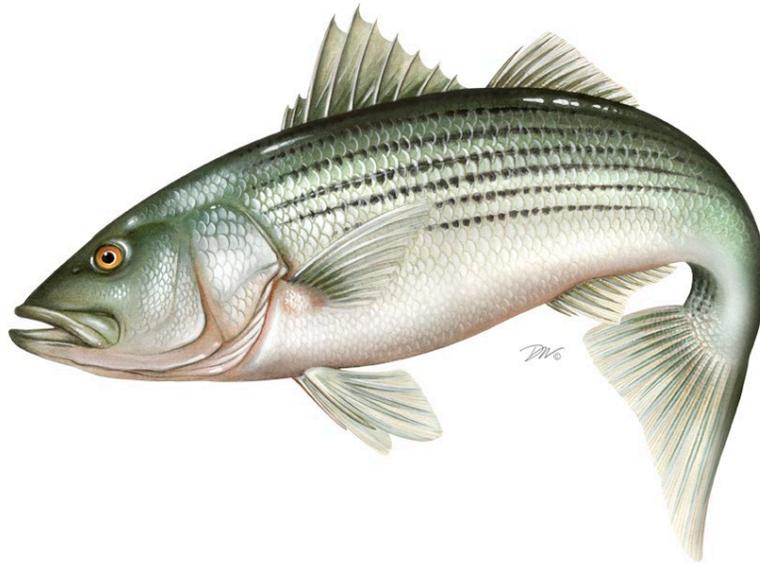


Atlantic States Marine Fisheries Commission

**ADDENDUM II TO AMENDMENT 7
TO THE INTERSTATE FISHERY MANAGEMENT PLAN
FOR ATLANTIC STRIPED BASS**

Interim Commercial and Recreational Management Measures



January 2024



Sustainable and Cooperative Management of Atlantic Coastal Fisheries

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1.0 INTRODUCTION

Atlantic striped bass (*Morone saxatilis*) are managed through the Atlantic States Marine Fisheries Commission (Commission) in state waters (0–3 miles) and through NOAA Fisheries in federal waters (3–200 miles). The management unit includes the coastal migratory stock from Maine through North Carolina. State waters fisheries for Atlantic striped bass are currently managed under Amendment 7 to the Interstate Fishery Management Plan (FMP), Addendum I to Amendment 7, and a temporary Emergency Action (effective May 2, 2023 until the measures in this addendum are implemented by the states by May 1, 2024). Harvesting or targeting striped bass in federal waters has been prohibited by NOAA Fisheries since 1990.

In May 2023, the Atlantic Striped Bass Management Board (Board) initiated Addendum II to Amendment 7 to address stock rebuilding beyond 2023. The Board initiated the draft addendum via the following approved motion:

“Move to initiate an Addendum to implement commercial and recreational measures for the ocean and Chesapeake Bay fisheries in 2024 that in aggregate are projected to achieve F-target from the 2022 stock assessment update ($F = 0.17$). Potential measures for the ocean recreational fishery should include modifications to the Addendum VI standard slot limit of 28-35” with harvest season closures as a secondary non-preferred option. Potential measures for Chesapeake Bay recreational fisheries, as well as ocean and Bay commercial fisheries should include maximum size limits. The addendum will include an option for a provision enabling the Board to respond via Board action to the results of the upcoming stock assessment updates (e.g., currently scheduled for 2024, 2026) if the stock is not projected to rebuild by 2029 with a probability greater than or equal to 50%.”

In August 2023, the Board removed consideration of recreational harvest season closures; added options for commercial quota reductions, recreational for-hire specific measures, and minimum requirements for states allowing filleting in the recreational fishery; and provided direction on the range of other commercial and recreational management options requested.

In October 2023, the Board added more options for the ocean recreational slot limit; removed some Chesapeake Bay recreational options that would have resulted in vastly different measures across Bay jurisdictions; and removed consideration of commercial maximum size limits. Although commercial maximum size limits were part of the initial scope of this addendum, the Board removed those options from consideration based on recommendations from the Atlantic Striped Bass Technical Committee (TC)¹. The TC concluded that the overall effect of a commercial maximum size limit option would be increased uncertainty around rebuilding probabilities without positively impacting stock productivity or stock rebuilding. Based on these TC findings, the Board removed consideration of commercial maximum size limits and instead decided to consider a commercial quota reduction to reduce commercial removals.

¹ The TC’s full analysis of commercial maximum size limits is available here: http://www.asmf.org/uploads/file/653fd79fStripedBassTC_Report_Sept2023.pdf

The Board intends to consider the results of the upcoming 2024 stock assessment update to inform subsequent management action beyond this addendum.

2.0 OVERVIEW

2.1 Statement of the Problem

Atlantic striped bass were declared overfished in 2019 and are subject to a rebuilding plan that requires the stock to be rebuilt to its spawning stock biomass target by 2029. The most recent rebuilding projections indicate a low probability of meeting that deadline if the fishing mortality rate associated with the level of catch in 2022 continues. There is concern that the recreational and commercial management measures in Amendment 7, in combination with the availability of the strong 2015 year-class to the fisheries, will lead to a similarly high level of catch in 2024. In response, this addendum implements measures designed to reduce removals from the 2022 level to achieve the target fishing mortality rate and support stock rebuilding.

Stock assessments will be completed during the rebuilding period and used to gauge the success of the measures in achieving the target fishing mortality rate and to estimate the probability of rebuilding the stock by 2029. These assessments are typically completed during the second half of the calendar year, so if a management response is needed to reduce fishing mortality, the typical addendum development and implementation schedule results in new measures not being implemented until two years later. There is concern that such delays may impede rebuilding, especially as the deadline to achieve a rebuilt stock nears. Accordingly, this addendum implements a mechanism that allows the Board to adjust management measures in response to upcoming stock assessments via Board action, which would be faster than a typical addendum process, if deemed necessary to achieve stock rebuilding by 2029.

2.2 Background

2.2.1 Stock Status

Female spawning stock biomass (SSB) and fishing mortality (F) are estimated on a regular basis and compared to target and threshold levels (i.e., biological reference points) to assess the status of the striped bass stock. 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 this is also the year the stock was declared recovered. The female SSB target is equal to 125% of the female SSB threshold. The associated F threshold and F target are calculated to achieve the respective SSB reference points in the long term.

The most recent assessment for striped bass was an update completed in 2022 with data through 2021. Prior to this, the 2018 Benchmark Stock Assessment had determined that striped bass were overfished and experiencing overfishing in the terminal year (2017). 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 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.

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 also 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 (Figure 3).

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. The data showed that while commercial removals in 2022 were similar to those in 2021, recreational harvest had increased 88% and recreational live releases by 3%, resulting in an overall 38% increase in recreational removals (relative to 2021). 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% (Figure 3).

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 is not experiencing overfishing as per the 2022 stock assessment update. The next stock assessments for striped bass are currently scheduled for 2024 (an update with data through 2023), tentatively 2026 (an update with data through 2025), and 2027 (a benchmark—in which the inputs and methods are fully re-evaluated—likely with data through 2026).

2.2.2 Management Status

Striped bass are currently managed under Amendment 7 to the Interstate Fishery Management Plan (FMP), Addendum I to Amendment 7, and a temporary Emergency Action (effective May 2, 2023 until the measures in this addendum are implemented by the states by May 1, 2024).

Amendment 7: Amendment 7 consolidated and replaced Amendment 6 and its addenda in 2022; in so doing, several aspects of the management program, including the management triggers, stock rebuilding plan, recreational gear requirements, and conservation equivalency (CE) restrictions, were updated to better align with current fishery needs and priorities. Importantly, Amendment 7 maintained the Addendum VI to Amendment 6 recreational and commercial fishery measures (the implications of which are described in more detail below). Separate management measures are in place for the ocean and Chesapeake Bay fisheries due to distinct size availabilities of fish between the areas.

Amendment 7's FMP standard for managing the recreational fisheries was a one-fish bag limit with a 28 to less than 35" slot limit for the ocean area, a one-fish bag limit with an 18" minimum size limit for the Chesapeake Bay area, and for both areas the seasons which were in place in 2017. Amendment 7's FMP standard for managing both the ocean and Chesapeake Bay commercial fisheries was a state and/or area specific commercial quota (reduced 18% from 2017), and the size limit(s) in place in 2017. This suite of measures was first implemented under Addendum VI to Amendment 6 in 2020 to achieve an overall 18% reduction in removals relative to 2017 (shared in equivalent commercial and recreational reduction), in response to the 2018 benchmark stock assessment determining the stock as overfished and experiencing overfishing.² However, when implementing Addendum VI, numerous states adopted alternative recreational size limits, recreational bag limits, recreational seasons, commercial size limits, and/or commercial quotas through CE.³ Because Amendment 7 did not revise the FMP standard commercial and recreational fishery measures from those of Addendum VI, the CE programs implemented under Addendum VI were also allowed to be carried forward by states in 2022 under the framework of Amendment 7. See Tables 1–2 for the recreational and commercial measures in place in 2022 and Table 3 for a description of the CE programs implemented. Amendment 7's revision to when and how CE may be employed by states is reviewed below.

