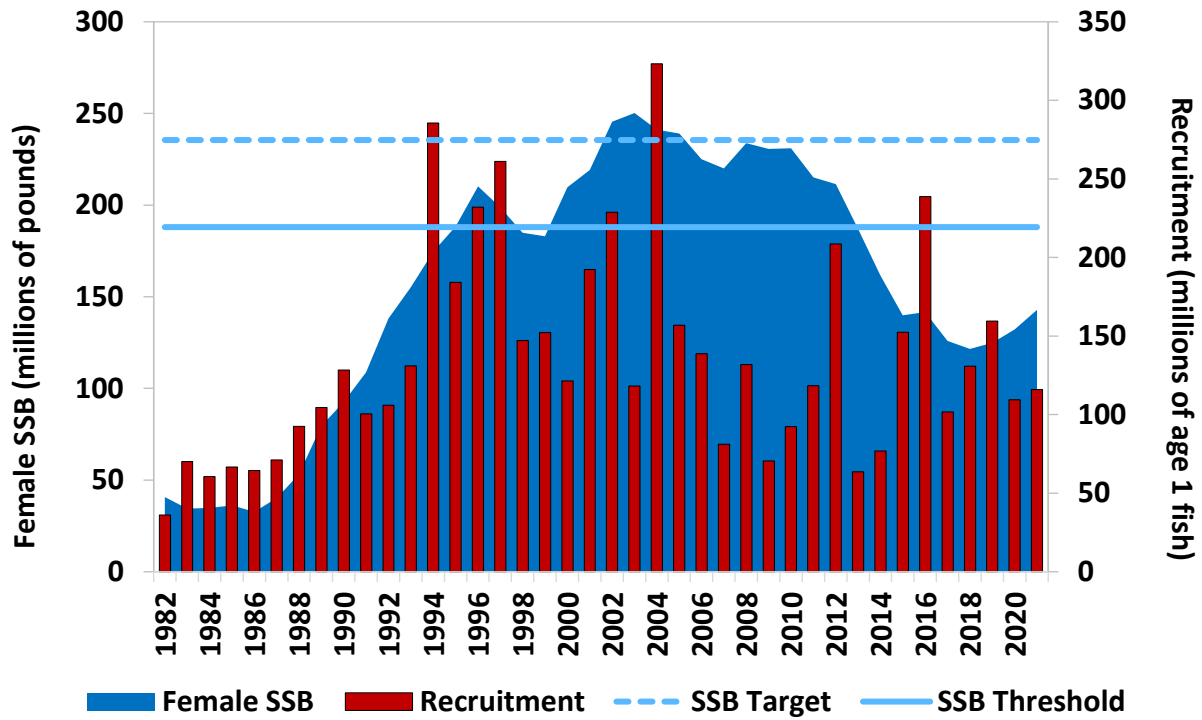


Figure 2. Atlantic striped bass fishing mortality, 1982-2021. Source: 2022 Stock Assessment Update.

