

ATLANTIC STATES MARINE FISHERIES COMMISSION
REVIEW OF THE INTERSTATE FISHERY MANAGEMENT PLAN
FOR
SPANISH MACKEREL
(Scomberomorus maculatus)
2021 FISHING YEAR



Prepared by the Plan Review Team

Approved November 8, 2022



Sustainable and Cooperative Management of Atlantic Coastal Fisheries

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I. Status of the Plan

Date of FMP Approval: Original FMP – November 1990

Amendments: Omnibus Amendment to Spanish Mackerel, Spot, and Spotted Seatrout (Amendment 2) – August 2011

Addendum: Addendum I – August 2013

Management Area: The Atlantic coast distribution of the resource from Rhode Island through the east coast of Florida

Active Boards/Committees: Coastal Pelagics Management Board; Spanish Mackerel Plan Review Team; South Atlantic Species Advisory Panel

The Fishery Management Plan (FMP) for Coastal Migratory Pelagic Resources (1983 and subsequent amendments) and the [Interstate Fishery Management Plan for Spanish Mackerel](#) (1990) manage Atlantic group Spanish mackerel in federal and state Atlantic waters from Rhode Island through the east coast of Florida. All states in that range, excluding Pennsylvania, have a declared interest in the Interstate FMP for Spanish mackerel. The Coastal Pelagics Management Board serves to manage Spanish mackerel for the Commission. The Interstate FMP for Spanish mackerel is a flexible document intended to track the federal FMP; thus, the South Atlantic Fishery Management Council (SAFMC) has the lead on Atlantic group Spanish mackerel management.

[Amendment 1](#) to the Spanish mackerel FMP, as part of an Omnibus Amendment to the ISFMP Management Plans for Spanish Mackerel, Spot, and Spotted Seatrout, was approved in August 2011. The primary objective of this amendment was to bring the FMPs for all three species under the authority of ACFCMA to provide more efficient and effective management and changes to management for the future. In addition, the amendment made the Commission's Spanish mackerel FMP consistent with federal Spanish mackerel requirements determined by the SAFMC.

[Addendum I](#) was approved in August 2013 to allow for a two-year pilot program (2013 and 2014) that allowed states to reduce the minimum size limit of Spanish mackerel for the commercial pound net fishery to 11.5 inches from 12 inches for July through September.

The goals of the ISFMP are to complement federal management in state waters, to conserve the Atlantic group Spanish mackerel resource throughout its range and to achieve compatible management among the states that harvest Spanish mackerel. In accordance with the 2011 Omnibus Amendment, the updated FMP's objectives are to:

1. Manage the Spanish mackerel fishery by restricting fishing mortality to rates below the threshold fishing mortality rates to provide adequate spawning potential to sustain long-term abundance of the Spanish mackerel populations.

2. Manage the Spanish mackerel stock to maintain the spawning stock biomass above the target biomass levels.
3. Minimize endangered species bycatch in the Spanish mackerel fishery.
4. Provide a flexible management system that coordinates management activities between state and federal waters to promote complementary regulations throughout Spanish mackerel's range which minimizes regulatory delay while retaining substantial ASMFC, Council, and public input into management decisions; and which can adapt to changes in resource abundance, new scientific information and changes in fishing patterns among user groups or by area.
5. Develop research priorities that will further refine the Spanish mackerel management program to maximize the biological, social, and economic benefits derived from the Spanish mackerel population. See Table 1 for state Spanish mackerel regulations in 2020-2021.

In 2019, several inconsistencies between the two FMPs were brought to the Board's attention, but the Board decided to postpone any changes to the Commission's Spanish mackerel FMP until after completion of the next stock assessment in 2022. As the SAFMC has the lead on Atlantic Spanish mackerel management, the measures summarized below are those of the federal FMP.

The SAFMC manages Atlantic group Spanish mackerel with guidance from its Scientific and Statistical Committee (SSC). The SAFMC determines needed adjustments to regulatory measures, including allowable catch, bag limits, size limits, and trip limits. The SAFMC deliberations are assisted by a Mackerel Cobia Committee that includes representatives from the Mid-Atlantic Fishery Management Council, and an Advisory Panel with South Atlantic and Mid-Atlantic industry representation. Since the Coastal Migratory Pelagic Resources FMP is a joint plan with the Gulf of Mexico Fishery Management Council (GMFMC), any plan amendments to this FMP must be approved by both Councils. Actions that can be completed through the Coastal Migratory Pelagics FMP's framework procedure and only address Atlantic group Spanish mackerel, do not require approval from the GMFMC.

The federal FMP divides the commercial fishery and defines quotas for the Atlantic and Gulf migratory groups. Within the Atlantic migratory group, there are two zones- the Northern (consisting of the states from New York through North Carolina) and the Southern (South Carolina to the Miami-Dade/Monroe County border, Florida). For the Atlantic migratory group in the 2020/2021 year, in accordance with CMP Framework Amendment 2, the full commercial quota was 3.33 million pounds with allocations of 662,670 pounds and 2,667,330 pounds to the Northern and Southern zones, respectively. An adjusted Southern quota of 2,417,330 pounds was used to determine trip limit reductions in the Southern commercial zone. The 2020-2021 fishing year began on March 1st, 2020 and closed on July 22, 2020 in the Northern Zone. The Southern Zone reduced the commercial trip limit on January 29, 2020, to 500 lbs. until March 1, 2020.

The federal commercial trip limit is a year-round 3,500 pound daily possession/landings limit for the states from New York through North Carolina, with South Carolina through Florida's commercial trip limit varying depending on the percent of quota remaining. Following the implementation of Amendment 20B and CMP Framework Amendment 2, the federal trip limit for the Southern zone (SC through FL) decreases as quota is caught. When 75% of the "adjusted" Southern zone quota¹ (1,812,998 pounds ww) is caught, the trip limit is reduced from 3,500 pounds to 1,500 pounds. When 100% of the adjusted Southern zone quota (2,417,330 pounds ww) is caught, the commercial trip limit is further reduced to 500 pounds. When 100% of the Southern zone commercial quota is met, harvest is prohibited for the remainder of the fishing year in federal waters, with limited commercial harvest remaining open in some state waters. In both the Northern and Southern zones, the recreational bag limit is set at 15 fish. The minimum size limit for both fisheries is 12 inches fork length (the total length equivalent, 14 inches, is used for some state waters).