Part of the rationale for not changing any commercial and recreational management measures under Amendment 7 was that final action on the amendment preceded the completion of the 2022 stock assessment by several months. The 2022 stock assessment was expected to provide management advice as to whether the existing measures implemented under Addendum VI had successfully reduced fishing mortality to the target level and put the stock on track to rebuild by 2029. In other words, when Amendment 7 was adopted, it was unknown whether additional conservation measures were needed. Because of this timing issue, Amendment 7 instead included a provision allowing the Board to respond quickly to the results of the 2022 stock assessment update with additional management measures if

² Addendum VI also established the mandatory use of circle hooks when recreationally fishing for striped bass with bait (except as part of an artificial lure); however, this measure was not credited towards the needed 18% reduction in removals to end overfishing. Amendment 7 added two additional gear requirements when recreationally fishing for striped bass: a prohibition on gaffing and the immediate release of striped bass caught on any unapproved method of take.

³ Conservation equivalency (CE) refers to actions taken by a state which differ from the specific requirements of the FMP, but which achieve the same quantified level of conservation for the resource under management. It is the responsibility of the state to demonstrate the proposed management program is equivalent to the FMP standards and consistent with the restrictions and requirements for CE determined by the Board. Board approval of a CE proposal is required prior to state implementation.

needed for rebuilding success. Specifically, rather than responding via an addendum (which typically requires at least three Board meetings from addendum initiation to adoption), the Board could specify state measures by a Board vote at a single meeting. Ultimately, the 2022 stock assessment indicated that F in 2021 was below the target, providing a very high probability of achieving a rebuilt stock by 2029; consequently, this provision of Amendment 7, which was specific to responding to the results of the 2022 stock assessment, was not utilized.

The use of CE is subject to additional restrictions and requirements under Amendment 7 *when the FMP standard for a fishery is revised*. First and foremost, CE programs will not be approved for non-quota managed fisheries (with the exception of the Hudson River, Delaware River, and Delaware Bay recreational fisheries) when the stock is at or below the biomass threshold (i.e., overfished), though quota managed CE programs would still be allowed. In the context of this addendum and current stock status, this means that since the FMP standard for the ocean and Chesapeake Bay fisheries (as described above) is changing, the existing Addendum VI CE programs affecting those fisheries are invalidated and a state cannot request a new CE program for non-quota managed fisheries (with the exception of the Hudson River, Delaware River, and Delaware Bay recreational fisheries) until the stock is no longer considered overfished by a future stock assessment.

Additionally, if future CE is requested, CE proposals will be subject to new recreational catch estimate precision standards, uncertainty buffer requirements, and an established definition of “equivalency”. Specifically, CE proposals will not be allowed to use Marine Recreational Information Program (MRIP) estimates associated with a percent standard error (PSE) exceeding 40%. PSE is a measure of precision, and higher PSEs indicate the data are less precise. Proposed CE programs for non-quota managed fisheries will be required to include an uncertainty buffer of 10%; this is intended to increase the proposed CE program’s probability of achieving equivalency with the FMP standard. However, if a CE proposal uses MRIP estimates with a PSE exceeding 30%, but less than or equal to 40%, then a larger 25% uncertainty buffer is required. Lastly, CE programs for non-quota managed fisheries are required to demonstrate equivalency to the percent reduction/liberalization projected for the FMP standard at the state-specific level (rather than the coastwide level).

Addendum I to Amendment 7: Addendum I was approved and implemented in May 2023 to allow for voluntary ocean commercial quota transfers contingent on stock status. 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 unused 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. Given the overfished stock status for striped bass, quota transfers will not be authorized in 2024.

2023 Emergency Action: At its May 2023 meeting, the Board was presented with updated stock rebuilding projections that included preliminary removal estimates for 2022. Prior projections with data through 2021 had indicated a very high chance (97%) of rebuilding the overfished striped bass resource to its SSB target by the 2029 rebuilding deadline. Due to a near doubling of recreational harvest in 2022, the new projections estimated that the probability of rebuilding to the SSB target by

2029 drops to 15% if the higher fishing mortality rate (calculated as the average of 2019-2022 fishing mortality rates, excluding 2020) continues for 2023-2029.

In addition to initiating this addendum to consider coastwide changes to the commercial and recreational regulations to bring *F* back to the target level, the Board approved an Emergency Action to more immediately address the source of the increase in fishing mortality. Specifically, the Board's May 2, 2023 emergency action required all states to implement a 31-inch maximum size limit for their striped bass recreational fisheries⁴ as soon as possible and no later than July 2, 2023, while maintaining all other measures. In effect, the emergency action reduced the ocean recreational slot from 28 to <35" to 28 – 31", and layered a 31" maximum size to the Chesapeake Bay's recreational measures. Emergency actions are effective for 180 days from the time of their declaration, putting the expiration date of the 31" recreational maximum size limit at October 28, 2023, unless sooner rescinded or extended by the Board. At its August 2023 meeting, the Board extended the emergency action for one year (through October 28, 2024) or until the implementation of this addendum (if sooner). Since this addendum has an implementation date of May 1, 2024, this addendum will replace the emergency action upon its implementation by the states by May 1, 2024.

The emergency action's 31" recreational maximum size limit is intended to reduce recreational harvest from the level seen in 2022 by providing additional protection to the abundant 2015 year class. The strong 2015 year-class is a primary reason for the increase in harvest in 2022, as many of the fish born that year had begun to exceed 28" in length, the lower bound of the ocean slot limit (Figure 4). In 2023, as 8 year olds, these fish are expected to average 31 ½" in length (Table 4). By implementing the 31" maximum size limit, over 50% of the 2015 year class should be protected from recreational harvest. Without this change, a high majority of the 2015 year-class would have been within the 28" to <35" ocean slot and susceptible to recreational harvest, raising concern that fishing mortality in 2023 would be even greater than 2022 and further erode the probability for rebuilding by 2029. As of July 2, 2023, all states implemented the emergency action's 31" maximum size limit (Table 5).

2.2.2.1 Social and Economic Impacts

For more detailed discussion of recent research into striped bass anglers' preferences and behavior and how it could be applied, see Amendment 7 to the Striped Bass FMP Section 1.5.2.

For the recreational sector, changes in bag and size limits (as well as other management measures not considered herein) affect important attributes of a recreational fishing trip, such as the number of fish of each species that anglers catch and are allowed to keep. In turn, these changes in trip attributes will modify the utility (i.e., level of satisfaction) an angler expects to obtain from the fishing trip (McConnell et al. 1995, Haab and McConnell 2003). As a result, the angler may shift target species, modify trip duration or location, or decide not to take the trip and do something else instead. These behavioral responses lead to changes in directed fishing effort, resulting in changes in harvest, fishing mortality,

⁴ The emergency action excluded the Chesapeake Bay spring trophy fishery from the 31" maximum size limit in 2023 because this fishery occurs for two weeks in May prior to the emergency action's implementation deadline and the fishery's current 35" minimum size limit provides a high level of protection to the 2015 year-class in the short-term.

and angler welfare. This is, however, only a short-term response and stock dynamics will dictate any longer-term effects on the resource, which may subsequently feedback and affect future management decisions and angling behavior.

Narrow slot limits, like the 2023 emergency action and this addendum's recreational slot limits for 2024, will lead to fish in the larger size range being released in the short-term. For example, a 28" to 31" recreational slot limit in the ocean will lead to fish in the 31" to 35" size range being released in the short-term. Recent research into striped bass anglers' preferences and behavior found the typical striped bass angler prefers to keep larger fish (Carr-Harris and Steinback 2020). Applying this to a 28 to 31" slot limit, anglers would likely prefer to keep a fish on the size range 31"-35" rather than having to release it, which means that in the short-term, a narrow slot limit like 28 to 31" may reduce effort (i.e., reduce trips) from those anglers seeking to bring fish home in the cooler. Thus, the overall anticipated effect on the number of releases in the short-term is unclear; larger fish are required to be released, but any reduction in effort may reduce the overall number of releases. Conversely, the higher slot limit option that was considered but not selected for this addendum (30-33") may have made it more difficult for shore anglers to catch a legal sized fish, given the smaller size of fish generally available inshore, which may also reduce effort and raise environmental justice issues. A reduction in effort could translate into a short-term negative impact on the regional economy and businesses associated with the fishing industry for this species. Importantly, this is likely only a short-term response, and stock dynamics will dictate any longer-term effects on the resource and the angling community. Assuming this action will support the rebuilding of the striped bass population, it will likely ensure the quality of the recreational fishing experience for the sector in the long-term.

For the commercial sector, changes in quota could also have economic impacts due to a change in total poundage. A reduction in quota would likely reduce profits and may increase the consumer price of striped bass.

