# Framework Amendment 9

## to the Fishery Management Plan for Coastal Migratory Pelagic Resources in the Gulf of Mexico and Atlantic Region

## Spanish Mackerel Trip Limits

**Regulatory Impact Review | Regulatory Flexibility Analysis**

# February 7, 2020 DRAFT

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# Definitions, Abbreviations and Acronyms Used in the FMP

| | |
|---|---|
| **ABC** | acceptable biological catch |
| **ACL** | annual catch limit |
| **AM** | accountability measure |
| **ACT** | annual catch target |
| **B** | a measure of stock biomass in either weight or other appropriate unit |
| **$B_{MSY}$** | the stock biomass expected to exist under equilibrium conditions when fishing at $F_{MSY}$ |
| **$B_{OY}$** | the stock biomass expected to exist under equilibrium conditions when fishing at $F_{OY}$ |
| **$B_{CURR}$** | The current stock biomass |
| **CPUE** | catch per unit effort |
| **DEIS** | draft environmental impact statement |
| **EA** | environmental assessment |
| **EEZ** | exclusive economic zone |
| **EFH** | essential fish habitat |
| **F** | a measure of the instantaneous rate of fishing mortality |
| **$F_{30\%SPR}$** | fishing mortality that will produce a static SPR = 30% |
| **$F_{CURR}$** | the current instantaneous rate of fishing mortality |
| **$F_{MSY}$** | the rate of fishing mortality expected to achieve MSY under equilibrium conditions and a corresponding biomass of $B_{MSY}$ |
| **$F_{OY}$** | the rate of fishing mortality expected to achieve OY under equilibrium conditions and a corresponding biomass of $B_{OY}$ |
| **FEIS** | final environmental impact statement |
| **FMP** | fishery management plan |
| **FMU** | fishery management unit |
| **M** | natural mortality rate |
| **MARMAP** | Marine Resources Monitoring Assessment and Prediction Program |
| **MFMT** | maximum fishing mortality threshold |
| **MMPA** | Marine Mammal Protection Act |
| **MRFSS** | Marine Recreational Fisheries Statistics Survey |
| **MRIP** | Marine Recreational Information Program |
| **MSFCMA** | Magnuson-Stevens Fishery Conservation and Management Act |
| **MSST** | minimum stock size threshold |
| **MSY** | maximum sustainable yield |
| **NEPA** | National Environmental Policy Act |
| **NMFS** | National Marine Fisheries Service |
| **NOAA** | National Oceanic and Atmospheric Administration |
| **OFL** | overfishing limit |
| **OY** | optimum yield |
| **RIR** | regulatory impact review |
| **SAFMC** | South Atlantic Fishery Management Council |
| **SEDAR** | Southeast Data, Assessment, and Review |
| **SEFSC** | Southeast Fisheries Science Center |
| **SERO** | Southeast Regional Office |
| **SIA** | social impact assessment |
| **SPR** | spawning potential ratio |
| **SSC** | Scientific and Statistical Committee |

# Framework Amendment 9 to the Fishery Management Plan for Coastal Migratory Pelagic Resources in the Gulf of Mexico and South Atlantic Region

| | |
|---|---|
| **Proposed actions:** | Reduce the commercial trip limit for Atlantic migratory group Spanish mackerel in the Northern Zone. |
| **Lead agency:** | Framework Amendment – South Atlantic Fishery Management Council<br>Categorical Exclusion – National Marine Fisheries Service (NMFS), Southeast Regional Office |
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# Chapter 1. Introduction

## 1.1 What Action is Being Proposed?

Framework Amendment 9 amends the Fishery Management Plan (FMP) for Coastal Migratory Pelagic Resources in the Gulf of Mexico (Gulf) and Atlantic Region (CMP FMP). Framework Amendment 9 includes one action to reduce the commercial trip limit for Atlantic migratory group Spanish mackerel (Atlantic Spanish mackerel) in the Atlantic Northern Zone. The harvest of Atlantic Spanish mackerel in the exclusive economic zone (EEZ) is divided into two zones: a Northern Zone (North Carolina to New York) and a Southern Zone (South Carolina to the boundary for Monroe/Miami-Dade County, Florida). This framework amendment applies to harvest of Atlantic Spanish mackerel in the Northern Zone.

