

ATLANTIC STATES MARINE FISHERIES COMMISSION

REVIEW OF THE INTERSTATE FISHERY MANAGEMENT PLAN

FOR SPANISH MACKEREL
(Scomberomorus maculatus)

2018 FISHING YEAR



Prepared by the Plan Review Team

Approved by the South Atlantic Management Board
June 2020

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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 I – August 2013

Management Area: The Atlantic coast distribution of the resource from New York through the east coast of Florida

Active Boards/Committees: South Atlantic State/Federal Fisheries 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 New York 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 South Atlantic State/Federal Fisheries 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. 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. As the SAFMC has the lead on Atlantic Spanish mackerel management, the limits 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 SAFMC and GMFMC approved Amendment 18 to the Coastal Migratory Pelagic Resources FMP in December 2011 which established a new Allowable Biological Catch (ABC) based on the SSC recommendation of using median landings of the last 10 years (2001-2011). With this change, the ABC was set equal to the Annual Catch Limit (ACL) and Optimum Yield (OY) [ABC=ACL=OY] at approximately 5.29 million lbs. With this the commercial ACL was 3.13 million lbs and the recreational ACL was 2.56 million lbs. For the 2015/2016 fishing season, the total

ACL was increased to 6.06 million pounds, with the commercial ACL increasing to 3.33 million lbs and the recreational ACL increasing to 2.73 million lbs following CMP Framework Amendment 1 (See Section VI).

Under the federal FMP, the 2018-2019 fishing year ran from March 1, 2018 to February 28, 2019. The 2019-2020 fishing year began on March 1st, 2019. The federal FMP divides the commercial fishery 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 2018/2019 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 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. For the 2017-2018 fishing year, a transfer of 100,000 pounds from the Southern to the Northern zone was approved, lowering the full Southern quota to 2,567,330 pounds and increasing the Northern zone quota to 762,670 pounds (FB17-064). 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).

The goals of the interstate FMP 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

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

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 2018-2019.

II. Status of the Stocks

The resource is not overfished, nor experiencing overfishing (SEDAR, 2012). The SEDAR 28 Stock Assessment Report estimates current stock biomass at $SSB_{2011}/MSST=2.29$, and current fishing level (exploitation rate) at $F_{2009-2011}/F_{MSY}=0.526$, with $F_{2011}/F_{MSY}=0.521$. The overfished ratio (B/B_{MSY}) shows that high fishing mortality caused a decline in biomass, though biomass has increased in recent years and remains above B_{MSY} (Figure 1). The overfishing ratio (F/F_{msy}) shows that fishing mortality increased from the late 1970s through 1994 but has since declined (Figure 2). Fishery-dependent data also indicate increasing biomass, excepting the decline seen over the last four years. The current fishing mortality rate does not seem to be inhibiting stock growth.

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 those of the CHTS, but Figure 3 shows a comparison of CHTS and FES estimates. FES estimates will be incorporated into management after the next stock assessment. Data based on either survey can be referenced at: <https://www.st.nmfs.noaa.gov/st1/recreational/queries/>.

Spanish mackerel are an important recreational and commercial fishery in South Atlantic waters, with limited and sporadic recreational landings north of Maryland (Tables 2 and 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 2018 are estimated at 4.8 million pounds (compared to the 6.057 million pound ACL). The commercial fishery harvested approximately 78% of the total and the recreational fishery about 22%, according to CHTS recreational harvest estimates. The commercial fishery harvested approximately 53% of the total and the recreational fishery about 47%, according to FES recreational harvest estimates.