2.2.3 Status of the Fishery

In 2022, total Atlantic striped bass removals (including commercial and recreational harvest, commercial dead discards and recreational release mortality) were estimated at 6.8 million fish, which is a 32% increase from 2021 total removals. This 2022 increase was driven by an increase in recreational removals, as commercial removals were about the same. 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) (Figure 5). Removals for each sector by year are listed in Table 6.

Recreational Fishery

The recreational fishery is managed by bag limits, minimum size or slot size limits, and closed seasons (in some states) to restrict harvest (Table 2). Gear restrictions are also in place to increase the chance of survival after a striped bass is released alive in the 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. This overall coastwide increase was a combination of a large increase in harvest and a marginal increase in live releases.

From 2004 to 2014, recreational harvest averaged 4.6 million fish per year. From 2015-2019, annual harvest decreased to an estimated 2.8 million fish due to the implementation of more restrictive regulations via Addendum IV, changes in effort and changes in size and distribution of the population through time. Total recreational harvest decreased to 1.71 million fish in 2020 and 1.82 million fish in 2021, likely due to a combination of factors including more restrictive regulations via Addendum VI, fish availability, and impacts of COVID-19. It is important to recognize that impacts from COVID-19 were likely not uniform across states, sectors, or modes.

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). 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 (33%), followed by New York (26%), Maryland (19%), and Massachusetts (14%). By weight, New Jersey had the largest proportion of recreational harvest (38%), followed by New York (30%), Massachusetts (15%), and Maryland (9%). 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.

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). 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. 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 coastwide, 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 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-8 fish were 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%.

Recent MRIP News Regarding Fishing Effort Survey

In August 2023, NOAA Fisheries released findings of a pilot study it conducted to evaluate potential sources of bias in the recreational Fishing Effort Survey (FES) questionnaire design.⁵ This study found switching the sequence of questions resulted in fewer reporting errors and fishing effort estimates that were generally 30 to 40 percent lower for shore and private boat modes than estimates produced from the current design. However, results varied by state and fishing mode. These results are based on a pilot study that had a limited time frame (six months) and geographic scope (only four states included), and much more extensive work needs to be done to determine the true impacts of the survey design. NOAA Fisheries will be conducting a larger-scale follow-up study over the course of 2024. At this time, the potential impacts to recreational catch estimates and stock assessments are unknown.

Even if we were to assume that striped bass recreational catch was overestimated by 30-40% over the timeframe (1982-present), it would likely only change the scale of the biomass but not the overall downward trend in the population that we have seen since 2010. It would not change the fact that, using the same FES methodology, recreational harvest estimates nearly doubled from 2021 to 2022. This increased catch was supported through recreational anglers anecdotally reporting catching more fish as well as numerous states' commercial fisheries utilizing their quota more quickly or fully, particularly in ocean fisheries. The striped bass assessment will be updated in 2024 and can be used to explore how the possible overestimation of recreational catch may impact biomass and the emergency measures that have been put in place to reduce fishery removals.

Commercial Fishery

The commercial fishery is managed by a quota system resulting in relatively stable landings since 2004. There are two regional quotas; one for the Chesapeake Bay area and one for the ocean area, which includes other bays, inland rivers, and estuaries. In 2022, the ocean commercial striped bass quota was 2,411,154 pounds, and 1,904,852 pounds were harvested in the ocean region. In the Chesapeake Bay region, the 2022 commercial striped bass quota was 3,001,648 pounds, and 2,526,324 pounds were harvested. Neither quota was exceeded in 2022. Refer to Table 1 for 2022 commercial fishery regulations by state, including size limits, trip limits, gear restrictions, and seasons.

From 2004 to 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.

Since 1990, commercial landings from the ocean fishery have accounted for an average 40% of total coastwide commercial landings by weight, with the other 60% coming from the Chesapeake Bay. The

⁵ https://apps-st.fisheries.noaa.gov/rpts/main/public_docs/Evaluating%20Measurement%20Error%20in%20the%20FES%20Consolidated%20Final%20Review.pdf?method=PUB_MANUSCRIPT&id=32268

proportion of commercial harvest coming from Chesapeake Bay is much higher in numbers of fish (roughly 80%) because fish harvested in Chesapeake Bay have a lower average weight than fish harvested in ocean fisheries.

Of the total 2022 commercial harvest (combined ocean and Chesapeake Bay) by weight, Maryland landed 33%, Virginia landed 19%, and Massachusetts landed 17%. Additional harvest came from New York (14%), the Potomac River Fishery Commission (PRFC) (10%), Rhode Island (4%), and Delaware (3%).

Ocean commercial size limits, seasons, and gear types vary by state. Along the Atlantic coast, current legal minimum size ranges from 20" to 35". In general, lower minimum sizes exist in the Mid-Atlantic (where fish are primarily harvested by a combination of drift and anchor gill nets), while New England states have larger minimum sizes and harvest is predominantly hook and line. In the ocean region, only New York currently has a commercial slot size with lower and upper bounds (26–38"). Chesapeake Bay commercial size limits and gear types are more uniform with an 18" minimum size for Bay states, although Maryland has a year-round maximum size (36") while PRFC and Virginia have seasonal maximum size limits of 36" and 28", respectively. All three Bay states employ a combination of pound net, drift net, and hook and line gear types.

State commercial sampling programs indicate the mean length, weight, and age of commercially harvested striped bass are higher for the ocean fishery (Table 7). Sub-sampling of commercial striped bass harvest occurs for about 1-5% of all harvested fish in each state, and these values are assumed to be representative of each state's landings. In the ocean, mean length of harvested fish ranged from 30.2" total length (NY) to 41.1" total length (MD ocean) based on 2022 samples, with corresponding mean weights ranging from 9.9 lbs. to 25.9 lbs. In the Chesapeake Bay, mean length of harvested fish ranged from 22.2" total length (MD Bay) to 36.2" total length (VA Bay hook & line) based on 2022 samples, with corresponding mean weights ranging from 4.6 lbs. to 26.6 lbs.

3.0 MANAGEMENT PROGRAM

Addendum II includes management measures for the ocean and Chesapeake Bay fisheries. The striped bass ocean fishery (also referred to as "ocean region") is defined as all fisheries operating in coastal and estuarine areas of the U.S. Atlantic coast from Maine through North Carolina, excluding the Chesapeake Bay and Albemarle Sound-Roanoke River (A-R) management areas. The Chesapeake Bay fishery is defined as all fisheries operating within Chesapeake Bay, except for the Chesapeake Bay recreational spring trophy fishery. The Chesapeake Bay recreational spring trophy fishery is part of the ocean fishery for management purposes because it targets coastal migratory striped bass. This addendum does not address the A-R fisheries, which are managed separately by the State of North Carolina.

Projecting 2024 Reduction to Achieve the Fishing Mortality Target

The same forward projecting methodology as used in striped bass stock assessments was used to estimate the removals needed to achieve *F* target in 2024 with a 50% probability. The projections were made using 2022 removals data (6.8 million fish total), and estimated 2023 removals accounting for

implementation of the 2023 emergency action (an estimated 4.8 million fish total⁶). A new selectivity curve for the 2023 emergency action was also developed to account for the lower selectivity of ages 7-9 fish in 2023 due to the narrower recreational slot limit. Because the calculation of F target accounts for selectivity, the F target value was re-calculated to incorporate this new 2023 selectivity (F target=0.176). Projection results indicate a 14.5% reduction from 2022 total removals is needed to achieve F target in 2024.

The combination of the recreational and commercial management measures in this addendum are estimated to achieve a 13.7% reduction assuming other factors (e.g., effort) remain constant.

3.1 Recreational Fishery Management

Note on Conservation Equivalency (CE): Since the stock is currently overfished per the 2022 Stock Assessment Update, CE programs will not be approved for non-quota managed recreational fisheries.

3.1.1 Size Limits, Bag Limits, and Seasons

This section replaces section 4.2.1 in Amendment 7.

Ocean recreational fisheries are constrained by a 1-fish bag limit and a slot limit of 28 inches to 31 inches. Chesapeake Bay recreational fisheries are constrained by a 1-fish bag limit and a slot limit of 19 inches to 24 inches. All bag limits are per person per day. All size limits are in total length. States are required to maintain the same seasons that were in place in 2022 (see Table 2).

The Chesapeake Bay recreational spring trophy fisheries are managed by the same size and bag limits as the ocean fishery (1 fish at 28 inches to 31 inches) with the 2022 trophy season dates.

The following states are required to submit area-specific measures to achieve the same percent reduction in recreational removals as the 28 inches to 31 inches ocean slot limit (14.1% reduction) as part of their state implementation plans:

- New York: the Hudson River management area.
- Pennsylvania: the state's April–May slot fishery in the lower Delaware River/Estuary.
- Delaware: the state's July–August slot fishery in Delaware River/Bay.