II. Status of the Stocks

The most recent stock assessment on Spanish mackerel was completed in 2012 through the Southeast Data, Assessment, and Review (SEDAR) process (SEDAR 28, 2012). It reported that the Spanish mackerel stock was neither overfished nor experiencing overfishing. The terminal year spawning stock biomass was estimated to be $SSB_{2011}/MSST=2.29$, the fishing level (exploitation rate) for the ending three years was estimated to be $F_{2009-2011}/F_{MSY}=0.526$, and the terminal year fishing mortality rate was estimated to be $F_{2011}/F_{MSY}=0.521$. The estimated total biomass declined significantly in the mid-1970s and was below B_{MSY} between years 1983 and 2000 before increasing in trend again through 2009 (Figure 1). Total biomass then decreased in trend in the last three years of the time series but remained above B_{MSY} (Figure 1). The overfishing ratio (F/F_{MSY}) showed that fishing mortality rate estimates increased in the mid-1970s and the stock experienced overfishing in year 1980 (Figure 2). Fishing mortality rates then decreased again in 1981 and became stable but variable through 1994 before decreasing in trend again through 2011 (Figure 2).

In 2022, an operational assessment (i.e., update to the last assessment) was completed through the SEDAR process with data through 2020. This most recent assessment (SEDAR 78) initially indicates the same stock status: the stock is not overfished and it is not experiencing overfishing based on a three-year average of fishing mortality. SEDAR 78 is currently undergoing additional review and analysis before being considered for use in management.

III. Status of the Fishery

On July 1, 2018, the Marine Recreational Information Program recalibrated recreational harvest estimates from the Coastal Household Telephone Survey (CHTS) to the mail-based Fishing Effort Survey (FES). Estimates used in this report are now those of the FES, but Figure 3 shows a comparison of CHTS and FES estimates. The federal FMP quotas are still based on previous CHTS estimates, but FES estimates will be incorporated into management after the 2022 stock assessment is approved for management use.

¹ The adjusted quota is the Southern zone quota minus 250,000 lbs.

Spanish mackerel are an important recreational and commercial fishery in South Atlantic waters, with some landings in the Mid-Atlantic region, particularly in recent years (Tables 2-4). While the fishery is managed according to a March – February fishing year, landings summarized in this report are shown by calendar year, unless otherwise stated. Total landings of Spanish mackerel in calendar year 2021 are estimated at 14.6 million pounds. The commercial fishery harvested approximately 33% of the total and the recreational fishery about 67%, according to MRIP recreational harvest estimates.

From 1950 to 2021, commercial landings of Atlantic coast Spanish mackerel have ranged between 1.8 and 11.1 million pounds, although landings have been relatively stable hovering around the 10-year average of 3.5 million pounds for the past few decades. Coastwide commercial landings have generally been below 4 million pounds since 1995, coinciding with the entanglement net ban in Florida, with the exception of 2010 (4.52 million pounds) and 2011 (4.35 million pounds). Gill nets were the dominant commercial gear in Florida prior to the ban, after which the use of cast nets increased. In 2021, coastwide commercial landings were 4.75 million pounds (Figure 4), of which 3.4 million pounds (72%) were landed in Florida and approximately 1 million pounds (24%) were landed in North Carolina (Table 2).

According to MRIP, recreational anglers harvested 8.6 million Spanish mackerel (9.8 million pounds) in 2021, the highest in the time series (Tables 3 and 4; MRIP query September 2022). The number of recreationally harvested fish appears to show a cyclical trend, with low harvests in the early to mid-80s and mid to late 90s, interspersed with higher harvests (Figure 5). Florida and North Carolina have historically accounted for the majority of recreational landings in both number and weight, with 67% and 18% of the total number of fish caught in 2021, respectively. The number of recreational releases of Spanish mackerel has generally increased over time, reaching the highest amount in the time series of 6 million fish in 2021 (Table 5, Figure 5). Live releases comprised 41% of the total recreational catch, slightly below the previous 10-year average (2011-2020) of 43%.

It is important to note concerns and questions have been raised regarding the 2020 and 2021 recreational catch estimates, and the Marine Recreational Information Program (MRIP) is looking further into these estimates, particularly shore-based landings estimates. This report will be revised if MRIP estimates are updated.

IV. Status of Assessment Advice

The last stock assessment accepted for management use was completed in 2012 through the Southeast Data, Assessment, and Review (SEDAR) process (SEDAR, 2012). The input data (through 2011) were applied to two assessment models, with the primary model being a statistical catch at age model called the Beaufort Assessment Model (BAM); while a secondary surplus-production model (ASPIC) provided a comparison of model results. The Review Panel concluded that the statistical catch at age model was the most appropriate model to characterize the stock status for management purposes.

The SSC reviewed the assessment during its December 2012 meeting and accepted the SEDAR 28 Spanish mackerel stock assessment as best available science. The SSC concurred with the Review Panel's conclusion that the stock is not experiencing overfishing and the stock is not overfished.

In 2022, an operational assessment was completed through the SEDAR process with data through 2020. Based on concerns raised by SSC and discussed at the September 2022 SAFMC meeting, SEDAR 78 is currently undergoing additional review and analysis before being considered for use in management. SEDAR 78 incorporates FES recreational harvest estimates.

V. Status of Research and Monitoring

The National Marine Fisheries Service (NMFS) Southeast Fisheries Science Center (SEFSC) continues to monitor length and weight at age and size frequencies, fishing mortality, and migration; collect age data and catch per unit effort by area, season, fishery, and gear; monitor shrimp trawl bycatch; investigate methods to predict year class strength; calculate estimates of recruitment, and develop conservation gear to reduce bycatch. The NMFS is also collecting discard data through a bycatch logbook in the mackerel and snapper-grouper fisheries. The Gulf and South Atlantic Fisheries Development Foundation and several states (North Carolina, South Carolina, Georgia, and Florida) have evaluated finfish bycatch in the southeastern shrimp trawl fishery, including bycatch of Spanish mackerel. The South Atlantic component of the Southeast Area Monitoring and Assessment Program (SEAMAP) collects Spanish mackerel data in its coastal trawl survey from Cape Hatteras to Cape Canaveral. Additionally, the Northeast Area Monitoring and Assessment Program (NEAMAP) began regular spring and fall surveys between Martha's Vineyard and Cape Hatteras in the fall of 2007.²

Abundance trends continue to be monitored primarily through fishery-dependent sources. The states and the SEFSC monitor catch data through the cooperative commercial statistics collection program and the recreational fisheries survey. Commercial trip reports are tallied more frequently in the winter and early spring by the state of Florida and NMFS as the commercial quota is approached.