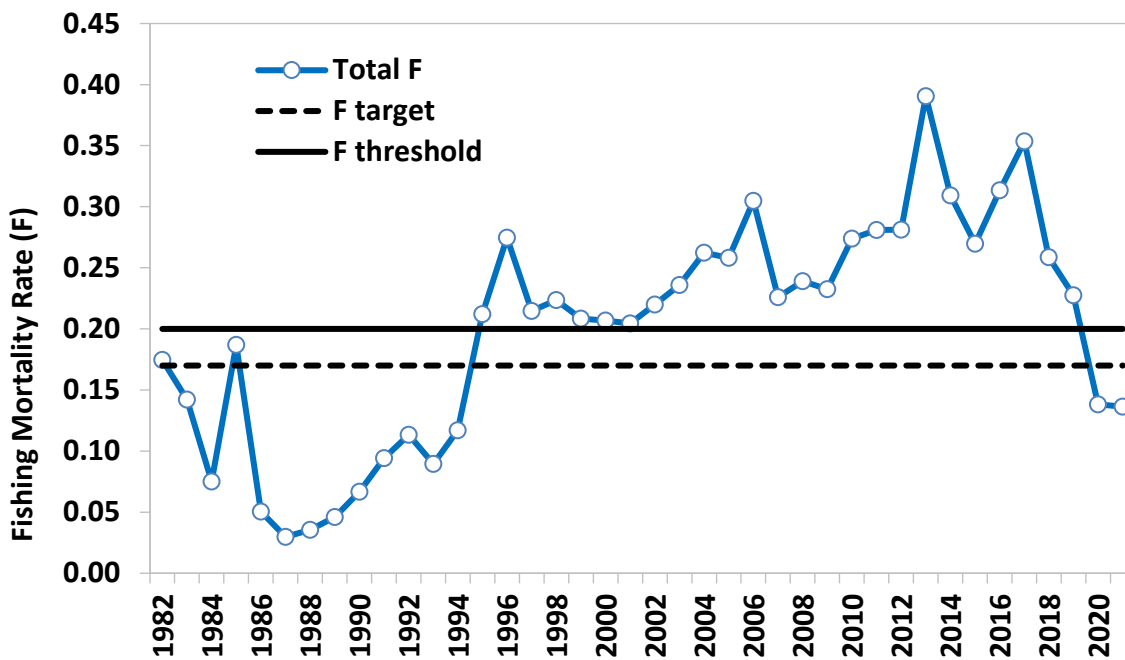


Figure 3. Albemarle Sound-Roanoke River striped bass female spawning stock biomass and recruitment (abundance of age-1), and biological reference points, 1991-2017. Source: 2020 A-R Stock Assessment (Lee et al. 2020).

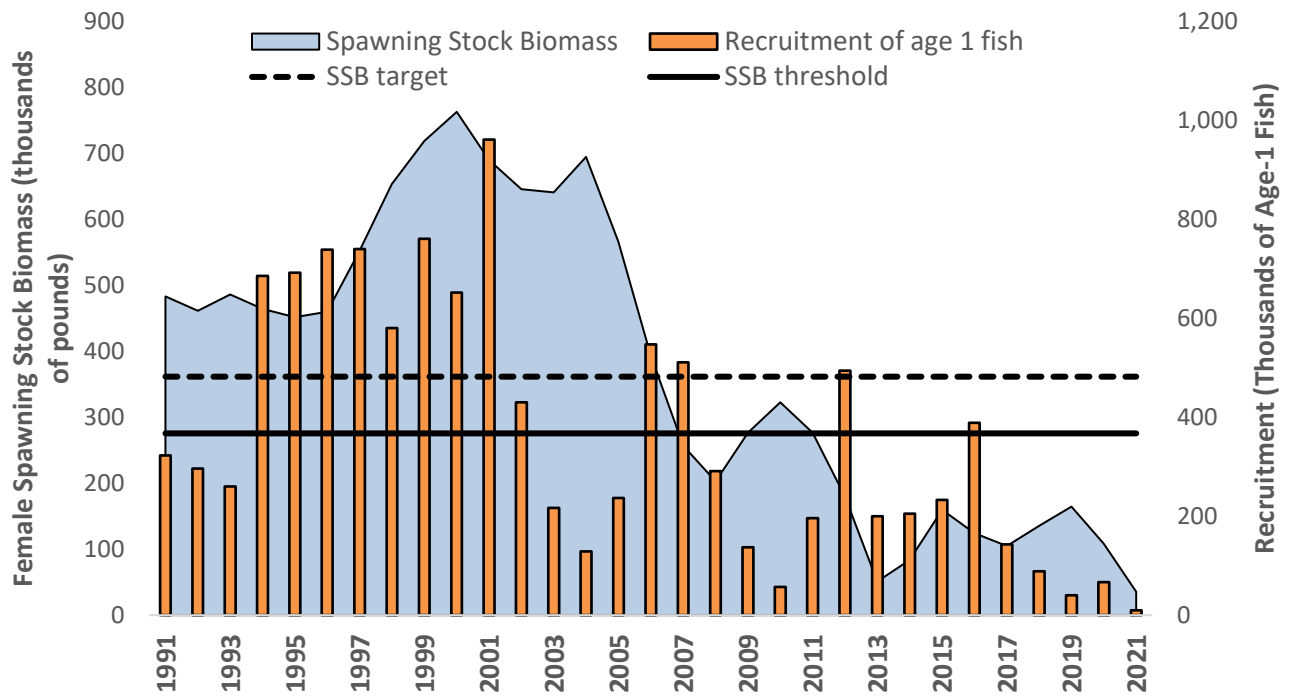


Figure 4. Albemarle Sounds-Roanoke River striped bass fishing mortality (F) estimates, and biological reference points, 1991-2017. Source: 2020 A-R Stock Assessment (Lee et al. 2020).