3.1.2 Recreational Filleting Allowance Requirements

For states that authorize at-sea/shore-side filleting of striped bass, minimum requirements will be established, including requirements for racks to be retained and possession limited to no more than two fillets per legal fish. States should consider including language about when and where racks may be disposed of, specific to each mode allowed to fillet at-sea/shore.

⁶ The TC conducted sensitivity runs to explore different assumptions of the methods used to estimate 2023 removals and the effect on the projections, and found that although the estimates of 2023 removals varied from 4.8 to 5.7 million fish, the necessary percent reduction to achieve the F target in 2024 only varied by approximately 1.5%. The June 2023 Technical Committee summaries provide additional details on these methods and results: <http://www.asmfc.org/species/atlantic-striped-bass#meetingsummaries>

The Appendix lists state filleting regulations in place in 2023 pertaining to striped bass.

3.2 Commercial Fishery Management

3.2.1 Commercial Size Limits

This section replaces section 4.3.1 in Amendment 7

All commercial fisheries are required to maintain their 2022 size limits (see Table 1).

3.2.2 Commercial Quota Allocation

This section replaces section 4.3.2 in Amendment 7

The table below provides the commercial quota in pounds for each state in the ocean region and for the Chesapeake Bay region. All quotas represent a 7% reduction from the 2022 quotas. The Chesapeake Bay commercial quota is allocated to Maryland, Virginia, and the Potomac River Fisheries Commission per the jurisdictions’ mutual agreement.

Quotas are allocated on a calendar year basis⁷. In the event a state exceeds its allocation, the amount in excess of its annual quota is deducted from the state’s allowable quota in the following year.

Commercial striped bass quotas.

| State/Region | Quota (Pounds of Fish) |
|-------------------------|---------------------------|
| Ocean | |
| Maine | 143 |
| New Hampshire | 3,289 |
| Massachusetts | 683,773 |
| Rhode Island | 138,467 |
| Connecticut | 13,585 |
| New York | 595,868 |
| New Jersey | 200,798 |
| Delaware | 132,501 |
| Maryland | 82,857 |
| Virginia | 116,282 |
| North Carolina | 274,810 |
| Ocean Total | 2,242,373 |
| Chesapeake Bay | |
| Chesapeake Bay Total | 2,791,532 |

⁷ North Carolina’s fishing year is December 1-November 30; PRFC’s fishing year for gill nets is November-March.

3.3 Response to Stock Assessment Updates

This section replaces section 4.4.2 in Amendment 7.

If an upcoming stock assessment prior to the rebuilding deadline (currently 2029) indicates the stock is not projected to rebuild by 2029 with a probability greater than or equal to 50%, the Board could respond via Board action where the Board could change management measures by voting to pass a motion at a Board meeting instead of developing an addendum or amendment (and different from the emergency action process).

4.0 COMPLIANCE SCHEDULE

States must implement Addendum II according to the following schedule to be in compliance with the Atlantic Striped Bass Interstate FMP:

March 1, 2024: States submit implementation plans to meet Addendum II requirements.

Late March 2024: Board reviews and considers approving state implementation plans.

May 1, 2024: States implement regulations.

5.0 REFERENCES

- ASMFC. 2022. Atlantic Striped Bass Stock Assessment Update, Atlantic States Marine Fisheries Commission, Arlington, VA. 191p.
- Carr-Harris, A. and S. Steinback. 2020. Expected economic and biological impacts of recreational Atlantic striped bass fishing policy. *Front. Mar. Sci.* 6: 814, p.1-20.
- Haab, T.C. and McConnell, K.E. 2003. *Valuating Environmental and Natural Resources: The Econometrics of Non-Market Valuation*, Edward Elgar Publishing.
- McConnell, K.E. and Strand, I.E. and Blake-Hedges, L. 1995. Random Utility Models of Recreational Fishing: Catching Fish Using a Poisson Process. *Marine Resource Economics* 10, p.247-261.
- Northeast Fisheries Science Center. 2019. Summary Report of the 66th Northeast Regional Stock Assessment Review Committee (SARC 66), Northeast Fisheries Science Center, Woods Hole, MA. 40p.

FIGURES

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

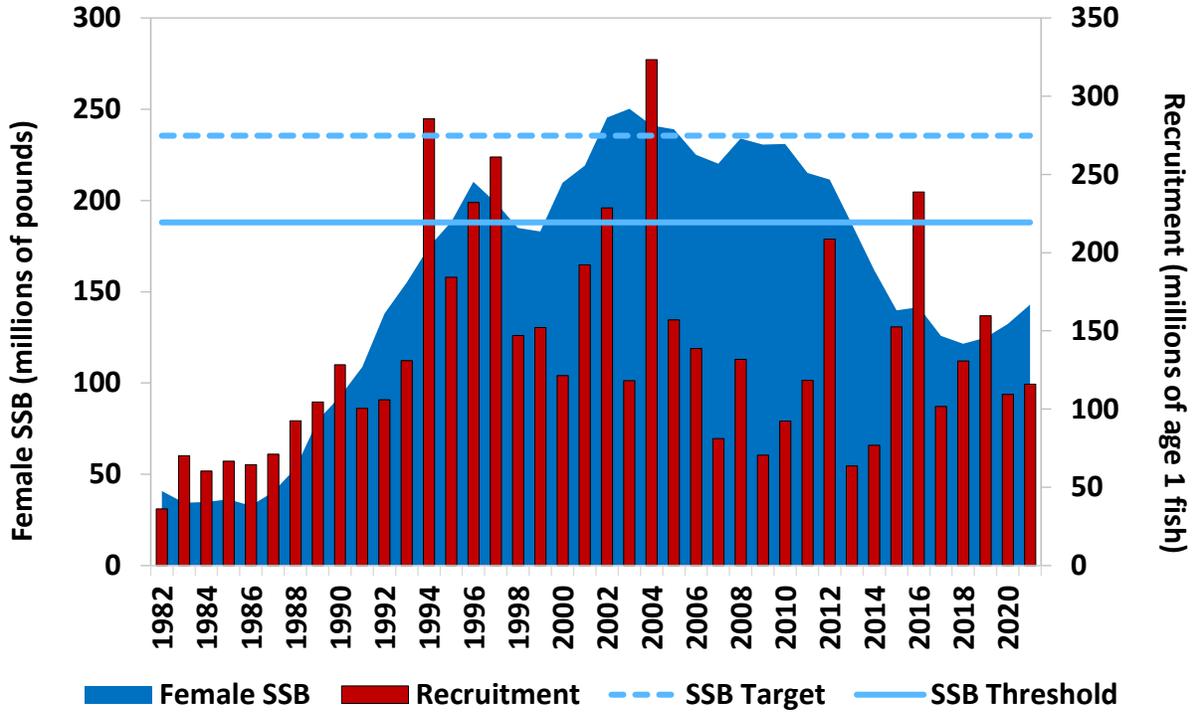


Figure 2. Atlantic striped bass fishing mortality, 1982-2021. Source: 2022 Stock Assessment Update.

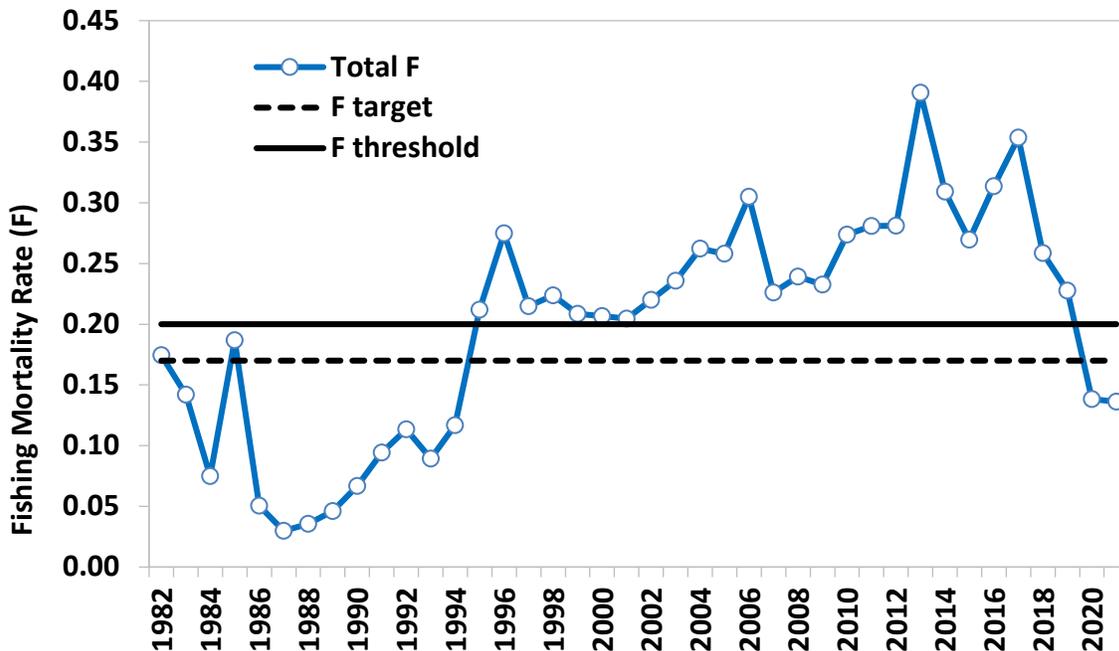


Figure 3. Stock rebuilding projections using 2021 data (from 2022 assessment update) and 2022 data.