North Carolina also conducts fishery independent monitoring. Three fishery independent gill net surveys were initiated by the North Carolina Division of Marine Fisheries in May of 2001, 2003 and 2008, respectively. These surveys utilize a stratified random sampling scheme designed to characterize the size and age distribution for key estuarine species in Atlantic Ocean (ended in 2015) and Pamlico Sound as well as the Pamlico, Pungo, Neuse, Cape Fear and New Rivers. The overall Spanish mackerel CPUE from these surveys was extremely low and therefore lacks the desired precision and confidence needed for the data to be used for management purposes.

² Many states and regional surveys experienced an interruption in sampling efforts in both recreational and commercial fishery surveys during the 2020 calendar year.

VI. Status of Management Measures

2008 Framework Adjustment (Federal)

In February 2008, NOAA Fisheries finalized a framework adjustment to change the beginning date for trip limits in the Atlantic Spanish mackerel fishery off the east coast of Florida. The 3,500 pound trip limit begins March 1 each year to correspond with the beginning of the fishing year (as changed in Amendment 15).

Omnibus Amendment (Interstate)

In August 2011, the Management Board approved an amendment to the Spanish Mackerel FMP to address three issues: compliance measures, consistency with federal management in the exclusive economic zone, and alignment with Commission standards. Through the Omnibus Amendment, the following fisheries management measures are required for states within the management unit range:

Recreational Fishery

- 12" Fork Length (FL) or 14" Total Length (TL) minimum size limit
- 15 fish creel limit
- Must be landed with head and fins intact
- Calendar year season
- Prohibited gear: Drift gill nets prohibited south of Cape Lookout, NC
- Decrease in the recreational quota the following year via reduced bag limits if the Total Annual Catch Limit (ACL) is exceeded and stock is overfished.

Commercial Fishery

- Prohibited: purse seines; drift gill nets south of Cape Lookout, NC
- 12" FL or 14" TL minimum size limit
- March 1 – end of February season
- Trip limits (per vessel, per day)
NY-GA: 3500 lbs
FL: 3500 lbs, 3/1-11/30;
3500 lbs Mon-Fri & 1500 lbs Sat-Sun, 12/1 until 75% adjusted quota taken;
1500 lbs, when 75% adjusted quota taken until 100% adjusted quotas taken;
500 lbs after 100% of adjusted quotas taken (the adjusted quota compensates for estimated catches of 500 lbs per vessel per day to the end of the season)
- Commercial quotas decreased the following year if Total ACL is exceeded and stock is overfished

Since approval of the Omnibus Amendment, several changes (described below) have been made to the federal FMP that are not currently reflected in the Commission management through the Omnibus Amendment. The Board has been informed of these changes and will likely consider changes to better align Commission and federal management documents following the approval of the 2022 stock assessment.

Amendment 18 (Federal)

In August 2011, the Gulf of Mexico and South Atlantic, Fishery Management Councils approved Amendment 18 to the joint FMP for Coastal Migratory Pelagics. The primary action under consideration established Annual Catch Limits (ACLs) and Accountability Measures (AMs) for the cobia, king mackerel, and Spanish mackerel. The amendment designates ACLs and Annual Catch Targets (ACTs) for each of the two migratory groups of Spanish mackerel (Atlantic and Gulf). For the Atlantic migratory group, the commercial sector ACL is set equivalent to the commercial sector quota of 3.13 million pounds. The AM for the commercial sector is that the commercial sector will close when the commercial quota is reached or projected to be reached. In addition, current trip limit adjustments will remain in place. When the commercial sector closes, harvest and possession of Spanish mackerel would be prohibited for persons aboard a vessel for which a commercial permit for Spanish mackerel has been issued.

For the recreational sector, the ACT is set to 2.32 million pounds, while the ACL is set at 2.56 million pounds. Regarding the AM, if the stock ACL is exceeded in any year, the bag limit will be reduced the next fishing year by the amount necessary to ensure recreational landings achieve the recreational ACT, but do not exceed the recreational ACL in the following fishing year. A payback will be assessed if the Atlantic migratory group Spanish mackerel is determined to be overfished and the stock ACL is exceeded. The payback will include a reduction in the sector ACT for the following year by the amount of the overage by that sector in the prior fishing year.

Addendum I (Interstate)

In August 2013, the Commission's South Atlantic State-Federal Fisheries Management Board approved Addendum I to the Omnibus Amendment to for Spanish mackerel, Spot, and Spotted Seatrout.

Addendum I to the Omnibus Amendment establishes a pilot program that would allow states to reduce the Spanish mackerel minimum size limit for the commercial pound net fishery to 11 ½ inches during the summer months of July through September for the 2013 and 2014 fishing years only. The measure is intended to reduce waste of these shorter fish, which are discarded dead in the summer months, by converting them to landed fish that will be counted against the quota.

The Addendum responds to reports about the increased incidence of Spanish mackerel ¼ to ½ inch short of the 12-inch fork length minimum size limit in pound nets during the summer months. While the fish are alive in the pound, once the net is bunted and bailing commences, they die before being released. This may be due to a combination of temperature, stress and crowding. While individual fishermen have experimented with different wall or panel mesh sizes depending on the target species, there is no consistent use of cull panels. Those who have used cull panels have noted the difficulty and lack of success in being able to release the undersized fish quickly enough to prevent dead discards during this time of year.

The measures in Addendum I only applied for the 2013 and 2014 fishing seasons. The South Atlantic Board formally extended the provisions of Addendum I for the 2015 through 2018

fishing seasons. After 2018, North Carolina, the only state to implement the reduced minimum size limit, stopped requesting approval of the program due to no further request from pound net fishermen to continue the program, and due to recent closures in federal waters.

Amendment 20A (Federal)

Effective July 2014, this Amendment addresses the sale of bag limit caught Spanish mackerel. The amendment rose from concerns that the recreational sales of bag limit caught fish, which are counted toward commercial quotas, are contributing to early closures of the commercial sector. In addition potential double counting of these fish could be causing erroneous landings estimates. In response, the Amendment prohibits bag limit sales with the exception of recreationally caught fish from state permitted tournaments in the South Atlantic region. This amendment also included an action to remove income requirements for federal CMP permits.