***Management Agencies***

- ***South Atlantic Fishery Management Council***– Engages in a process to determine a range of actions and alternatives and recommends action to the National Marine Fisheries Service.
- ***National Marine Fisheries Service*** and ***Council staffs*** – Develops alternatives based on guidance from the Council and analyzes the environmental impacts of those alternatives. If approved by the Secretary of Commerce, NMFS implements the action through rulemaking.

## 1.2 Who is Proposing this Action?

The coastal migratory pelagics (CMP) fishery is managed jointly by the Gulf of Mexico Fishery Management Council (Gulf Council) and the South Atlantic Fishery Management Council (South Atlantic Council). Amendments to the CMP FMP (plan amendments) and framework amendments affecting both Gulf and Atlantic Spanish mackerel must be approved by both the Gulf Council and the South Atlantic Council. Because this framework amendment applies only to Atlantic Spanish mackerel, the South Atlantic Council is proposing the action and would provide final approval on the action. Following approval by the South Atlantic Council, this framework amendment would be submitted to the National Marine Fisheries Service (NMFS) for implementation. NMFS is a line office in the National Oceanic and Atmospheric Administration.

## 1.3 Why are the South Atlantic Council and NMFS Considering Action?

The South Atlantic Council and NMFS are considering action to reduce the commercial trip limit to extend the commercial season for Atlantic Spanish mackerel in the Northern Zone. The Atlantic Spanish mackerel commercial quota is divided between the Northern and Southern Zones. During their April 2018 and April 2019 meetings, the Mackerel Cobia Advisory Panel (AP) expressed concern about increased participation in the commercial Spanish mackerel portion of the CMP fishery and how this increase may affect Spanish mackerel in the long term. Of concern were recent in-season closures to commercial Spanish mackerel harvest in federal waters in the Atlantic Northern Zone due to reaching the quota and triggering the accountability measure to close harvest. AP members noted that communities in North Carolina, particularly

Swan Quarter, Hatteras, Ocracoke, and Engelhard, base half of their year's work on Spanish mackerel.

Additionally, fishermen have expressed the need to reduce regulatory discards and discard mortality associated with commercial closures. When the commercial Spanish mackerel portion of the CMP fishery is closed, fishermen may choose to target other species to supplement their income. However, Spanish mackerel are still caught in gillnets when targeting other species, which must then be discarded dead. Additionally, AP members were concerned that recent closures of other species in North Carolina, such as southern flounder, and the movement of fish into northern waters, could increase targeting of Spanish mackerel by commercial fishermen resulting in earlier closures.

The commercial fishing year for Atlantic Spanish mackerel is March through February. The CMP FMP allows for North Carolina or Florida to transfer part or all their respective zone's annual commercial quota to the other zone (50 C.F.R. § 622.384(c)(2)(iii)). During the 2017/2018 season, 100,000 pounds of quota was transferred from the Atlantic Southern Zone (North Carolina/South Carolina boundary to the Miami-Dade/Monroe County, Florida, boundary) to the Atlantic Northern Zone to prevent an early closure. However, the Atlantic Northern Zone quota was still projected to be met and federal waters were closed to commercial harvest of Spanish mackerel on November 7, 2018. The Atlantic Southern Zone did not close but harvested 95% its remaining quota. During the 2018/2019 season there was no transfer of quota between the two zones. The Atlantic Northern Zone was closed to commercial harvest on November 4, 2018, and the Atlantic Southern Zone was closed to commercial harvest on February 5, 2019.

During the 2019/2020 season, the Atlantic Northern Zone was closed to commercial harvest on August 24, 2019. A transfer of quota from the Atlantic Southern Zone to the Atlantic Northern Zone was requested by North Carolina, however, Florida denied the request due to the Atlantic Southern Zone being projected to also close prior to the end of the fishing season.

During the June 2019 meeting, after reviewing the Mackerel Cobia AP's concerns, the South Atlantic Council requested that a control date of March 7, 2019, be established for the open access commercial Spanish mackerel permit. The South Atlantic Council chose this date as it is when the South Atlantic Council first discussed a limited-access permit for the commercial Spanish mackerel portion of the CMP fishery. Additionally, the South Atlantic Council directed staff to prepare a white paper with a thorough analysis of effort in the commercial Spanish mackerel portion of the CMP fishery, and a discussion of possible avenues to control effort, including: a limited access commercial permit, a limited access gillnet endorsement in the Southern Zone, and collaboration with state agencies. After reviewing the white paper at their September 2019 meeting, the South Atlantic Council determined that addressing accountability measures (AMs) and trip limits would provide a short-term solution to recent federal water closures of commercial Spanish mackerel while the South Atlantic Council developed long-term solutions.