From 1950 to 2018, commercial landings of Atlantic coast Spanish mackerel have ranged between 1.8 and 11.1 million pounds, although only 4 years in that timespan have exceeded 6 million pounds. Since 1981, commercial landings have averaged 3.6 million pounds. Coastwide commercial landings have generally been below 4 million pounds since 1995 (exception of 2010 and 2011; landings of 4.52 and 4.35 million pounds, respectively); this coincided with the entanglement net ban in Florida. Gill nets were the dominant commercial gear in Florida prior to the ban. After the ban was instituted, the use of cast nets increased. The 2018 commercial landings were 3.75 million pounds (Figure 4), of which 2.93 million pounds (78% of coastwide commercial harvest) were landed in Florida and approximately 797,000 pounds (21%) were

landed in North Carolina (Table 2). During the 2018-2019 fishing year, the commercial fishery in the Northern zone exceeded its quota (662,670 pounds) with a harvest of 693,549 pounds; the fishery in this zone was closed on November 4th. The commercial fishery in the Southern zone also exceeded its quota (2,667,330 pounds) with a harvest of 3,283,465 pounds; the fishery in this zone was closed on February 5th.

Recreational anglers harvested 814,772 Spanish mackerel (1.07 million pounds) in 2018, a 29% increase by numbers of fish from 2017 (Tables 3 and 4). 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. In 2018, Florida harvested 39% and North Carolina harvested 41% of recreational fish. The number of recreational releases of Spanish mackerel has generally increased over time, reaching a time series high of 986,450 fish in 2018 (Table 5, Figure 5). This was also the first year on record that live releases comprised the majority of the recreational catch (55%).

IV. Status of Assessment Advice

The most recent stock assessment 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.

The next stock assessment is currently scheduled to be conducted through the SEDAR process in 2021. This assessment will incorporate 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.

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 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.

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 consider changes to better align Commission and federal management documents following the next stock assessment in 2021.

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

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 $\frac{1}{4}$ to $\frac{1}{2}$ 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. In August 2015, the South Atlantic Board formally extended the provisions of Addendum I for the 2015 and 2016 fishing seasons. Reports by North Carolina, the only state to reduce their minimum size, will be reviewed annually.

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 rose 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.

VII. Implementation of FMP Compliance Requirements for 2018

All states must implement the requirements specified in section 5 (5.1 Mandatory Compliance Elements for States; 5.1.1 Mandatory Elements of State Programs; 5.1.1.1 Regulatory Requirements). The PRT finds all states in compliance.

De Minimis Requests

A state qualifies for *de minimis* status if its previous three-year average combined commercial and recreational catch is less than 1% of the previous three-year average coastwide combined commercial and recreational catch. 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 New Jersey, Delaware, and Georgia request *de minimis* status. All three states meet the requirements of *de minimis*.

Regulation Changes

In 2019, Virginia proposed to amend state management of Spanish mackerel to close state waters if federal waters close, beginning in September, 2019.

North Carolina discontinued its Addendum I program, which reduced the minimum size limit to 11.5 in FL for the pound net fishery from July to September, beginning in 2019.

In 2018, Georgia implemented a new seafood dealer license (O.C.G.A. 27-2-23 and Board Rule 391-2-4-.09).

In 2019, Florida approved a rule to align their state regulations with those of the federal FMP, incorporating the step-down reductions of the in-season vessel limit as threshold levels of Spanish mackerel are harvested. This rule took effect in September, 2019.

VIII. Recommendations of the Plan Review Team

Research and Monitoring Recommendations

High Priority

- Length, sex, age, and CPUE data are needed for improved stock assessment accuracy. Simulations on CPUE trends should be explored and impacts on VPA and assessment results determined. Data collection is needed for all states, particularly from Virginia north.
- Evaluation of weight and especially length at age of Spanish mackerel.
- Development of fishery-independent methods to monitor stock size of Atlantic Spanish mackerel (consider aerial surveys used in south Florida waters).
- More timely reporting of mid-Atlantic catches for quota monitoring.
- Provide better estimates of recruitment, natural mortality rates, fishing mortality rates, and standing stock. Specific information should include an estimate of total amount caught and distribution of catch by area, season, and type of gear.
- Develop methodology for predicting year class strength and determination of the relationship between larval abundance and subsequent year class strength.
- Commission and member states should support and provide the identified data & input needed to improve the SAFMC's SEDAR process.
- The full implementation of ecosystem-based management and the implementation of monitoring/research efforts needed to support ecosystem-based management needs should be conducted.
- Consider extending management measures into the New England region as consistent catches and anecdotal sightings of Spanish mackerel have occurred in parts of this area. Also determine whether more northerly fish are of the same stock as fish further south.