South Atlantic CMP Framework Action (Federal)

Effective December 2014, this action allows Spanish mackerel, harvested with gillnet gear in the South Atlantic EEZ off Florida (north of the Miami-Dade/Monroe County line) that is in excess of the trip limit, to be transferred to another federally permitted vessel that has not yet harvested the trip limit. The Framework stipulates that the transfer can only occur if: 1) allowable gillnet gear was used to harvest Spanish mackerel; 2) the transfer takes place in federal waters between vessels with valid commercial permits; 3) the receiving vessel does not have more than 3 gillnets aboard after the transfer; 4) all fish remain entangled in the meshes of the net until the transfer; 5) the quantity of the fish transferred does not exceed the daily trip limit; and 6) there is only one transfer per vessel per day.

CMP Framework Amendment 1 (Federal)

This Framework Amendment, effective December 2014, increases the Atlantic Spanish mackerel ACL to 6.063 million pounds. The modification to the ACL followed the 2013 stock assessment which concluded that the stock is not overfished and overfishing is not occurring. The Amendment divides the ACL between the commercial sector (3.33 million pounds) and the recreational sector (2.727 million pounds).

Amendment 20B (Federal)

Effective March 2015, this Amendment separates commercial quotas of Atlantic Spanish mackerel between a Northern zone (north of NC/SC line) and a Southern zone (South of NC/SC line). The Amendment arose from concerns that the commercial quota could be filled by fishermen in one state before fish are available to fishermen in another state. In order to prevent this from happening, a zone is closed when its respective quota is met. Quota for each zone was based on landings from 2002/2003-2011/2012.

CMP Framework Amendment 2 (Federal)

Implemented July 2015, this Amendment modifies the commercial trip limit system in the Southern zone. The rule establishes a trip limit of 3,500 lbs for Spanish mackerel in Federal waters offshore of South Carolina, Georgia, and Florida. When 75% of the adjusted southern zone commercial quota is caught, the commercial trip limit is reduced to 1,500 lbs. When 100%

of the adjusted southern zone commercial quota is met, the commercial trip limit is further reduced to 500 lbs. This limit remains until the end of the year or the total Southern zone commercial quota is met.

CMP Framework Amendment 5 (Federal)

Implemented August 2017, this Framework Amendment allows commercially permitted vessels to operate as private recreational vessels when the commercial season is closed for Spanish or king mackerel.

Amendment 34 (Federal; pending final rulemaking by NOAA Fisheries)

Amendment 34 was recently approved by the SAFMC in March 2022 and by the Gulf of Mexico Fishery Management Council in April 2022. Council staff are currently working on finalizing the amendment to be transmitted to NMFS for rulemaking. Amendment 34 for federal waters would allow cut-off (damaged by natural predation) Atlantic Spanish mackerel caught under the recreational bag limit, which comply with the minimum size limits, to be possessed, and offloaded ashore.

VII. Implementation of FMP Compliance Requirements for 2021

All states must implement the requirements specified in section 5 of the Omnibus Amendment (5.1 Mandatory Compliance Elements for States; 5.1.1 Mandatory Elements of State Programs; 5.1.1.1 Regulatory Requirements). The PRT found no inconsistencies among states from the FMP.

De Minimis Requests

A state qualifies for *de minimis* status if its previous three-year average combined commercial and recreational landings is less than 1% of the previous three-year average coastwide combined commercial and recreational landings. Those states that qualify for *de minimis* are not required to implement any monitoring requirements, as none are included in the plan.

The states of Rhode Island, New Jersey, and Delaware request *de minimis* status. All states meet the requirements of *de minimis*.

Regulation Changes

Rhode Island declared an interest in Spanish mackerel in 2021 and joined the Coastal Pelagics Management Board at that time. Rhode Island is currently developing regulations through their state public process to meet the FMP requirements for Spanish mackerel.

In North Carolina, a 1,500-yard drift gill net limit was implemented starting May 2, 2021 for the Spanish mackerel commercial fishery in Pamlico Sound and northern Core Sound. The limit was reduced to 800 yards starting June 21, 2021.

Some states implemented reduced commercial trip limits via proclamation or public notice when federal waters closed in 2021 (Table 1).

VIII. Recommendations of the Plan Review Team

Additional research recommendations can be found in the most recent stock assessment found [here](#). The PRT had the following additional research recommendations:

- Understanding the dynamics across the regions is important for future management considering. Consider extending management measures into the New England region (as far north as Massachusetts) as consistent catches and anecdotal sightings of Spanish mackerel have occurred in parts of this area and are increasing in frequency. Also determine whether more northerly fish are of the same stock as fish further south, and the impact of the potential regions in future stock assessments.
- A need for understanding the life history components for Spanish mackerel, particularly from fishery independent surveys. Length, sex, age, and CPUE data are needed for improved stock assessment accuracy. Data collection is needed for all states, particularly from Virginia north. Evaluation of weight and especially length at age of Spanish mackerel.
- Investigate discard mortality in both the commercial and recreational fisheries. Specific information should include an estimate of total amount caught and distribution of catch by area, season, and type of gear.

IX. References

- Branstetter, S. 1997. Final implementation of high-priority objectives of a bycatch reduction research program for the Gulf of Mexico and South Atlantic shrimp fishery. NMFS 93-SER-059.
- Gaddis, G., D. Haymans, J.L. Music, Jr., and J. Page. 2001. Interstate fisheries management planning and implementation. Final Report. Award No. NA86FG0116. USDOC/NOAA/NMFS. Atlantic Coastal Fisheries Management Act (P.L. 103-206).
- GMFMC (Gulf of Mexico Fishery Management Council)/SAFMC (South Atlantic Fishery Management Council). 2011. Amendment 18 to the fishery management plan for coastal migratory pelagic resources in the Gulf of Mexico and Atlantic regions. Available at: http://safmc.net/Library/pdf/Final_CMP_Amend18.pdf
- GMFMC (Gulf of Mexico Fishery Management Council)/SAFMC (South Atlantic Fishery Management Council). 2013. Amendment 20A to the fishery management plan for coastal migratory pelagic resources in the Gulf of Mexico and Atlantic regions. Available at: http://sero.nmfs.noaa.gov/sustainable_fisheries/gulf_sa/cmp/2014/am20a/documents/pdfs/cmp_am20a_ea.pdf
- GMFMC (Gulf of Mexico Fishery Management Council)/SAFMC (South Atlantic Fishery Management Council). 2014. Amendment 20B to the fishery management plan for coastal migratory pelagic resources in the Gulf of Mexico and Atlantic regions. Available at: http://sero.nmfs.noaa.gov/sustainable_fisheries/gulf_sa/cmp/2014/am20b/documents/pdfs/cmp_a20b_ea.pdf
- Mackerel Stock Assessment Panel (MSAP). 2003. 2003 Report of the Mackerel Stock Assessment Panel. Award No. NA17FC2203 and NA17FC1053. Gulf of Mexico Fishery Management Council, Tampa, Florida & South Atlantic Fishery Management Council, Charleston, South Carolina. 31 pp.
- Ottley, A., C.N. Belcher, B. Good, J.L. Music, Jr., and C. Evans. 1998. Interstate fisheries management planning and implementation. Final Report. Award No. NA57FG0170. USDOC/NOAA/NMFS. Atlantic Coastal Fisheries Management Act (P.L. 103-206).
- Page, J., D. Haymans, and P. Geer. 2004. Interstate fisheries management planning and implementation. Final Report. Award No. NA16FG1219. USDOC/NOAA/NMFS. Atlantic Coastal Fisheries Management Act (P.L. 103-206).
- SAFMC (South Atlantic Fishery Management Council). 2013. South Atlantic Coastal Migratory Pelagics Framework Action 2013 for the fishery management plan for coastal migratory pelagic resources in the Gulf of Mexico and Atlantic regions. Available at: http://safmc.net/sites/default/files/Resource%20Library/pdf/CMPFramework_DecisionDoc_Sept2013_draft.pdf