During the December 2019 South Atlantic Council meeting, Robert Beal, Executive Director of the Atlantic States Marine Fisheries Commission (ASMFC), clarified that the ASMFC

Interstate Fisheries Management Plan for Spanish mackerel does not require states to close their waters to commercial harvest of Spanish mackerel when a federal closure occurs. This allows the state of Florida to maintain a harvest, landing, and possession limit of 500-pounds of Spanish mackerel per vessel per day from the date the commercial harvest of Spanish mackerel in adjacent federal waters is closed until the end of the fishing season. Additionally, this provision allowed North Carolina to reopen state waters to commercial harvest of Spanish mackerel on September 27, 2019 until November 15, 2019, during the 2019/2020 federal waters closure.

Based on the information provided by the ASMFC, the South Atlantic Council determined at their December 2019 meeting that it was no longer necessary to immediately address Spanish mackerel AMs, but that a trip limit reduction in the Northern Zone would help to extend the commercial Atlantic Spanish mackerel season in federal waters. The South Atlantic Council's Mackerel Cobia Committee intends to review management of Atlantic Spanish mackerel after the upcoming stock assessment for the species has been completed in mid-2022.

### 1.3.1 Purpose and Need

#### Purpose for Action

The *purpose* of the framework amendment is to revise ~~accountability measures and~~ the commercial trip limit for Atlantic migratory group Spanish mackerel in the Northern Zone.

#### Need for Action

The *need* for the framework amendment is to extend the commercial season ~~prevent commercial in-season closures~~, reduce regulatory discards, and achieve optimum yield for Atlantic migratory group Spanish mackerel.

## 1.4 What species and areas would be affected by the action?

Although Atlantic and Gulf stocks of king mackerel and Spanish mackerel, and the Gulf stock of cobia are included in the CMP FMP, Spanish mackerel is the only species addressed in this framework amendment. Spanish mackerel is managed as two migratory groups (Atlantic and Gulf) in the CMP FMP. There is a year-round management boundary between the Gulf and South Atlantic Councils for Spanish mackerel in the CMP FMP at the Miami-Dade/Monroe County, Florida, boundary (**Figure 1.4.1**). This boundary places the entire EEZ off the Florida Keys into the Gulf Council's jurisdiction. A stock assessment was completed for Gulf and Atlantic migratory groups of Spanish mackerel in 2012 and revised in 2013 (SEDAR 28 2013). Based on the results from the stock assessment, it was determined that Spanish mackerel in the Gulf and Atlantic were not overfished or undergoing overfishing.