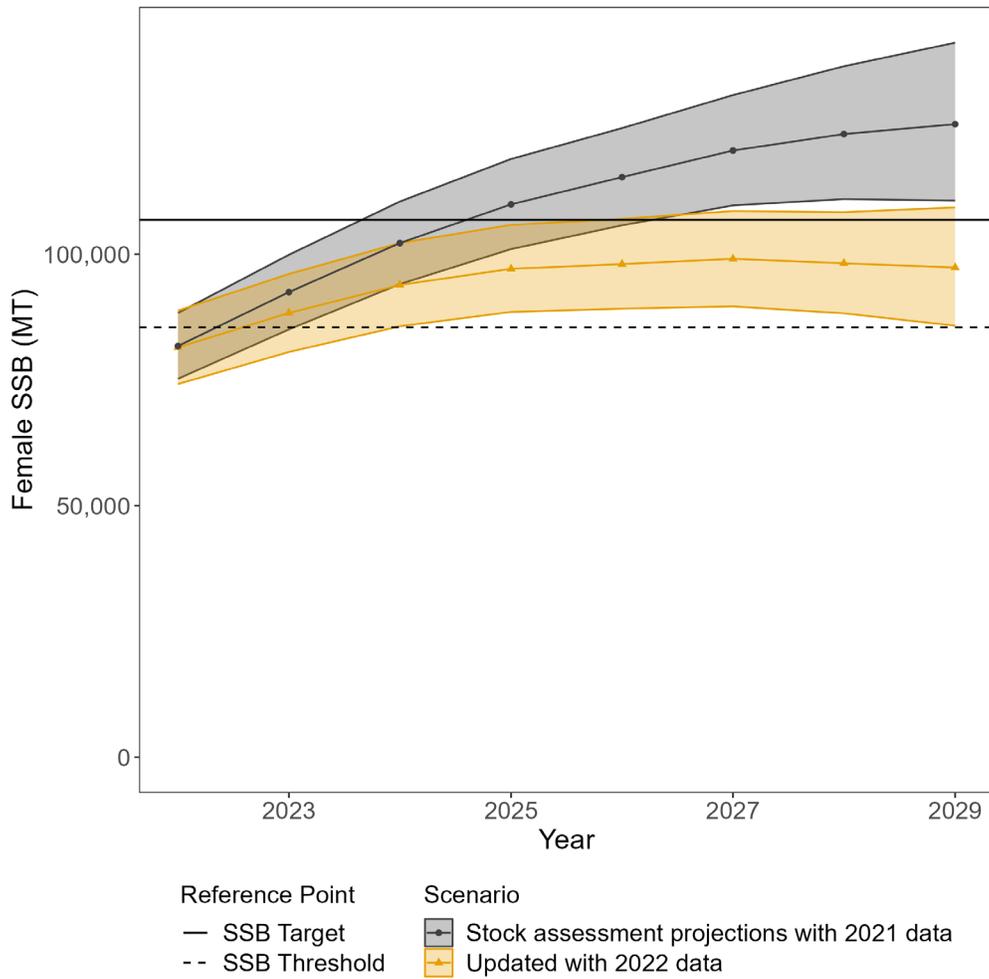


Figure 4. Average size-at-age of the 2015 year-class (not scaled to abundance) from 2022 (top panel), 2023 (middle panel), and 2024 (bottom panel) relative to the Addendum VI/Amendment 7 ocean standard 28"-<35" slot (solid lines) and the emergency action 31" maximum size (dashed line).

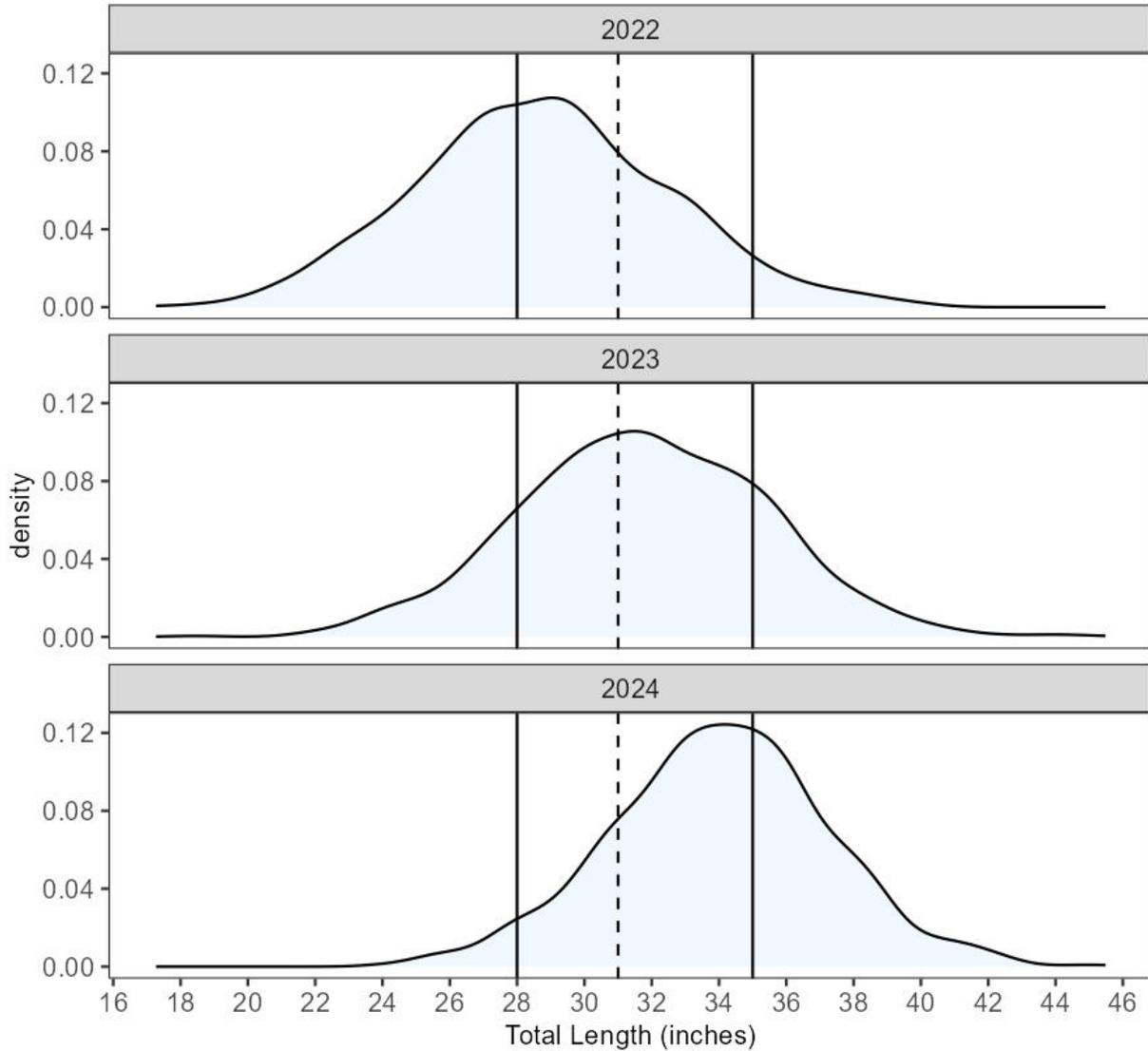


Figure 5. Total Atlantic striped bass removals by sector in numbers of fish, 1982-2022. Note: Harvest is from state compliance reports/MRIP, discards/release mortality is from ASMFC.