SAFMC (South Atlantic Fishery Management Council). 2014. Framework Amendment 1 to the fishery management plan for coastal migratory pelagic resources in the Gulf of Mexico and Atlantic regions. Available at:

http://safmc.net/sites/default/files/Resource%20Library/pdf/CMP%20Am/CMPFrameworkAmendment1_29May2014_FINAL.pdf

SAFMC (South Atlantic Fishery Management Council). 2014. Framework Amendment 2 to the fishery management plan for coastal migratory pelagic resources in the Gulf of Mexico and Atlantic regions. Available at:

http://sero.nmfs.noaa.gov/sustainable_fisheries/gulf_sa/cmp/2014/framework_am2/documents/pdfs/cmp_frameworka2_ea.pdf

SAFMC (South Atlantic Fishery Management Council). 2016. Framework Amendment 5 to the fishery management plan for coastal migratory pelagic resources in the Gulf of Mexico and Atlantic regions.

SEDAR. 2012. SEDAR 28- South Atlantic Spanish Mackerel Stock Assessment Report. SEDAR, North Charleston SC. 438 pp. available online at:

http://www.sefsc.noaa.gov/sedar/Sedar_Workshops.jsp?WorkshopNum=28

X. Figures

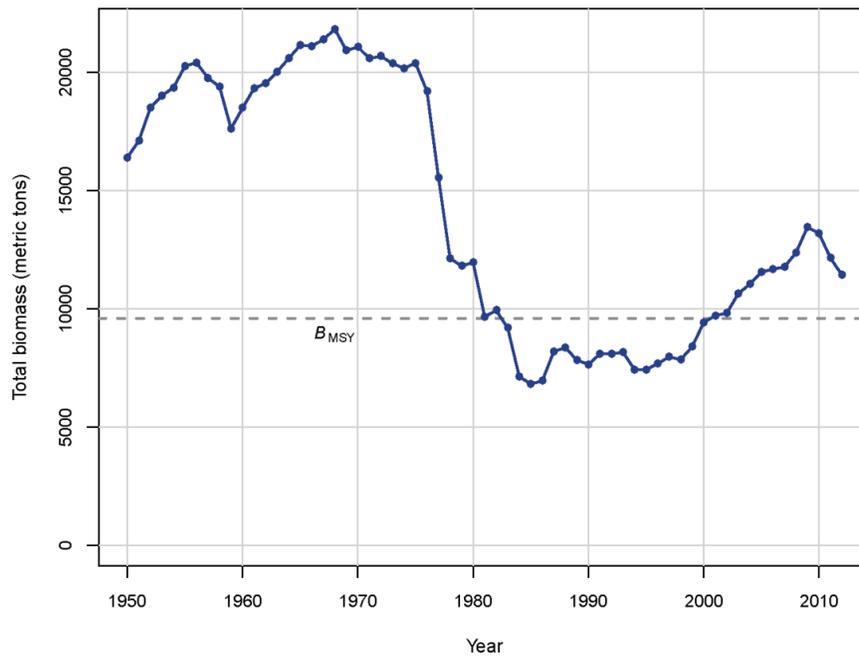


Figure 1. Estimated total biomass (metric tons) at start of year. Horizontal dashed line indicates B_{MSY} (SEDAR, 2012).

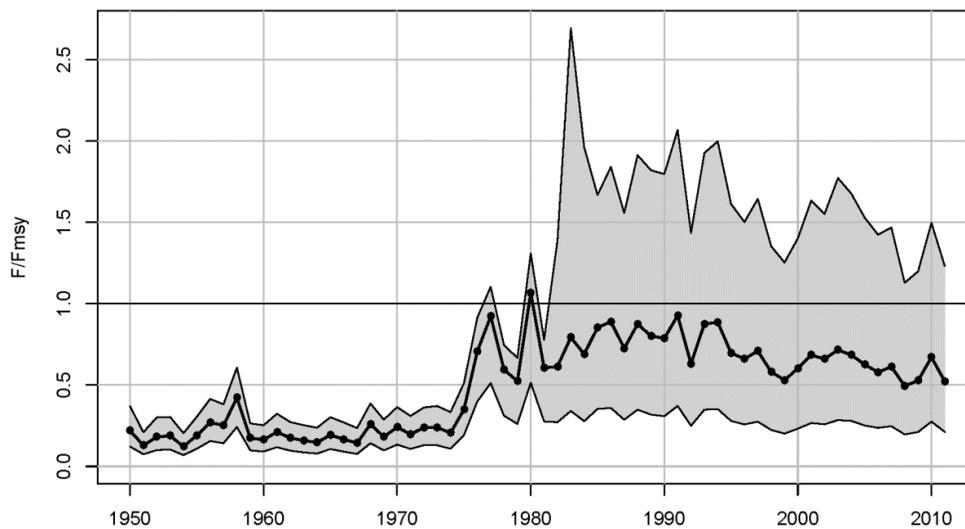


Figure 2. Estimated time series of Atlantic group Spanish mackerel fishing mortality rate (F) relative to F_{MSY} benchmark. Solid line indicates estimates from base run of the Beaufort Assessment Model; gray error bands indicate 5th and 95th percentiles of the Monte Carlo Bootstrap analysis trials (SEDAR, 2012).