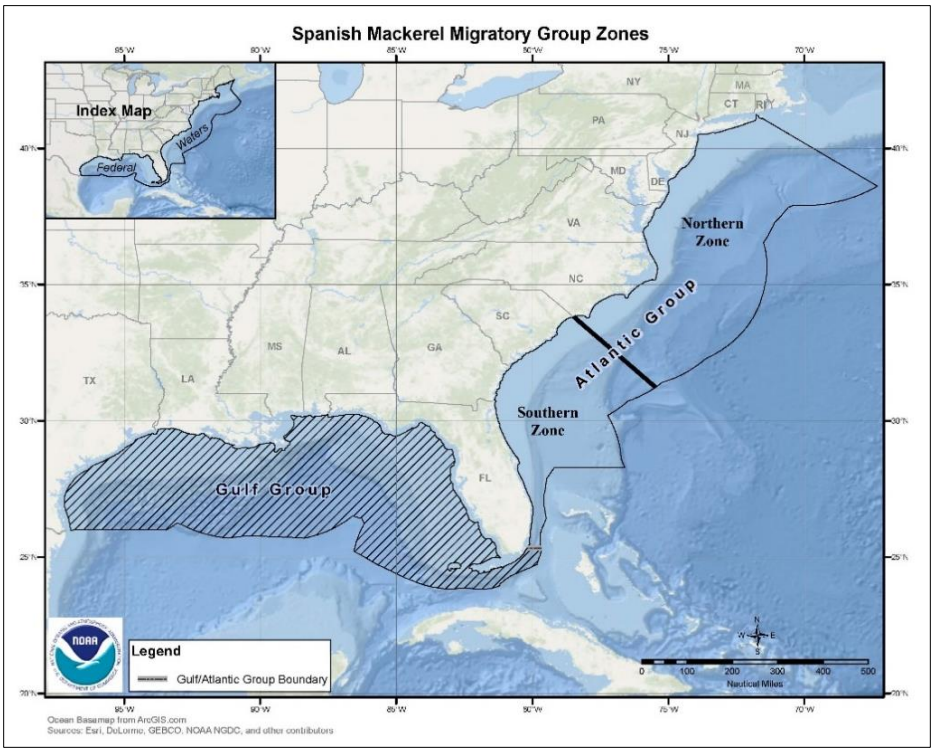


**Figure 1.4.1.** Boundary between Gulf and Atlantic Spanish mackerel migratory groups.

# Chapter 2. Proposed Actions and Alternatives

## 2.1. Action. ~~Modify~~ Reduce the commercial trip limit for Atlantic migratory group Spanish mackerel in the Northern ~~and Southern~~ Zone~~s~~.

**Alternative 1. (No Action).** The commercial trip limit in the Northern Zone of the Atlantic exclusive economic zone for Spanish mackerel harvested from, possessed on board, or landed in a day, from a vessel for which a permit for Spanish mackerel has been issued is 3,500-pounds whole weight or gutted weight.

**Preferred Alternative 2.** Reduce the commercial trip limit for Spanish mackerel in the Northern Zone of the Atlantic exclusive economic zone harvested from, possessed on board, or landed in a day, from a vessel for which a permit for Spanish mackerel has been issued.

**Sub-alternative 2a.** 2,500-pounds whole weight or gutted weight

**Preferred Sub-alternative 2b**. 2,000-pounds whole weight or gutted weight

**Sub-alternative 2c.** 1,500-pounds whole weight or gutted weight

### 2.1.1 Comparison of Alternatives

**Alternative 1 (No Action)** would maintain the existing commercial trip limit of 3,500 pounds (lb) whole weight (ww) or gutted weight (gw) in the Northern Zone for Atlantic migratory group Spanish mackerel (Atlantic Spanish mackerel). **Preferred Alternative 2** and its sub-alternatives would reduce the trip limit for the Northern Zone to 2,500 lbs ww or gw (**Sub-alternative 2a**), 2,000 lbs ww or gw, (**Preferred Sub-alternative 2b**), or 1,500 lbs ww or gw, (**Sub-alternative 2c**), which would reduce the rate of harvest during the fishing year.

There are no expected biological effects from **Alternative 1 (No Action)** and **Preferred Alternative 2** and its sub-alternatives (including **Preferred Sub-alternative 2b**) on Atlantic Spanish mackerel, bycatch, or their co-occurring species because all of the alternatives retain the Northern Zone commercial quota and accountability measures (AMs; in-season closure when the zone quota is reached). In addition, the predicted in-season closure dates for Atlantic Spanish mackerel in the Northern Zone are similar for all the alternatives (October 8 to 13).

Generally, trip limits are not considered to be economically efficient because they require an increase in the number of trips and associated trip costs to land the same amount of fish. However, the negative economic effects of this inefficiency can be offset or mitigated by price support resulting from the supply limitations and the lengthening of harvest seasons. Since the commercial quota would continue to be fully harvested under the proposed trip limits for all of the sub-alternatives of **Preferred Alternative 2** (Appendix D), overall gross revenue generated by Spanish mackerel landings may not change substantially, compared to **Alternative 1 (No Action)**.

Based on the analysis provided in Appendix D, 98.5% of Spanish mackerel trips occurring in the Northern Zone in recent years harvested 1,500 lbs or less of the species. This suggests that

the sub-alternatives of **Preferred Alternative 2** would not affect the majority of commercial Spanish mackerel trips. In cases where trip limits were restrictive, lower trip limits may decrease gross trip revenue and decrease overall net revenue received for Spanish mackerel landings by requiring more trips to land the same amount of Spanish mackerel, thereby increasing total trip costs. Out of the alternatives considered, **Sub-alternative 2c** has the lowest trip limit, therefore, potential negative economic effects would be highest under this alternative, followed by **Preferred Sub-alternative 2b**, **Sub-alternative 2a**, and **Alternative 1 (No Action)**. However, the sub-alternatives under **Preferred Alternative 2** are not expected to greatly prolong the harvest season in comparison to **Alternative 1 (No Action)**, with one expected additional day of allowable harvest under **Sub-Alternative 2a**, two additional days of allowable harvest under **Preferred Sub-alternative 2b**, and five additional days of allowable harvest under **Sub-alternative 2c** (**Table D.5**). Thus, any negative economic effects from the proposed action alternatives are expected to be minor.