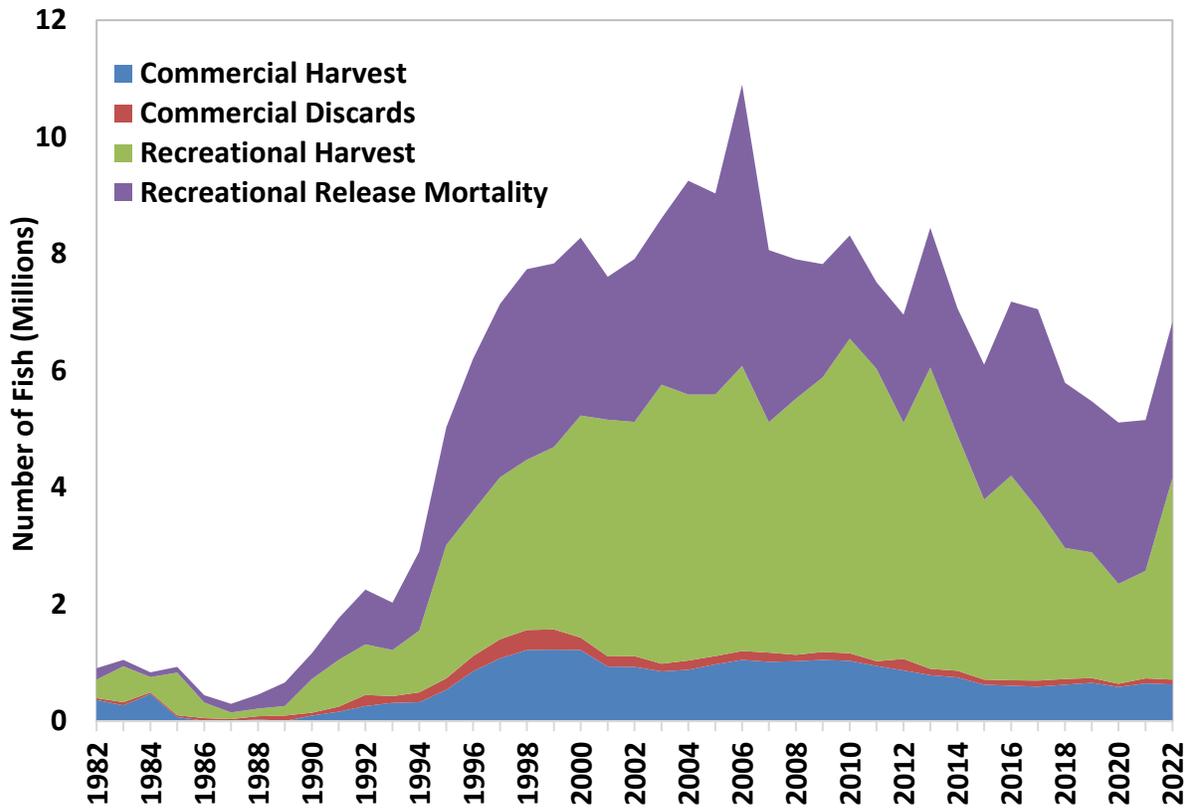
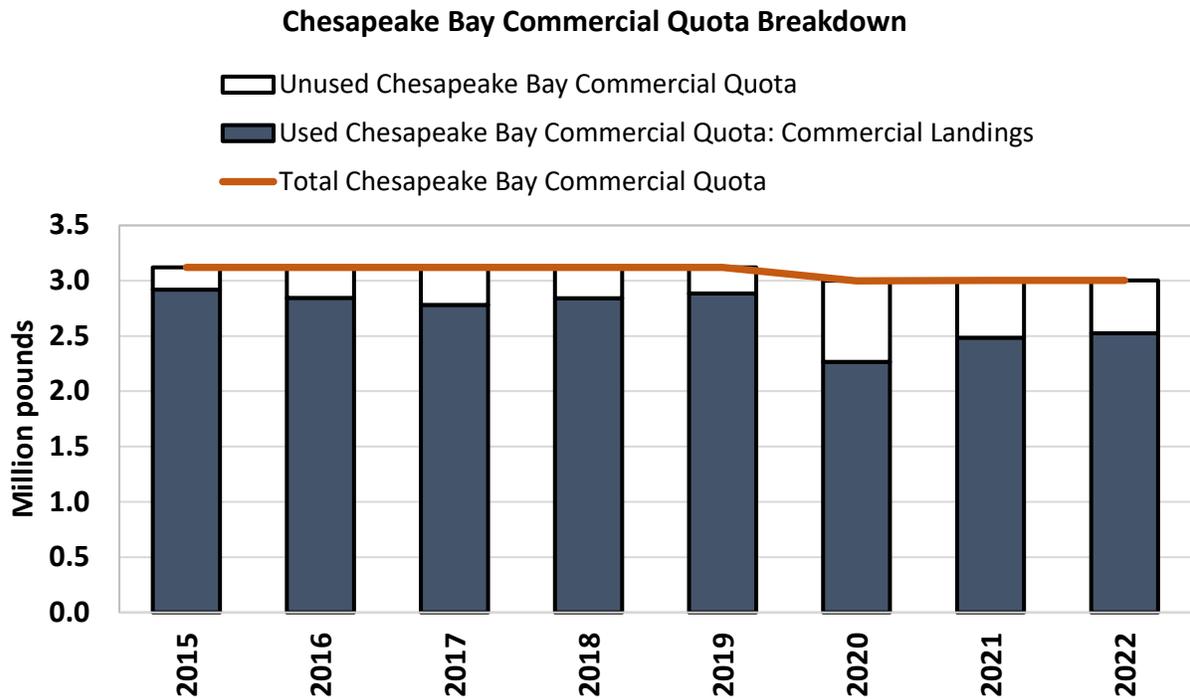
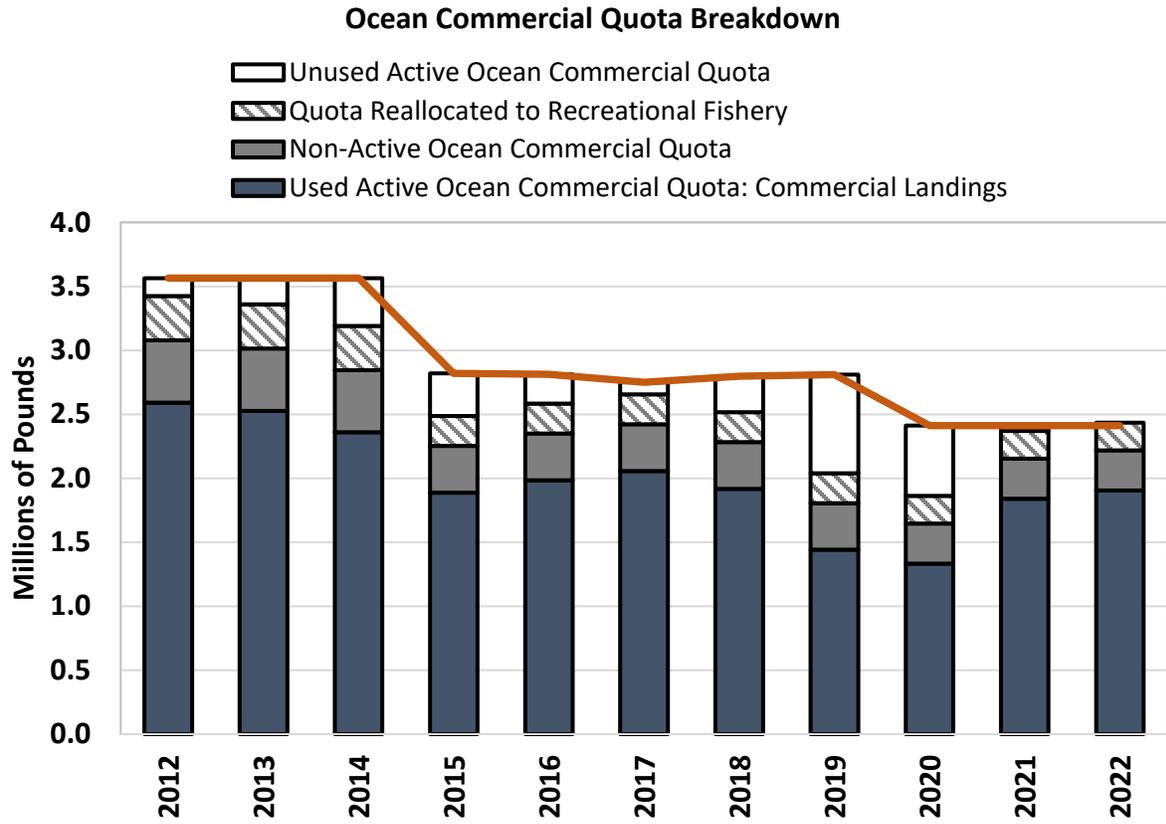


Figure 6. Commercial quota breakdown by region.