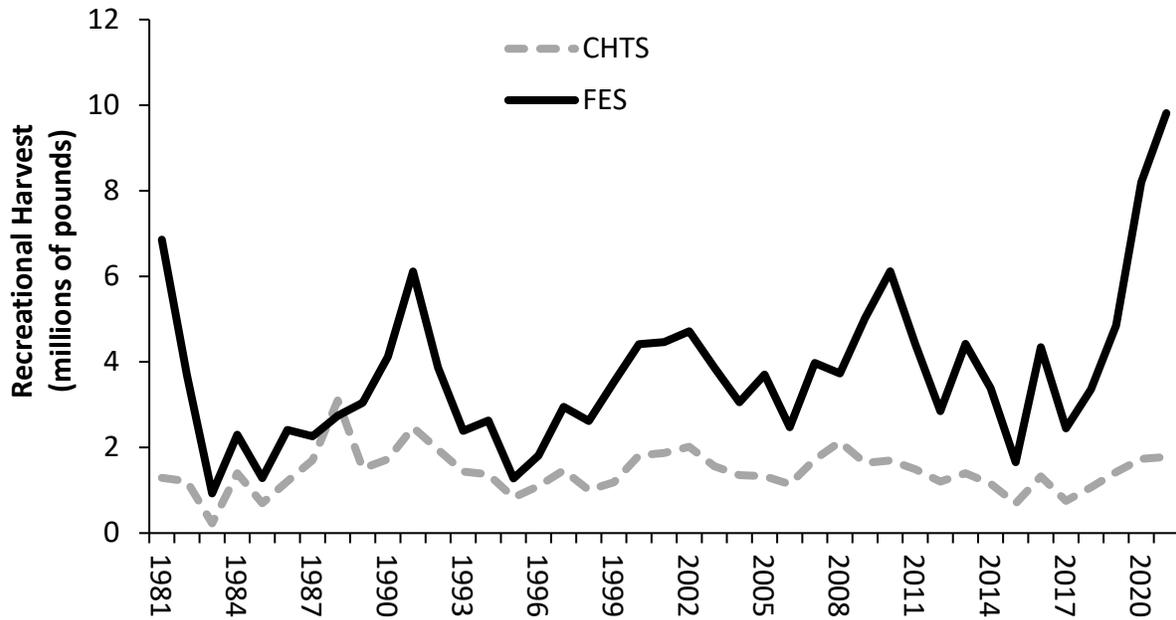


Figure 3. Recreational harvest in pounds, estimated using the Coastal Household Telephone Survey (CHTS) and the mail-based Fishing Effort Survey (FES). (Source: personal communication with NOAA Fisheries, Fisheries Statistics Division. [9/2022])

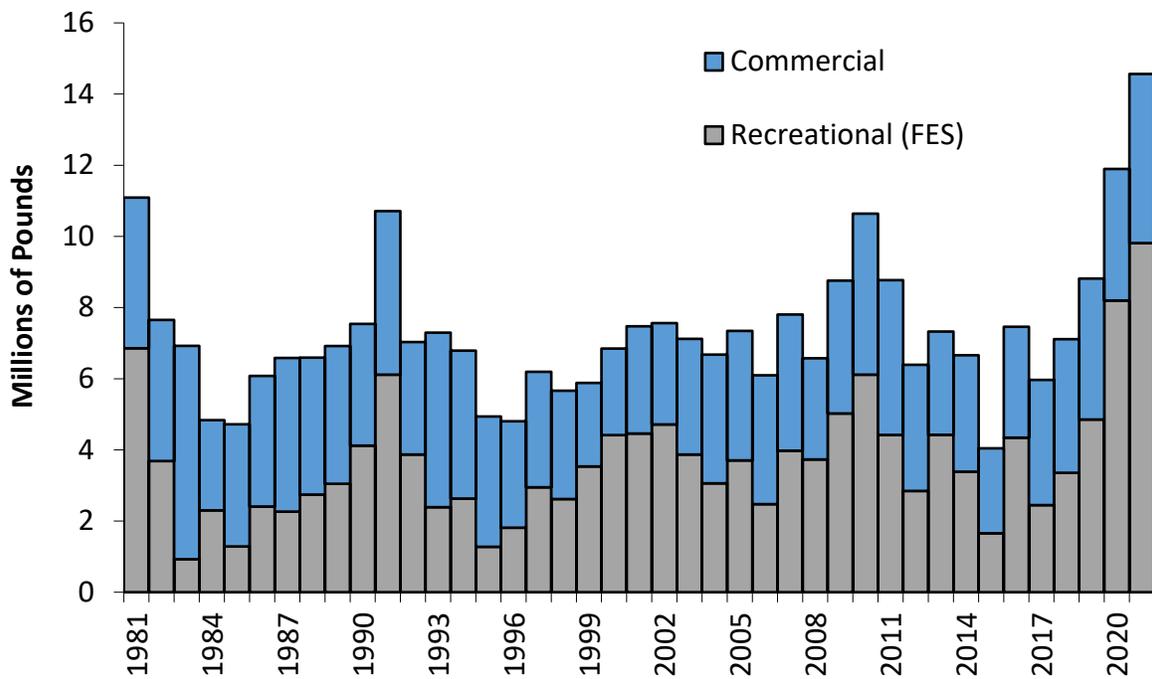


Figure 4. Commercial and recreational harvest (FES) (pounds) of Spanish mackerel, 1981-2021. (Recreational data available from 1981-present only; see Tables 2 and 4 for sources and recent values)