Alternatively, longer open season would have direct social benefits to the commercial fleet by ensuring access to the resource and associated income. However, if income associated with harvest decreases due to higher trip costs, as described above, the social benefits of a longer season would decrease. A longer season would result in indirect social effects to end users of Spanish mackerel (restaurant owners, fish houses, and consumers) by improving consistency of availability, so long as it does not result in a decrease in harvest and/or revenue. In-season closures reduce the opportunity for harvest, which in turn can change fishing behaviors, such as switching to alternative species if the opportunity exists. That behavior can increase pressure on other stocks and/or amplify conflict. **Sub-alternative 2c** is anticipated to result in the longest season, followed by **Preferred Sub-alternative 2b**, **Sub-alternative 2a**, and **Alternative 1 (No Action)**. However, the differences in the season length among the alternatives would be minor the fishing season is only anticipated to be two days longer under **Preferred Sub-alternative 2** than under **Alternative 1 (No Action)**. Thus, any negative social effects from the proposed action alternatives are expected to be minor.

The administrative burden under **Alternative 1 (No Action)**, **Sub-alternative 2a**, **Preferred Sub-alternative 2b**, and **Sub-alternative 2c** would be identical since a closure would be expected regardless of the alternative selected. Further, there would be little difference in the length of the fishing season under **Alternative 1 (No Action)**, **Sub-alternative 2a**, **Preferred Sub-alternative 2b**, and **Sub-alternative 2c**. Outreach materials would take the form of fishery bulletins and updates to the National Marine Fisheries Service Southeast Regional Office's web site. The burden on law enforcement would not change under **Alternatives 1 (No Action), Sub-alternative 2a**, **Preferred Sub-alternative 2b**, and **Sub-alternative 2c** because commercial trip limit reductions and quota closures implemented when the commercial annual catch limits or adjusted quota are projected to be met are currently enforced.

# Chapter 3. Affected Environment

This section describes the affected environment in the proposed project area. The affected environment is divided into five major components:

- **Habitat environment** (Section 3.1)
- **Biological environment** (Section 3.2)
- **Economic environment** (Section 3.3)
- **Social environment** (Section 3.4)
- **Administrative environment** (Section 3.5)

## 3.1 Habitat Environment

The Fishery Management Plan (FMP) for Coastal Migratory Pelagic (CMP) Resources in the Gulf of Mexico (Gulf) and Atlantic Region (CMP FMP) is a joint FMP between the South Atlantic Fishery Management Council (South Atlantic Council) and the Gulf of Mexico Fishery Management Council. The action in this framework amendment only applies to the Atlantic migratory group Spanish mackerel (Atlantic Spanish mackerel) in the Atlantic Northern Zone. The South Atlantic Council has management jurisdiction of the federal waters (3-200 nm) offshore of North Carolina, South Carolina, Georgia, and East Florida. Management of CMP species extends through the Mid-Atlantic region, which is discussed below.

*South Atlantic Region*

The continental shelf from the Dry Tortugas, Florida, to Miami, Florida, is approximately 25 kilometers (km) wide and narrows to approximately 5 km off Palm Beach, Florida. The shelf then broadens to approximately 120 km off Georgia and South Carolina before narrowing to 30 km off Cape Hatteras, North Carolina. The Florida Current/Gulf Stream flows along the shelf edge throughout the region. In the southern region, this boundary current dominates the physics of the entire shelf (Lee et al. 1994). North of Cape Canaveral, Florida, to Cape Hatteras, North Carolina, additional physical processes are important, and the shelf environment can be subdivided into three oceanographic zones (Atkinson et al. 1985; Menzel 1993), the outer shelf, mid-shelf, and inner shelf. The outer shelf (40-75 m) is influenced primarily by the Gulf Stream and secondarily by winds and tides. On the mid-shelf (20-40 m), the water column is almost equally affected by the Gulf Stream, winds, and tides. Inner shelf waters (0-20 m) are influenced by freshwater runoff, winds, tides, and bottom friction. Water masses present from the Dry Tortugas, Florida, to Cape Canaveral, Florida, include Florida Current water, waters originating