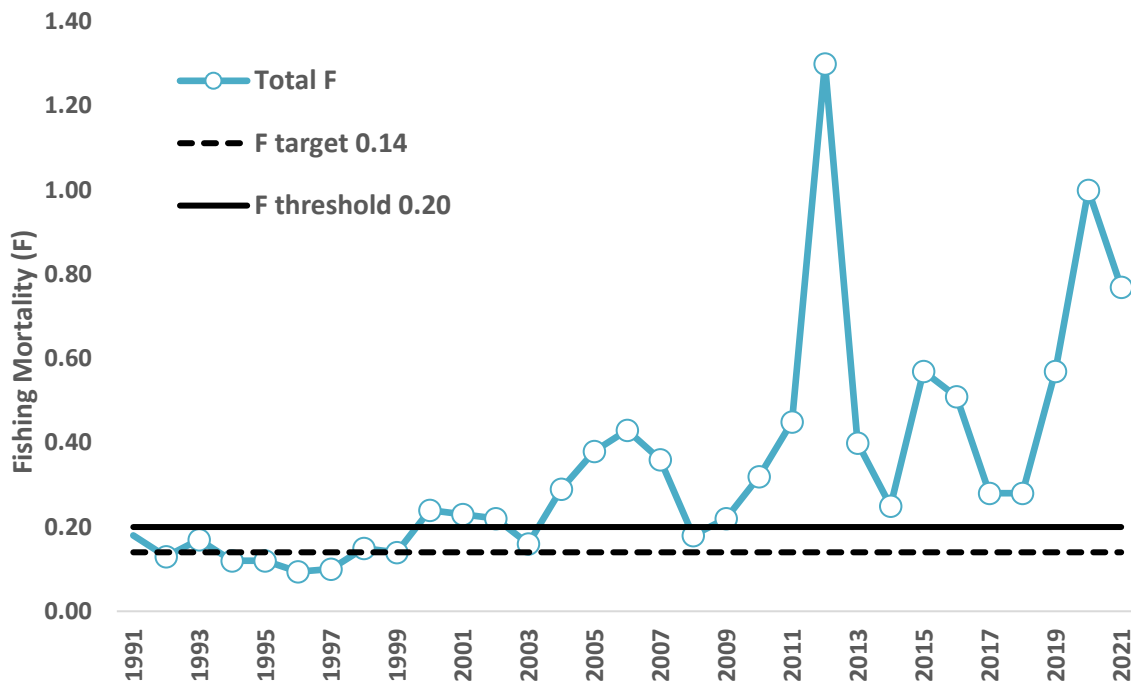


Figure 5. Total Atlantic striped bass removals by sector in numbers of fish, 1982-2022. Note: Harvest is from state compliance reports/MRIP, discards/release mortality is from ASMFC. Estimates exclude inshore harvest from A-R.