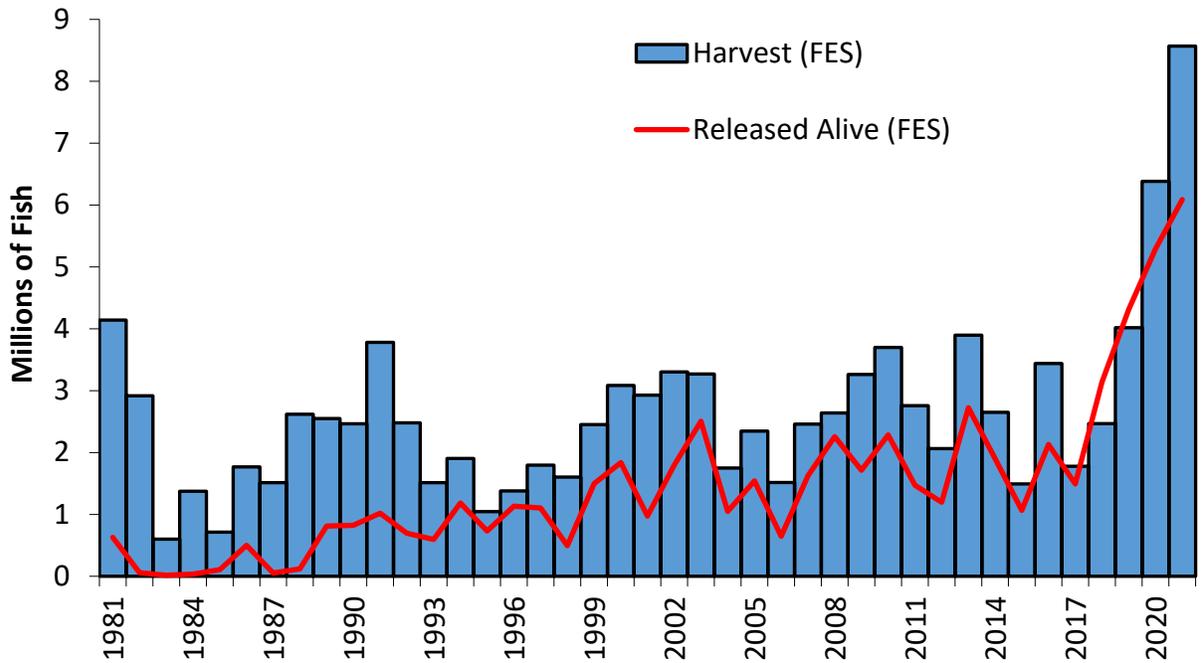


Figure 5. Recreational harvest and releases (numbers of fish; FES) of Spanish mackerel, 1981-2020. (See Tables 3 and 5 for sources and recent values)

Note: Concerns and questions have been raised regarding the 2020 and 2021 Spanish mackerel recreational catch estimates; MRIP is looking further into these estimates.

XI. Tables

Table 1. Summary of state regulations for Spanish mackerel in 2021.

Notes: A commercial license is required to sell Spanish mackerel in all states; other general gear restrictions apply to the harvest of Spanish mackerel. Purse seines, and drift gill nets south of Cape Lookout, NC are prohibited.

State	Recreational	Commercial
RI	<i>Regulations pending:</i> 12" FL/14" TL, 15 fish	<i>Regulations pending</i> 14" TL. 3,500 lbs trip limit.
NY	14" TL, 15 fish	14" TL. 3,500 lbs trip limit.
NJ	14" TL, 10 fish	14" TL. 3,500 lbs trip limit.
DE	14" TL, 15 fish	14" TL. 3,500 lbs trip limit.
MD	14" TL, 15 fish	14" TL. 3,500 lbs trip limit. Public notice 7/9/2021: 500-lb trip limit when harvest in federal waters closed.
PRFC	14" TL, 15 fish	14" TL. Closure if/when both MD and VA fisheries close.
VA	14" TL, 15 fish	12" or 14" TL. 3,500 lb trip limit. 500 lb trip limit if/when harvest in federal waters closed.
NC	12" FL, 15 fish	12" FL; 3,500 lb trip limit for combined Spanish and king mackerel landings. Proclamation 6/28/2021: 500-lb trip limit when harvest in federal waters closed.
SC	12" FL, 15 fish	12" FL. 3500 lbs until 75% of adjusted Atlantic Southern Zone quota taken, then 1500 lbs until 100% of adjusted quota is taken, then 500 lbs. until the end of year or commercial quota is met. If quota is met, then commercial sector is closed to harvest. Requires open access permit for Spanish mackerel.
GA	12" FL, 15 fish	12" FL. 3500 lbs until 75% of adjusted Atlantic Southern Zone quota taken, then 1500 lbs until 100% of adjusted quota is taken, then 500 lbs. until the end of year or commercial quota is met. If quota is met, then commercial sector is closed to harvest.
FL	12" FL, 15 fish. Cast nets less than 14' and beach or haul seines within 2" stretched mesh allowed	12" FL or 14" TL. Trip limits: April 1 until Nov. 30 – 3500 lb; Dec. 1 until 75% of adjusted quota reached – 3500 lb Monday – Friday & 1500 lb Saturday – Sunday; >75% adjusted quota until quota filled – 1500 lb; > 100% of adjusted quota – 500 lb. Restricted Species Endorsement Required Allowed gear: beach or haul seine, cast net, hook and line, or spearing.

Table 2. Commercial landings (pounds, calendar year) of Spanish mackerel by state, 2012-2021. (Source: Annual state compliance reports for 2021 and for all PRFC years; ACCSP for 2020 and earlier. Confidential values are shown as “C”. Coastwide totals and 'Other' totals adhere to the ACCSP rule of 3, i.e., totals are reflective of the true total if 0 or at least 3 states’ data are confidential in a given year. Otherwise, they are sums of non-confidential data.)

Year	Other*	RI	NY	NJ	DE	MD	PRFC
2012		2,135	2,293	2,806		3,634	270
2013	C	C	4,467	265		2,395	302
2014	C	43	2,550	292		1,632	12
2015		C	1,357	2,746		2,222	6
2016		C	813	1,997	C	16,205	548
2017	C	652	1,053	462		815	4,704
2018	C	951	1,283	950		3,071	420
2019	C	1,484	5,683	2,010	C	12,520	45,385
2020	C	602	3,021	1,656	C	6,728	10,092
2021	C	284	5,721	1,620		5,192	20,076
Year	VA	NC	SC	GA	FL [^]	Total	
2012	18,047	916,439			2,597,097	3,542,721	
2013	7,602	620,752			2,265,505	2,901,759	
2014	7,859	673,974	C		2,585,304	3,272,609	
2015	14,472	561,407	C		1,807,967	2,390,178	
2016	32,577	601,526	C		2,461,327	3,115,168	
2017	21,483	816,017	C		2,672,634	3,517,819	
2018	23,609	796,855	C		2,926,285	3,753,425	
2019	169,152	722,396	C	C	3,004,860	3,963,720	
2020	71,953	1,033,526	C	C	2,571,019	3,698,857	
2021	143,376	1,155,289	C		3,417,236	4,752,911	

*Other: states that do not have a declared interest in Spanish mackerel and do not sit on the Coastal Pelagics Board

[^]Atlantic coast landings only for Florida

Table 3. Recreational harvest (numbers, calendar year) of Spanish mackerel by state, 2012-2021. State values shown are the recalibrated estimates using effort information from the mail-based Fishing Effort Survey (FES). Coastwide totals are also shown as estimated from the Coastal Household Telephone Survey (CHTS). (Source: personal communication with NOAA Fisheries, Fisheries Statistics Division. September 2022).