in Florida Bay, and shelf water. From Cape Canaveral, Florida, to Cape Hatteras, North Carolina four water masses are found: Gulf Stream water; Carolina Capes water; Georgia water; and Virginia coastal water. Spatial and temporal variation in the position of the western boundary current has dramatic effects on water column habitats. Variation in the path of the Florida Current near the Dry Tortugas induces formation of the Tortugas Gyre (Lee et al. 1994). This cyclonic eddy has horizontal dimensions of approximately 100 km and may persist near the Florida Keys for several months. The Pourtales Gyre, which has been found to the east, is formed when the Tortugas Gyres moves eastward along the shelf. Upwelling occurs in the center of these gyres, thereby adding nutrients to the near surface. Wind and input of Florida Bay water also influence the water column structure on the shelf off the Florida Keys (Smith 1994; Wang et al. 1994).

Further, downstream, the Gulf Stream encounters the "Charleston Bump", a topographic rise on the upper Blake Ridge where the current is often deflected offshore resulting in the formation of a cold, quasi-permanent cyclonic gyre and associated upwelling (Brooks and Bane 1978). On the continental shelf, offshore projecting shoals at Cape Fear, North Carolina, Cape Lookout, North Carolina, and Cape Hatteras, North Carolina affect longshore coastal currents and interact with Gulf Stream intrusions to produce local upwelling (Blanton et al. 1981; Janowitz and Pietrafesa 1982). Shoreward of the Gulf Stream, seasonal horizontal temperature and salinity gradients define the mid-shelf and inner-shelf fronts. In coastal waters, river discharge and estuarine tidal plumes contribute to the water column structure.

The water column from Dry Tortugas, Florida, to Cape Hatteras, North Carolina, serves as habitat for many marine fish and shellfish. Most marine fish and shellfish release pelagic eggs when spawning and thus, most species utilize the water column during some portion of their early life history (Leis 1991; Yeung and McGowan 1991). Many fish inhabit the water column as adults. Pelagic fishes include numerous clupeoids, flying fish, jacks, cobia, bluefish, dolphin, barracuda, and the mackerels (Schwartz 1989). Some pelagic species are associated with particular benthic habitats, while other species are truly pelagic.

In the South Atlantic, areas of unique habitat exist such as the Oculina Bank and large expanses of deepwater coral; however, regulations are currently in place to protect these areas. Additionally, there are several notable shipwrecks along the South Atlantic coast in state and federal waters including Lofthus (eastern Florida), SS Copenhagen (southeast Florida), Half Moon (southeast Florida), Hebe (Myrtle Beach, South Carolina), Georgiana (Charleston, South Carolina), Monitor (Cape Hatteras, North Carolina), Huron (Nags Head, North Carolina), and Metropolis (Corolla, North Carolina). The South Atlantic coastline is also home to numerous marshes and wetland ecosystems; however, these sensitive ecological environments do not extend into federal waters of the South Atlantic. The proposed action is not expected to alter fishing practices in any manner that would affect any of the above listed habitats or historic resources, nor would it alter any regulations intended to protect them.

*Mid-Atlantic Region*

Information about the physical environment of the Mid-Atlantic region was provided by the Mid-Atlantic Fishery Management Council and adapted from the 2016 Mackerel, Squid, and

Butterfish Specifications Environmental Assessment, available at: http://www.greateratlantic.fisheries.noaa.gov/regs/2016/January/16msb2016specspr.html.

Climate, physiographic, and hydrographic differences separate the Atlantic Ocean from Maine to Florida into the New England-Middle Atlantic Area and the South Atlantic Area (division/mixing at Cape Hatteras, North Carolina). The inshore New England-Middle Atlantic area is fairly uniform physically and is influenced by many large coastal rivers and estuarine areas. The continental shelf (characterized by water less than 650 ft. in depth) extends seaward approximately 120 miles off Cape Cod, narrows gradually to 70 miles off New Jersey, and is 20 miles wide at Cape Hatteras. Surface circulation is generally southwesterly on the continental shelf during all seasons of the year, although this may be interrupted by coastal in drafting and some reversal of flow at the northern and southern extremities of the area. Water temperatures range from less than 33ºF from the New York Bight north in the winter to over 80 o F off Cape Hatteras in summer.