Medium Priority

- Yield per recruit analyses should be conducted relative to alternative selective fishing patterns.
- Determine the bycatch of Spanish mackerel in the directed shrimp fishery in Atlantic Coastal waters (partially met: Branstetter, 1997; Ottley et al., 1998; Gaddis et al., 2001; Page et al., 2004).
- Evaluate potential bias of the lack of appropriate stratification of the data used to generate age-length keys for Atlantic and Gulf Spanish mackerel.
- Evaluate CPUE indices related to standardization methods and management history, with emphasis on greater temporal and spatial resolution in estimates of CPUE.
- Consideration of MRFSS add-ons or other mechanisms for collection of socioeconomic data for recreational and commercial fisheries.
- Determine normal Spanish mackerel migration routes and changes therein, as well as the climatic or other factors responsible for changes in the environmental and habitat conditions which may affect the habitat and availability of stocks.

- Determine the relationship, if any, between migration of prey species (i.e., engraulids, clupeids, carangids), and migration patterns of the Spanish mackerel stock.

Low Priority

- Final identification of Spanish mackerel stocks through multiple research techniques.
- Complete research on the application of assessment and management models relative to dynamic species such as Spanish mackerel.
- Delineation of spawning areas and areas of larval abundance through temporal and spatial sampling.

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X. Figures

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

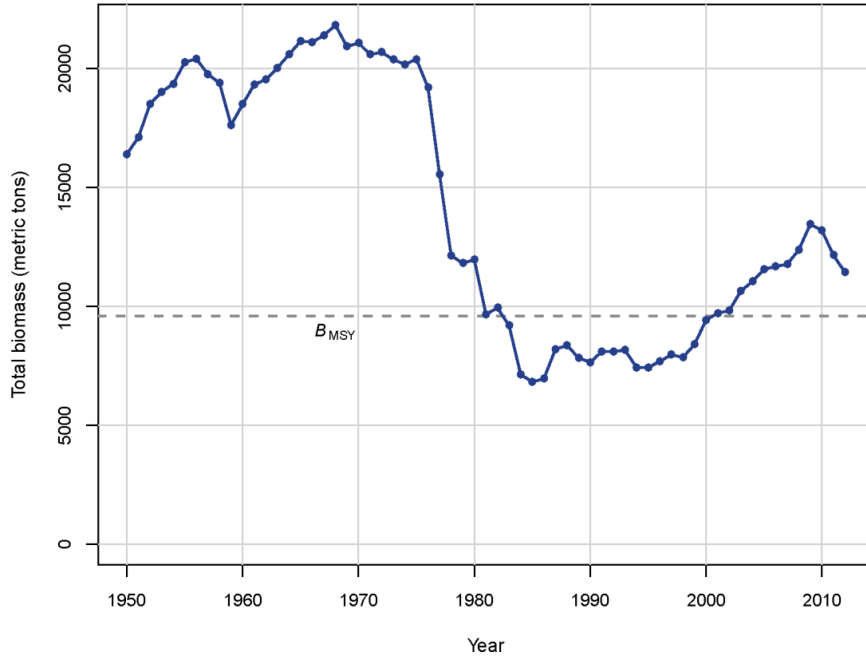


Figure 2. Estimated time series of Atlantic group Spanish mackerel fishing mortality rate (F) relative to F_{MSY} benchmark. Solid line indicates estimates from base run of the Beaufort Assessment Model; gray error bands indicate 5th and 95th percentiles of the Monte Carlo Bootstrap analysis trials (SEDAR,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