Note: Past FMP Reviews showed state-by-state estimates from the CHTS and cannot be directly compared to the state-by-state totals below.

Year	Other*	RI	NY	NJ	DE	MD	VA
2012						14,531	13,960
2013					41	7,187	126,656
2014						29,713	42,937
2015						15,837	14,950
2016					9	18,559	554,813
2017				8,107	28	9,687	20,000
2018				6,753	797	19,146	132,390
2019	335		21,031	8,787	1,396	109,007	587,683
2020	6,254	3,016	6,096	3,985	92	151,412	374,892
2021	622		3,143	34,323	129	152,829	344,235
Year	NC	SC	GA	FL [^]	FES Total	CHTS Total	
2012	995,852	258,281	2,824	776,659	2,062,107	835,236	
2013	994,599	100,512	2,701	2,665,958	3,897,654	1,119,280	
2014	1,028,925	194,367	5,365	1,348,735	2,650,497	884,490	
2015	835,011	389,923	6,201	229,669	1,491,591	627,632	
2016	918,352	306,235	22,637	1,618,529	3,439,134	964,253	
2017	995,706	45,644	48,633	650,916	1,778,721	631,957	
2018	1,012,889	289,250	49,764	956,741	2,468,046	814,653	
2019	1,478,890	1,046,972	138,756	623,415	4,016,272	1,109,050	
2020	1,286,131	861,349	72,308	3,616,872	6,382,407	1,309,120	
**							
2021	1,312,929	752,570	24,666	5,942,467	8,567,913	1,434,430	
**							

*Other: states that do not have a declared interest in Spanish mackerel and do not sit on the Coastal Pelagics Board

[^]Atlantic coast landings only for Florida

**Concerns and questions have been raised regarding the 2020 and 2021 Spanish mackerel recreational catch estimates; MRIP is looking further into these estimates.

Table 4. Recreational harvest (pounds, calendar year) of Spanish mackerel by state, 2012-2021. State values shown are the recalibrated estimates using effort information from the mail-based Fishing Effort Survey (FES). Coastwide totals are also shown as estimated from the Coastal Household Telephone Survey (CHTS). (Source: personal communication with NOAA Fisheries, Fisheries Statistics Division. September 2022).

Note: Past FMP Reviews showed state-by-state estimates from the CHTS and cannot be directly compared to the state-by-state totals below.

Year	Other*	RI	NY	NJ	DE	MD	VA
2012						37,570	14,053
2013					74	25,099	138,256
2014						72,817	47,601
2015						40,290	13,777
2016					8	30,212	620,147
2017				9,405	43	20,646	30,590
2018				5,702	1,138	41,476	207,551
2019	591		30,177	17,558	1,300	181,994	718,353
2020	10,821	3,991	11,756	4,123	95	223,090	441,654
2021	1,041		3,227	38,116	160	251,273	399,106
Year	NC	SC	GA	FL [^]	FES Total	CHTS Total	
2012	1,327,350	262,932	6,136	1,199,766	2,847,807	1,203,016	
2013	1,242,029	88,783	4,630	2,923,753	4,422,624	1,400,212	
2014	1,193,442	213,864	7,245	1,851,493	3,386,462	1,153,238	
2015	981,867	253,620	22,185	342,598	1,654,337	693,150	
2016	907,400	192,865	39,915	2,552,216	4,342,763	1,326,428	
2017	1,094,778	75,779	72,064	1,146,112	2,449,417	751,053	
2018	1,156,702	513,271	74,910	1,354,426	3,357,009	1,069,043	
2019	1,694,247	847,163	348,469	1,011,804	4,851,656	1,423,876	
2020	1,843,314	556,882	232,439	4,870,363	8,198,528	1,735,197	
**							
2021	1,894,535	503,374	46,879	6,675,421	9,813,132	1,777,420	
**							

*Other: states that do not have a declared interest in Spanish mackerel and do not sit on the Coastal Pelagics Board

[^]Atlantic coast landings only for Florida

**Concerns and questions have been raised regarding the 2020 and 2021 Spanish mackerel recreational catch estimates; MRIP is looking further into these estimates.

Table 5. Recreational releases (numbers, calendar year) of Spanish mackerel by state, 2012-2021. State values shown are the recalibrated estimates using effort information from the mail-based Fishing Effort Survey (FES). Coastwide totals are also shown as estimated from the Coastal Household Telephone Survey (CHTS). (Source: personal communication with NOAA Fisheries, Fisheries Statistics Division. September 2022).

Note: Past FMP Reviews showed state-by-state estimates from the CHTS and cannot be directly compared to the state-by-state totals below.

Year	Other*	RI	NY	NJ	DE	MD	VA
2012							32,563
2013					181		15,005
2014						2,663	19,199
2015						355	4,945
2016					1,038		111,284
2017				14,050		3,747	14,829
2018			11,859	14,372	2	2,166	168,549
2019	4,731		49,390	60,003	2,334	62,881	536,244
2020	40,572		5,395	79,458	1,367	63,467	278,173
2021	3,137	450	2,155	13,309	206	87,479	178,237
Year	NC	SC	GA	FL [^]	FES Total	CHTS Total	
2012	591,792	313,339	4,742	254,415	1,196,851	440,742	
2013	685,692	129,909		1,892,444	2,723,231	684,862	
2014	814,064	136,783	6,967	920,213	1,899,889	490,261	
2015	514,714	321,930	4,185	219,190	1,065,319	406,561	
2016	546,950	333,635	137	1,136,663	2,130,960	416,061	
2017	688,062	300,244	17,408	453,911	1,492,251	390,862	
2018	1,019,418	322,330	18,149	1,584,579	3,141,424	986,450	
2019	1,340,366	1,588,754	14,943	652,727	4,312,373	969,046	
2020	1,267,210	1,060,185	15,301	2,478,780	5,289,908		
**						1,009,308	
2021	1,294,525	647,701	13,733	3,846,881	6,087,813		
**						902,748	

*Other: states that do not have a declared interest in Spanish mackerel and do not sit on the Coastal Pelagics Board

[^]Atlantic coast landings only for Florida

**Concerns and questions have been raised regarding the 2020 and 2021 Spanish mackerel recreational catch estimates; MRIP is looking further into these estimates.