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 |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ME | Commercial fishing prohibited | | |
| NH | Commercial fishing prohibited | | |
| MA | 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. |
| RI | 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. Five (5) fish per person per calendar day, or if fishing from a vessel, five (5) fish per vessel per calendar day. | | 6.1-7.5; 7.6-12.31, or until quota reached. Closed Fridays, Saturdays, and Sundays throughout. |
| CT | Commercial fishing prohibited; bonus program in CT suspended indefinitely in 2020. | | |
| NY | 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. |
| NJ* | Commercial fishing prohibited; bonus program: 1 fish/permit at 24" to <28" | 215,912 lbs. | 5.15 – 12.31 (permit required) |
| PA | Commercial fishing prohibited | | |
| DE | 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 non-circle 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 |
|-----------|------------------------------------------------------------------------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| NJ | ≥ 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 |
| PA | 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 |
| DE | ≥ 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 |
| MD | 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^ | 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 |

^ 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. CE programs implemented for Addendum VI.

| State | Recreational Fisheries | Commercial Fisheries |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MA | N/A | Changed size limit (35" minimum) with equivalent quota change |
| NY | Hudson River: Alternative size limit (18" to 28") to achieve 18% removals reduction in combination with standard ocean slot | Changed size limit (26" to 38") with equivalent quota reduction |
| NJ | Alternative size limit (28 to < 38") to achieve 25% removals reduction | Decreased commercial quota reduction (to 0%) with surplus recreational fishery reduction and transferred commercial quota to recreational bonus program fishery (24 to < 28", 1 fish/day) |
| PA | DE River and Estuary downstream Calhoun St Bridge: Alternative size and bag limit on limited seasonal basis (2 fish/day at 21 to <24" during 4.1–5.31) to achieve 18% removals reduction | N/A |
| DE | DE River/Bay/tributaries: Alternative slot on limited seasonal basis (20" to <25" during 7.1–8.31) to achieve 20.4% removals reduction in combination with standard ocean slot | Decreased commercial quota reduction (to -1.8%) with surplus recreational fishery reduction |
| MD | Chesapeake Bay: Alternative Summer/Fall for-hire bag limit with restrictions (2 fish, only 1 >28", no captain retention) through increased minimum size (19"), April and two-week Wave 4 targeting closures, and shorter spring trophy season (May 1–15) to achieve 20.6% removals reduction; ocean: FMP standard slot | Decreased ocean and Chesapeake Bay commercial quota reduction (to -1.8%) with surplus Chesapeake Bay recreational fishery reduction |
| PRFC | Alternative Summer/Fall minimum size and bag limit (20" min, 2 fish/day) with a no targeting closure (7.7–8.20) and shorter spring trophy season (May 1–15) to achieve a 20.5% removals reduction | Decreased Chesapeake Bay commercial quota (to -1.8%) with surplus recreational fishery reduction |
| VA | Chesapeake Bay: Alternative slot limits during 5.16–6.15 (20" to 28") and 10.4–12.31 (20" to 36") and no spring trophy season to achieve a 23.4% removals reduction (reduction was the result of lowering prior bag limit from 2 to 1-fish per angler); ocean: Alternative slot limit (28" to 36") | Decreased ocean commercial quota (to -7.7%) and Chesapeake Bay commercial quota (to -9.8%) with surplus recreational fishery reduction |

Table 4. Estimated mean striped bass size-at-age based on the 2012-2016 state age data (weighted by state recreational catch) compiled for the 2018 benchmark stock assessment. Note: Size-at-age is highly variable along the coast and there is overlap among age classes.

| Age | Estimated Mean Total Length (in) | |
|-----|----------------------------------|--------------------------------|
| 0 | 3.8 | |
| 1 | 6.4 | |
| 2 | 12.7 | |
| 3 | 17.0 | |
| 4 | 20.9 | |
| 5 | 24.1 | 2018 year class in 2023 |
| 6 | 26.4 | 2017 year class in 2023 |
| 7 | 28.7 | |
| 8 | 31.6 | 2015 year class in 2023 |
| 9 | 33.8 | |
| 10 | 35.5 | |
| 11 | 37.2 | |
| 12 | 39.1 | |
| 13 | 41.0 | |
| 14 | 42.2 | |
| 15+ | 44.0 | |

Table 5. Implementation of 2023 Emergency Action for striped bass (31.0” maximum size limit).

| State | Effective Date | Maximum Size Limit |
|-------|----------------|-----------------------|
| ME | May 18 | 31.0” max size limit |
| NH | May 26 | <31.0” max size limit |
| MA | May 26 | <31.0” max size limit |
| RI | May 27 | <31.0” max size limit |
| CT | May 26 | <31.0” max size limit |
| NY | June 20 | 31.0” max size limit |
| NJ | July 2 | 31.0” max size limit |
| PA | June 3 | <31.0” max size limit |
| DE | May 21 | 31.0” max size limit |
| MD | May 16 | 31.0” max size limit |
| PRFC | May 16 | 31.0” max size limit |
| DC | May 16 | 31.0” max size limit |
| VA | July 1 | 31.0” max size limit |
| NC | June 1 | 31.0” max size limit |

Table 6. 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* | 629,758 | 81,200 | 3,454,021 | 2,667,846 | 6,832,824 |

* 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). * Updated in January 2024 to reflect final Maryland commercial harvest estimates for 2022.

Table 7. 2022 Commercial Fishery Size Limits, Gear Types, and Commercial Sampling Results (Source: 2023 Compliance Reports). Note: Sub-sampling of commercial striped bass harvest occurs for about 1-5% of all commercially harvested fish in each state, and these values are assumed to be representative of each state's landings.

| State | Size Limits | 2022 Percent Landings by Gear Type | Mean Length and Range of Length Samples (TL in) | Mean Weight (lbs.) | Mean Scale Age (years) |
|-------------|----------------------------------------------------------------|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|------------------------------|--------------------------|
| MA | 35" min | 100% hook & line | 39.9 <i>Range: 35 - 48</i> | 24.1 | 10 |
| RI | General: 34" min FFT: 26" min | Conf % hook & line Conf % floating fish trap | 34.8 <i>H&L Range 34 – 52</i> <i>FFT Range: 26 - 52</i> | 18.2 | 8 |
| NY | 26-38" slot | 62.2% gill nets (mostly sink) 18.3% hook & line 6.7% fixed gear 4.4% trawls | 30.2 <i>Range: 24.1 – 38.7</i> | 9.9 | 6.6 |
| DE | GN: 28" min, 20" min DE Bay/River 2.15-5.31 H&L: 28" min | 88.4% anchored gill net 11.6% drift gill net 0% hook & line | 35.0 <i>Range: 20 - 45</i> | 17.0 | 10 |
| MD ocean | 24" min | 100% drift gill net | 41.1 <i>Range: 32.6 – 47.6</i> | 25.9 | 12 |
| VA ocean | 28" min | 100% drift/anchored gill net | 40.0 <i>Range 29 – 51</i> | 24.8 | 14 |
| NC | 28" min | Beach seine, gill net, trawl | NA | NA | NA |
| MD Ches Bay | 18-36" slot | 53% pound net 42% drift gill net 5% hook & line | 22.2 <i>GN Range: 17.7 - 35</i> <i>PN/H&L Range: 17.7 – 33.5</i> | 4.6 | 5 |
| PRFC | 18" min; 36" max 2.15-3.25 | 67% anchored gill net 23% pound net 9% hook & line | 23.8 <i>Range: 18.3 – 48.0</i> | 6.3 | 5.7 |
| VA Ches Bay | 18" min; 28" max 3.15-6.15 | 84% drift/anchor gill net 12% pound net 4% hook & line | 24.9 GN <i>GN Range: 18-49</i> 23.3 PN <i>PN Range: 17-36</i> 36.2 H&L <i>H&L Range: 18-28 and 41-49</i> | 7.5 GN 5.6 PN 26.6 H&L | 7.7 GN 5 PN 17 H&L |

H&L=hook & line; GN=gill nets, FFT=floating fish traps; PN=pound net

Appendix.

State regulatory language as of 2023 pertaining to striped bass filleting at sea and/or shore-side.

Maine: “It is unlawful to possess striped bass unless the fish are whole with head on, and are between 28 inches and 31 inches, inclusive.”

New Hampshire: “Striped bass shall have head and tail intact while on or leaving the waters or shores of the state except as follows: (1) A person may possess up to 2 striped bass fillets so long as they also possess the fish rack that the fillets came from with the head and tail intact and the rack measures at least 28 inches in total length; (2) Any striped bass fillet shall have the skin still attached for the purpose of identification of the fillet as striped bass.”

Massachusetts: “Recreational fishermen shall not mutilate any striped bass in a manner that prevents the accurate measurement of the fish...Operators and crew onboard for-hire vessels permitted under the authority of 322 CMR 7.10(5): Permit Requirements Applicable to For-hire Vessels may fillet or process legal sized striped bass for their recreational customers at sea provided that: 1. The skin is left on the fillet; and 2. Not more than two fillets taken from legal striped bass are in the possession of each customer of that trip, representing the equivalent of one fish per angler.”

Rhode Island: “There shall be no disposal of fish and fish parts on the bulkhead or in the waters of the State.” “It shall be unlawful for any person to place any pollutant in a location where it is likely to enter the waters or to place or cause to be placed any solid waste materials, junk, or debris of any kind whatsoever, organic or non organic, in any waters.”