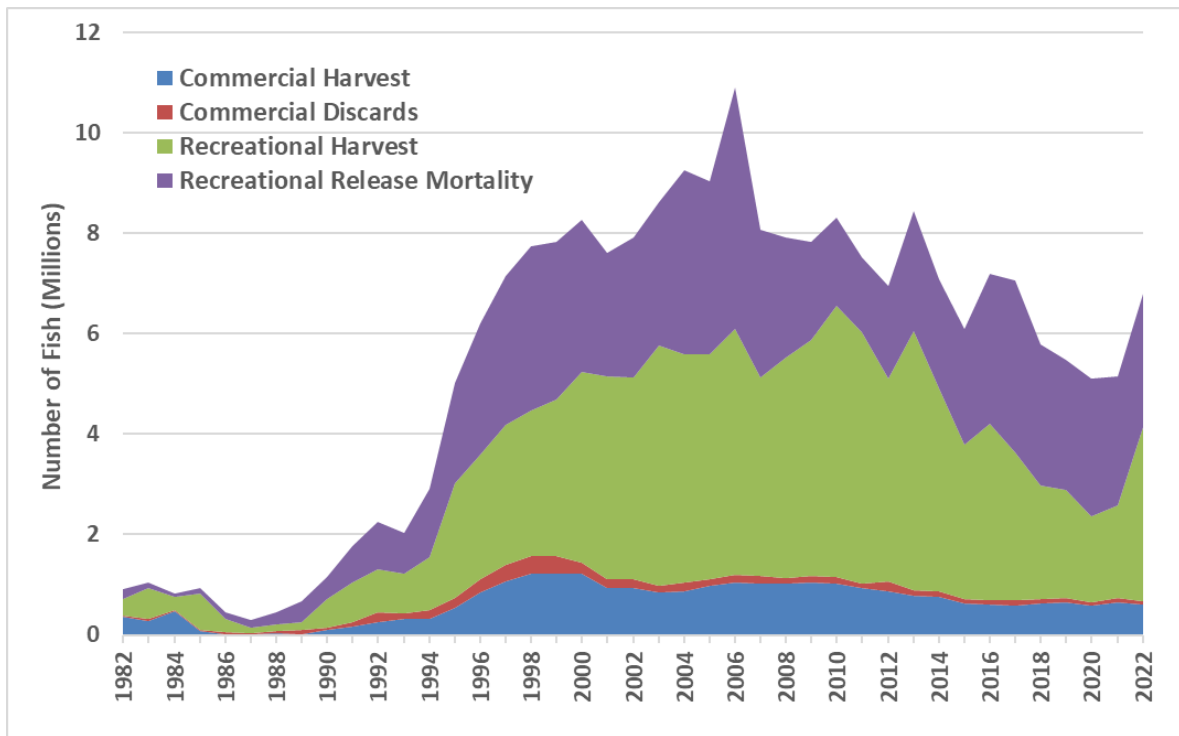


Figure 6. Commercial Atlantic striped bass landings by state in pounds, 1982-2022. Source: State compliance reports. Commercial harvest and sale prohibited in ME, NH, CT, and NJ. NC is ocean only.