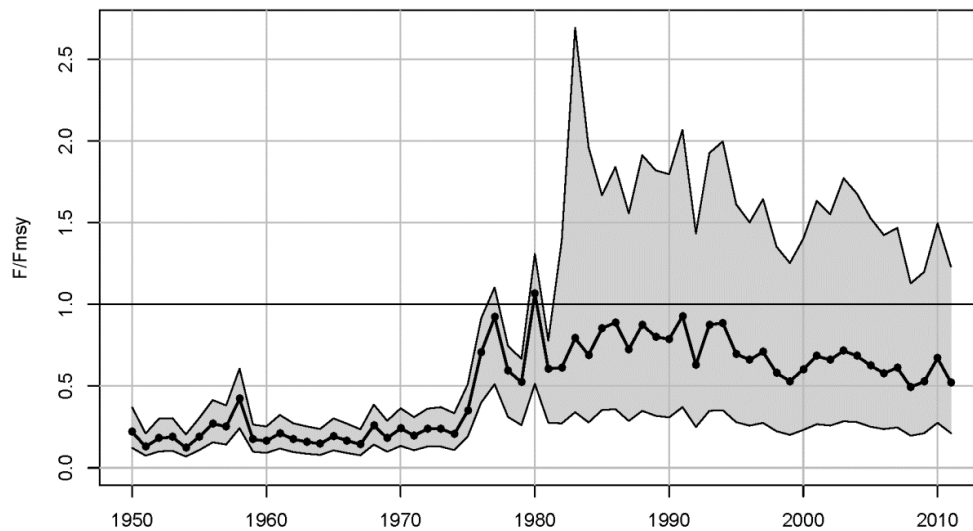


Figure 3. Recreational harvest in pounds, estimated using the Coastal Household Telephone Survey (CHTS) and the mail-based Fishing Effort Survey (FES). (Source: personal communication with NOAA Fisheries, Fisheries Statistics Division. [4/14/2020])

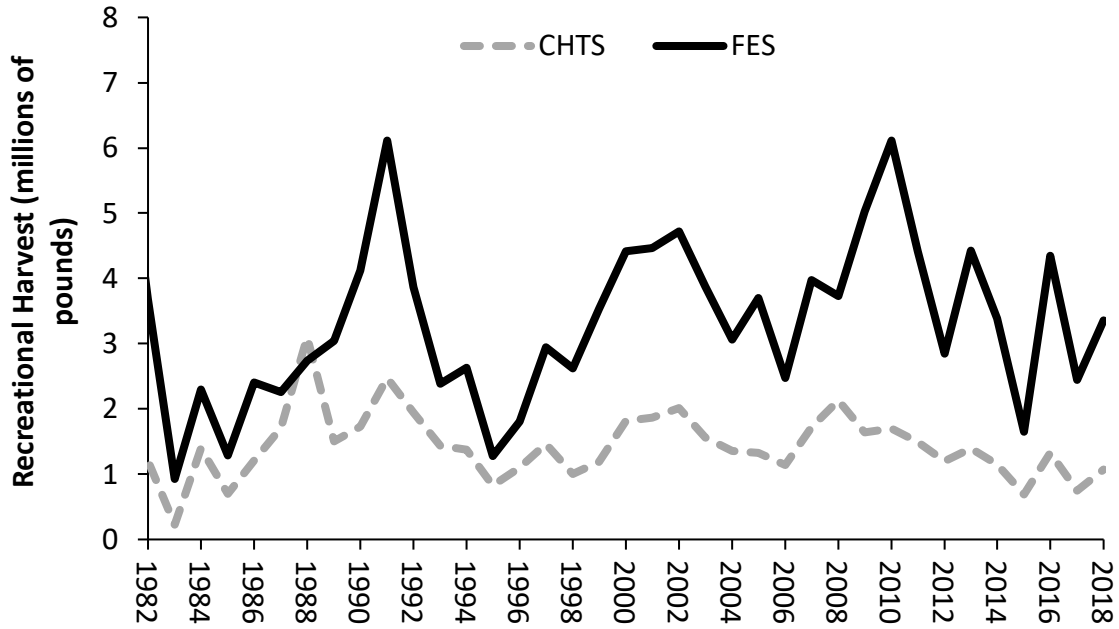


Figure 4. Commercial and recreational harvest (CHTS) (pounds) of Spanish mackerel, 1950-2018. (Recreational data available from 1981-present only; see Tables 2 and 4 for sources and recent values)