Connecticut: “No person shall land or possess on the waters of this state or on any parcel of land, structure, or portion of a roadway abutting tidal waters of this state any striped bass from which the head or tail has been removed or which has otherwise been rendered unidentifiable as a striped bass or unable to be measured.” *Enforced as filleting allowed with rack retained (pers.com. CT DEEP).*

New York: “Except as provided in paragraphs (4) of this subdivision, it is unlawful for any person to possess striped bass from which the head or tail has been removed or that have been otherwise cleaned, cut, filleted or skinned so that the total length or identity cannot be determined; except that it is not unlawful if such fish is being prepared for immediate consumption or storage at a domicile or place of residence.

(4) Any person who holds a valid Marine and Coastal District Party and Charter Boat License issued pursuant to Environmental Conservation Law section 13-0336 may fillet striped bass taken on the permitted party or charter vessel identified on his or her license under the following conditions:

- (i) fish may be filleted for customers only;
- (ii) only fish which are legally possessed may be filleted;
- (iii) striped bass may only be filleted prior to customers leaving the vessel or the dock area prior to customers departing the area;
- (iv) it is unlawful to mutilate any striped bass carcass to the extent that the total length or species of fish cannot be determined;

- (v) all striped bass carcasses must be retained (unmixed with any other material) in a separate container readily available for inspection until such time as the vessel has docked and all passengers from that trip have left the vessel and the dock area. Any such carcasses are included in the possession limit;
- (vi) all striped bass carcasses from any previous trip must be disposed of prior to any person beginning to fish on a subsequent trip; and
- (vii) all Marine and Coastal District Party and Charter Boat License holders must provide each customer who possesses striped bass fillets with a commercially printed, dated original fare receipt, bearing the boat's name and the owner or operator's Party and Charter Boat License number. Any customer of a party or charter boat operated by a Marine and Coastal District Party and Charter Boat License holder who is in possession of striped bass fillets must possess an original dated receipt from that party or charter vessel.

New Jersey: "Except as provided in (e)2 and (f) below, a person shall not remove the head, tail or skin, or otherwise mutilate to the extent that its length or species cannot be determined, any species with a minimum size limit specified at (b) or (c) above or any other species of flatfish, or possess such mutilated fish, except after fishing has ceased and such species have been landed to any ramp, pier, wharf or dock or other shore feature where it may be inspected for compliance with the appropriate size limit.

(f) Special provisions applicable to a Special Fillet Permit are as follows:

1. A party boat owner may apply to the Commissioner for a permit for a specific vessel, known as a Special Fillet Permit to fillet species specified at (c) above at sea;
2. For purposes of this section, party boats are defined as vessels that can accommodate 15 or more passengers as indicated on the Certificate of Inspection issued by the United States Coast Guard for daily hire for the purpose of recreational fishing;
3. The Special Fillet Permit shall be subject to the following conditions:
 - i. Once fishing commences, no parts or carcasses of any species specified in (c) above and no flatfish parts or carcasses shall be discarded overboard; of the species specified at (c) above, only whole live fish may be returned to the water;
 - ii. No carcasses of any flatfish or species listed at (c) above shall be mutilated to the extent that its length or species cannot be determined;
 - iii. All fish carcasses of species specified at (c) above shall be retained until such time as the vessel has docked and been secured at the end of the fishing trip adequate to provide a law enforcement officer access to inspect the vessel and catch;
 - iv. No fillet of any flounder or other flatfish shall be less than eight inches in length during the period of May 1 through October 31 or less than five inches in length during the period of November 1 through April 30;
 - v. No fish of any species less than the minimum size limit specified in (c) above shall be filleted and no fillet of any species listed below shall have the skin removed and no fillet shall be less than the minimum length in inches specified below.

| | |
|-----------------------------|-------------------------------|
| Species: Striped Bass | Minimum Fillet or Part Length |
| (24 to less than 28 inches) | 11 to 20 inches |
| (28 to 31 inches) | 15 to 22 inches |

- vi. Spanish mackerel shall be landed with head, tail and fins attached.
- vii. Fish carcasses from the previous trip shall be disposed of prior to commencing fishing on a subsequent trip;
- viii. Violation of any of the provisions of the Special Fillet Permit shall subject the captain and permit holder to the penalties established pursuant to N.J.S.A. 23:2B-14 and shall result in a suspension or revocation, applicable to both the vessel and the owner of the Special Fillet Permit according to the following schedule: (1) First offense: 60 days suspension; (2) Second offense: 120 days suspension; and (3) Third offense: Revocation of permit, rendering the vessel and the owner not eligible for permit renewal regardless of vessel ownership.
- ix. In calculating the period of suspension or revocation applicable under (f)3viii above, the number of previous suspensions shall be reduced by one for each three-year period in which the permit holder does not commit any other violation subject to this subsection, provided, however, that if more than one suspension is imposed within a three-year period, only one of those suspensions may be forgiven under this subparagraph; therefore, a permit holder who incurs more than one suspension in a three-year period shall not be considered a first offender under this subsection regardless of the length of any subsequent period without violation. The reduction in suspensions provided in this subparagraph applies only to determination of suspension periods; all prior suspensions shall be taken into account in calculating monetary penalties in accordance with N.J.S.A. 23:2B-14.
- x. Upon receipt of the notice of suspension but prior to the suspension or revocation of the Special Fillet Permit, the permittee has 20 days to request a hearing from the Department. The hearing shall be conducted pursuant to the Administrative Procedure Act, N.J.S.A. 52:14B-1 et seq. and 52:14F-1 et seq., and the Uniform Administrative Procedure Rules, N.J.A.C. 1.1. If a request for a hearing is not received by the Department within 20 days of the permittee's receipt of the notice of suspension, the permit suspension or revocation will be effective on the date indicated in such notice.

Pennsylvania: “(a) Except as otherwise provided in this section, it is unlawful to possess a fish in any form or condition other than in the whole or having the entrails removed while on shore, along the waters of this Commonwealth, onboard a boat or on a dock, pier, launch area or a parking lot adjacent thereto. (b) Fish may be processed fully if they are being prepared for immediate consumption. (d) Provided that the requirements of this subsection are met, this section does not apply to fish processed by a permitted charter boat/fishing guide operation. The charter boat operator or fishing guide may fully process the fish at any time provided the charter boat operator or fishing guide retains the carcass until possession of the fish is transferred to the customer on shore. The charter boat operator or fishing guide shall give the customer who receives the processed fish a signed, dated receipt on the form prescribed by the Commission.”

Delaware: “Unless otherwise authorized, it is unlawful to possess any striped bass for which the total length has been altered in any way for the purpose of retaining said striped bass in accordance with §3504.”

Maryland: "Filleting Striped Bass. (1) Except as provided in §C(2) of this regulation, a person may only land striped bass dockside as a whole fish. (2) A licensed charter boat captain or mate may fillet striped bass taken on a vessel displaying a current commercial charter boat decal under the following conditions: (a) A striped bass carcass may not be mutilated to the extent that the total length or species of fish cannot be determined; (b) All striped bass carcasses: (i) Shall be retained, unmixed with any other material, in a separate container readily available for inspection until the vessel has docked and all passengers from that trip have left the vessel and the dock area; and (ii) Are included in the possession limit; and (c) All striped bass carcasses from any previous trip shall be disposed of before any person begins to fish on a subsequent trip."

PRFC: "Measurement shall be the greatest distance in a straight line from the tip of the snout to the end of the caudal fin or tail in a natural state, excluding the tail filament of a black sea bass. No person shall alter the natural state of any species of fish listed in (a) above such that its length cannot be measured." *Unclear as to enforcement of filleting at-sea/shore (pers.com. PRFC).*

DC: "It shall be unlawful to... possess aboard any boat, while fishing or while in possession of fishing equipment, any fish for which a size or weight limit is prescribed in § 1504 from which the head or tail has been removed."

Virginia: "Alteration of finfish to obscure species identification or size prohibited. A. It shall be unlawful for any person to alter any finfish, or to possess altered finfish, aboard any boat or vessel, or on a public fishing pier (except at the fish cleaning station of the pier), such that the species of the fish cannot be determined. B. It shall be unlawful for any person to alter any finfish regulated by a minimum or maximum size limit, or to possess such altered finfish, aboard any boat or vessel, or on a public fishing pier (except at the fish cleaning station of the pier), such that its total length cannot be measured.

Allowances for filleting or cleaning. A. For finfish regulated by a minimum or maximum size limit, filleting at sea will be allowed if the carcass is retained to ensure proper species identification and compliance with size limitations. B. For finfish regulated by a minimum size, cleaning and/or filleting at sea will be allowed if the fillet or cleaned fish exceeds the minimum length for the species and at least one square inch of skin is left intact to assist in identification of the species. C. For finfish not regulated by a size limit, filleting at sea will be allowed if a minimum of one square inch of skin is left on the fillet to assist in identification of the species."

North Carolina: "It shall be unlawful to possess aboard a vessel or while engaged in fishing any species of finfish that is subject to a size or harvest restriction without having head and tail attached." *Enforced as filleting allowed with rack retained (pers.com. NC DMF).*