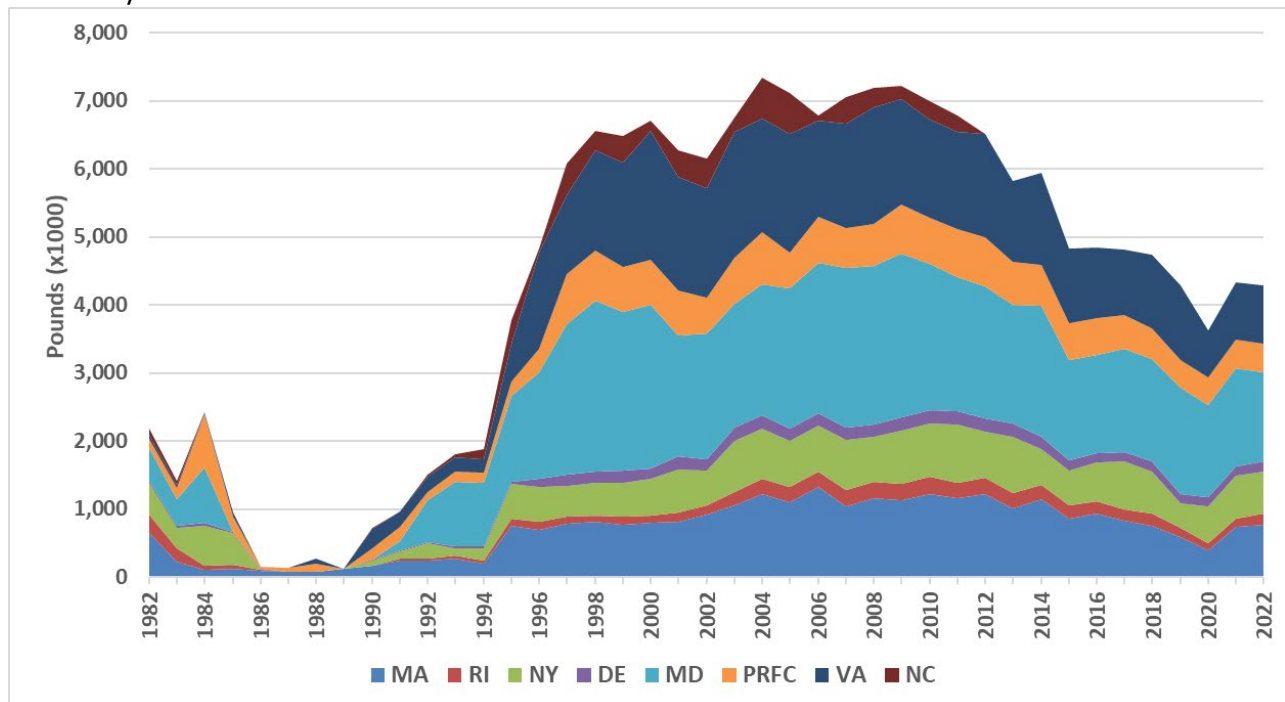


Figure 7. Total recreational catch and the proportion of fish released alive, 1982-2022. Source: MRIP/ASMFC. Estimates exclude inshore harvest from A-R.

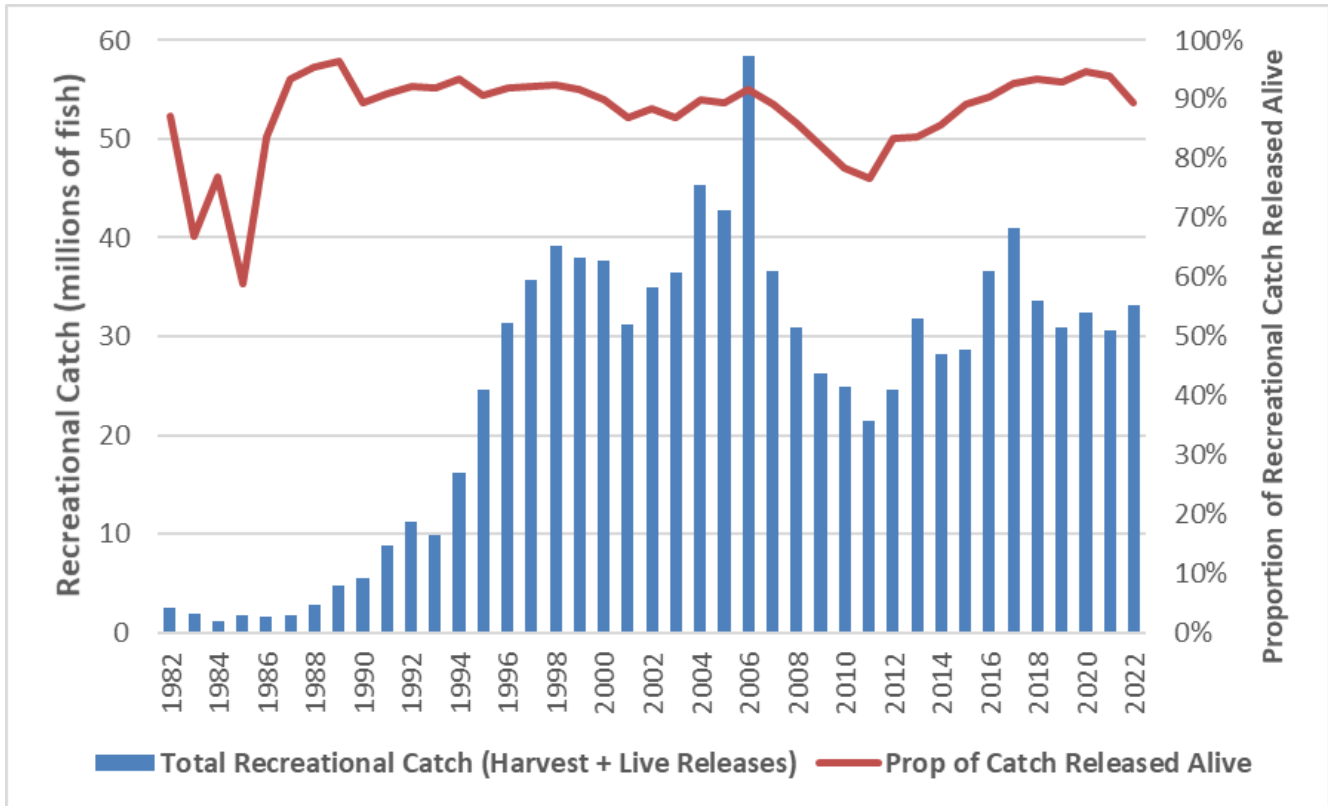




Figure 8. Juvenile abundance indices for New York, New Jersey, Maryland, and Virginia for 1982-2022 with recruitment trigger analysis for recent years. An open circle in the last three years indicates a value below the recruitment trigger level. The recruitment trigger is tripped if a JAI is below the trigger level for three consecutive years. Source: 2023 State Compliance Reports.