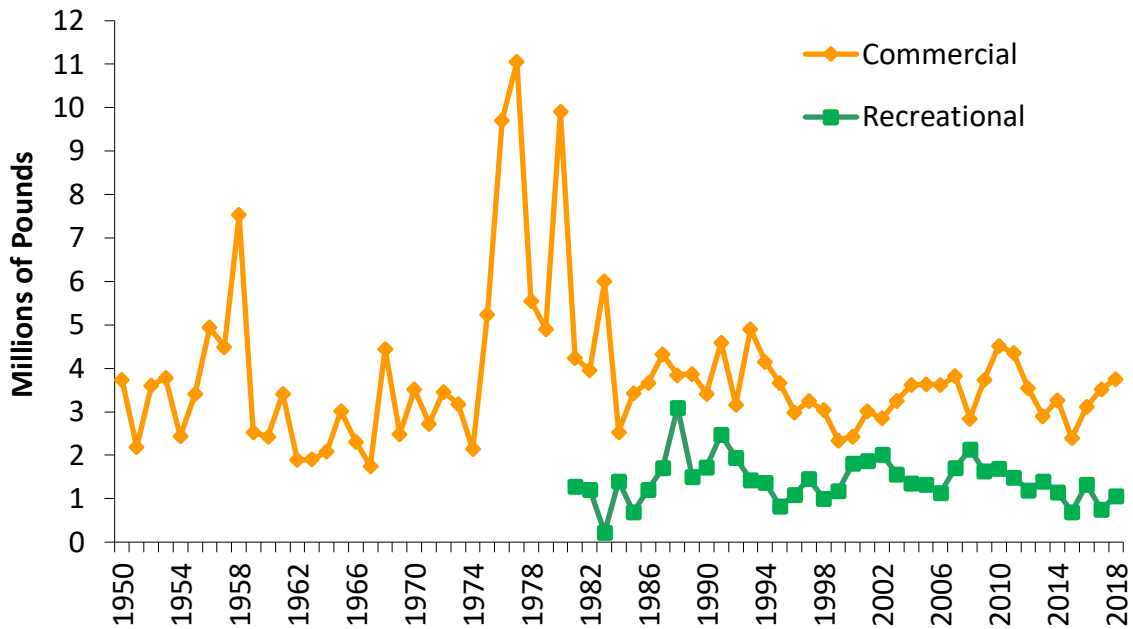
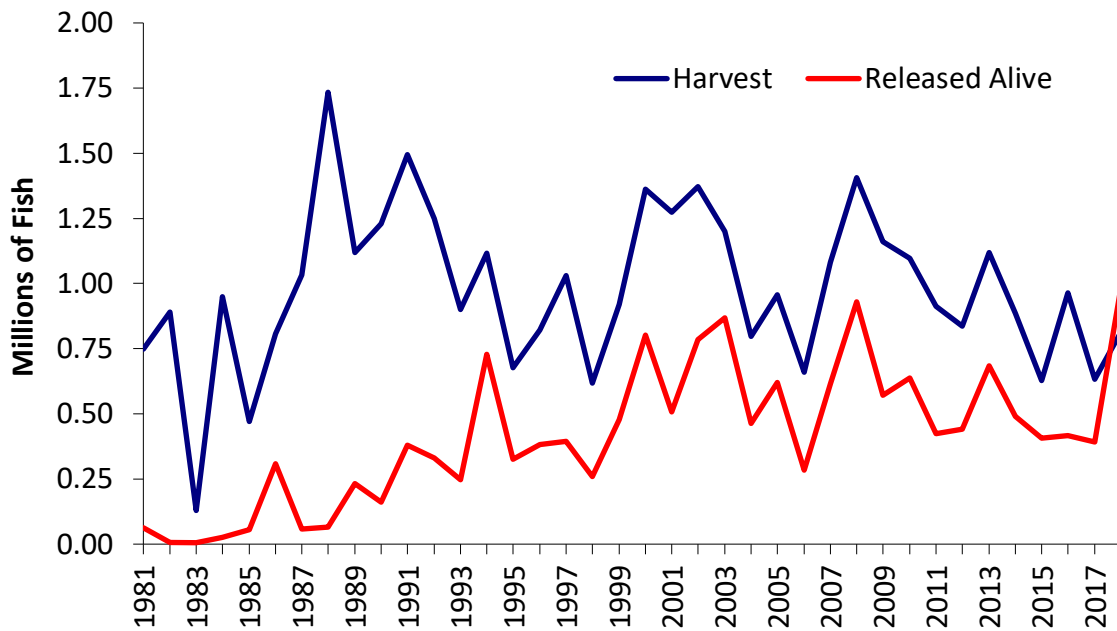


Figure 5. Recreational harvest and releases (numbers of fish; CHTS) of Spanish mackerel, 1981-2018. (See Tables 3 and 5 for sources and recent values)



XI. Tables

Table 1. Summary of state regulations for Spanish mackerel in 2018.

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 are prohibited south of Cape Lookout, NC.

State	Recreational	Commercial
NY	14" TL, 15 fish	14" TL. 3,500 lb trip limit.
NJ	14" TL, 10 fish	14" TL. 3,500 lb trip limit.
DE	14" TL, 15 fish	14" TL. 3,500 lb trip limit.
MD	14" TL, 15 fish	14" TL. 3,500 lb trip limit. March-Feb.
PRFC	14" TL, 15 fish	14" TL. Closure if/when MD and VA fisheries close.
VA	14" TL, 15 fish	14" TL. 3,500 lb trip limit.
NC	12" FL, 15 fish	12" FL; 11.5" FL in pound net fishery July 4 th – Sept 30 th , 2018. 3,500 lb trip limit for combined Spanish and king mackerel landings.
SC	12" FL, 15 fish	12" FL. 15 fish. 3,500 lb trip limit. March-Feb. Closure if/when federal waters close.
GA	12" FL, 15 fish	12" FL. 3,500 lb trip limit.
FL	12" FL or 14" TL, 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, 2009-2018. (Source: ACCSP for 2017 and earlier for all jurisdictions, except PRFC; annual compliance reports for 2018 and for all PRFC years. Confidential values are shown as “C”. Total and north of New York values 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. Data dating back to 1950 are available upon request to ACCSP.)

Year	N of NY	NY	NJ	DE	MD	PRFC
2009	218	3,463	3,324	C		494
2010	522	3,712	829		4,939	68
2011	1,795	1,147	305		5,088	675
2012	2,135	2,293	2,806		3,634	270
2013	471	4,467	265		2,395	302
2014	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	652	1,053	462		815	4,704
2018	951	1,283	950		3,071	420
Year	VA	NC	SC	GA	FL	Total
2009	137,573	961,811			2,629,343	3,736,227
2010	47,373	911,866	C		3,551,357	4,520,666
2011	35,601	871,217			3,432,932	4,348,760
2012	18,047	916,439			2,596,917	3,542,542
2013	7,602	620,752			2,265,390	2,901,643
2014	7,859	673,974	C		2,585,281	3,272,586
2015	14,472	561,407	28		1,807,967	2,390,206
2016	32,547	601,526	133		2,461,178	3,114,947
2017	21,476	816,017	135		2,672,655	3,517,969
2018	23,609	796,890	C		2,926,265	3,753,439

Table 3. Recreational harvest (numbers) of Spanish mackerel by state, state, 2008-2017. State values shown were estimated using effort information from the Coastal Household Telephone Survey (CHTS). Coastwide totals are also shown as recalibrated estimates using effort information from the mail-based Fishing Effort Survey (FES). (Source: personal communication with NOAA Fisheries, Fisheries Statistics Division. [4/14/2020])