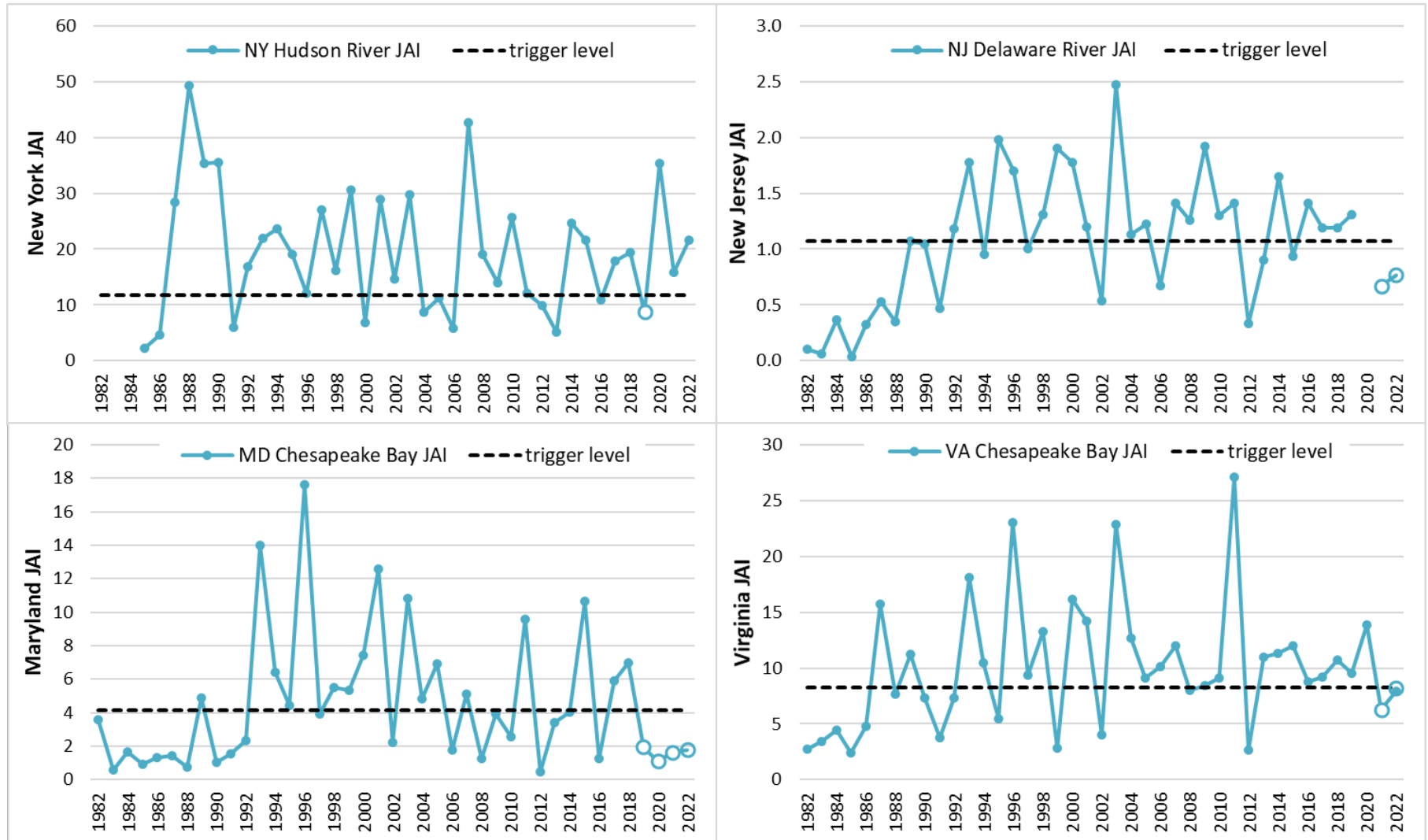


Figure 9. Juvenile abundance indices for Maine and North Carolina from 1982-2022 noting the level of recruitment failure. Source: 2023 State Compliance Reports.