Year	N of NY	NY	NJ	DE	MD	VA
2009			215		19,901	16,451
2010					5,580	20,524
2011					10,554	35,054
2012					2,962	11,847
2013				31	2,905	61,260
2014	145				5,494	15,776
2015					11,366	12,072
2016				9	11,465	75,068
2017			3,188	27	14,613	12,609
2018	119	0	6,052	352	13,002	50,670
Year	NC	SC	GA	FL	CHTS Total	FES Total
2009	677,787	73,611	4,476	368,615	1,161,056	3,261,707
2010	483,956	70,351	4,955	512,295	1,097,661	3,698,224
2011	367,086	87,109	7,486	406,068	913,357	2,757,220
2012	491,238	80,204	2,119	246,866	835,236	2,062,107
2013	497,329	22,414	1,299	534,042	1,119,280	3,897,654
2014	398,398	80,935	1,903	381,839	884,635	2,650,952
2015	388,157	133,446	527	82,064	627,632	1,491,591
2016	424,341	78,100	1,510	373,760	964,253	3,439,134
2017	439,654	16,300	8,007	137,559	631,957	1,778,721
2018	441,636	67,945	17,206	217,671	814,772	2,468,362

Table 4. Recreational harvest (pounds) of Spanish mackerel by state, state, 2009-2018. State values shown were estimated using effort information from the Coastal Household Telephone Survey (CHTS). Coastwide totals are also shown as recalibrated estimates using effort information from the mail-based Fishing Effort Survey (FES). (Source: personal communication with NOAA Fisheries, Fisheries Statistics Division. [4/14/2020])

Year	N of NY	NY	NJ	DE	MD	VA
2009			302		37,284	22,131
2010					11,383	27,503
2011					22,630	41,325
2012					5,223	17,806
2013				43	6,949	68,165
2014					12,440	17,597
2015					16,820	10,746
2016				8	18,995	71,869
2017			3,516	42	17,379	16,482
2018	691	0	5,187	512	30,432	83,306
Year	NC	SC	GA	FL	CHTS Total	FES Total
2009	824,225	96,827	6,910	651,494	1,639,171	5,022,464
2010	565,830	103,956	5,383	983,764	1,697,818	6,115,450
2011	470,541	73,605	9,439	873,222	1,490,762	4,420,710
2012	665,201	98,316	4,536	411,935	1,203,016	2,847,807
2013	625,035	50,866	2,159	646,996	1,400,212	4,422,624
2014	449,709	126,345	2,356	544,792	1,153,238	3,386,462
2015	431,082	108,423	1,879	124,199	693,150	1,654,337
2016	411,353	74,475	2,853	746,876	1,326,428	4,342,763
2017	459,982	23,556	14,135	215,961	751,053	2,449,417
2018	500,268	101,866	28,924	317,857	1,069,043	3,357,009

Table 5. Recreational releases (numbers) of Spanish mackerel by state, state, 2009-2018. State values shown were estimated using effort information from the Coastal Household Telephone Survey (CHTS). Coastwide totals are also shown as recalibrated estimates using effort information from the mail-based Fishing Effort Survey (FES). (Source: personal communication with NOAA Fisheries, Fisheries Statistics Division. [4/14/2020])

Year	N of NY	NY	NJ	DE	MD	VA
2009			26,741		3,630	20,980
2010						33,103
2011						28,526
2012						17,150
2013				94		5,583
2014					881	3,450
2015					357	4,224
2016	426			213		14,072
2017			4,440		3,029	4,911
2018		2,252	6,566	2	1,067	39,619
Year						
NC	SC	GA	FL	CHTS Total	FES Total	
2009	313,030	55,600	982	149,825	570,788	1,713,051
2010	294,350	28,200	65	282,252	637,970	2,285,503
2011	170,926	67,144	10,131	147,399	424,126	1,471,139
2012	234,905	98,371	1,724	88,592	440,742	1,196,851
2013	289,216	24,862		365,107	684,862	2,723,231
2014	240,731	36,082	851	208,266	490,261	1,899,889
2015	216,011	99,530	466	85,973	406,561	1,065,319
2016	187,878	69,882	137	143,453	416,061	2,130,960
2017	228,851	57,040	5,585	87,006	390,862	1,492,251
2018	342,266	56,128	4,221	534,329	986,450	3,160,642