Within the New England-Middle Atlantic Area, the Northeast U.S. Continental Shelf Large Marine Ecosystem includes the area from the Gulf of Maine to Cape Hatteras, extending from the coast seaward to the edge of the continental shelf, including the slope sea offshore to the Gulf Stream. The Northeast U.S. Continental Shelf Large Marine Ecosystem is a dynamic, highly productive, and intensively studied system providing a broad spectrum of ecosystem goods and services. This region, encompassing the continental shelf area between Cape Hatteras and the Gulf of Maine, spans approximately 250,000 $km^2$ and supports some of the highest revenue fisheries in the U.S. The system historically underwent profound changes due to very heavy exploitation by distant-water and domestic fishing fleets. Further, the region is experiencing changes in climate and physical forcing that have contributed to large-scale alteration in ecosystem structure and function. Projections indicate continued future climate change related to both short and medium terms cyclic trends as well as non-cyclic climate change.

A number of distinct subsystems comprise the region. The Gulf of Maine is an enclosed coastal sea, characterized by relatively cold waters and deep basins, with various sediment types. Georges Bank is a relatively shallow coastal plateau that slopes gently from north to south and has steep submarine canyons on its eastern and southeastern edge. It is characterized by highly productive, well-mixed waters and fast-moving currents. The Mid-Atlantic Bight is comprised of the sandy, relatively flat, gently sloping continental shelf from southern New England to Cape Hatteras, North Carolina. Detailed information on the affected physical and biological environments inhabited by the managed resources is available in Stevenson et al. (2006).

## 3.2 Biological and Ecological Environment

A description of the biological environment for CMP species is provided in Amendment 18 (GMFMC and SAFMC 2011), is incorporated herein by reference, and is summarized below.

The mackerel family, Scombridae, includes tunas, mackerels, and bonitos, and are among the most important commercial and sport fishes. The adults in the CMP management unit utilize the coastal waters of the Atlantic Ocean out to the edge of the continental shelf as their primary habitat. Within the area, the occurrence of CMP species is governed by temperature and salinity. All species are seldom found in water temperatures less than 20°C. Salinity preference varies,

but these species generally prefer high salinity, less than 36 parts per thousand (ppt). The habitat for eggs and larvae of all species in the coastal pelagic management unit is the water column. Within the spawning area, eggs and larvae are concentrated in the surface waters.

The proposed action in this framework amendment specifically affects Spanish mackerel (*Scomberomorus maculatus*).

### 3.2.1 Spanish Mackerel

Spanish mackerel are migratory and move into specific areas to spawn and mature at age 1-2 years. They primarily eat other fish species (herring, sardines, and menhaden) and to a lesser extent crustaceans and squid at all life stages (larvae to adult). They are eaten primarily by larger pelagic predators like sharks, tuna, and bottlenose dolphin.

Spanish mackerel is also a pelagic species occurring in depths up to 75 meters (225 feet) but primarily found in depths of 20 meters (60 feet) or less. They occur in coastal zones of the western Atlantic from southern New England to the Florida Keys and throughout the Gulf (Collette and Russo 1979). Adults usually are found from the low-tide line to the edge of the continental shelf, and along coastal areas. They inhabit estuarine areas (especially higher salinity areas) during seasonal migrations but are considered rare and infrequent in many Gulf estuaries.

Spawning occurs along the inner continental shelf from April to September (Powell 1975). Eggs and larvae occur most frequently offshore over the inner continental shelf at temperatures between 20°C (68°F) and 32°C (89.6°F) and salinities between 28 and 37 ppt. They are found frequently in water depths from 9 meters (27 feet) to about 84 meters (252 feet) but are most common in < 50 meters (150 feet).

Juveniles are most often found in coastal and estuarine habitats and at temperatures greater than 25°C (77°F) and salinities greater than 10 ppt. Although they occur in waters of varying salinity, juveniles appear to prefer marine salinity levels and generally are not considered estuarine-dependent. Like king mackerel, adult Spanish mackerel are migratory, generally moving from wintering areas of south Florida and Mexico to more northern latitudes in spring and summer. Spanish mackerel generally mature at age 1 to 2 and have a maximum age of approximately 11 years (Powell 1975).

### 3.2.2 Description of the Fishery

Spanish mackerel are managed jointly by the South Atlantic Fishery Management Council (South Atlantic Council) and the Gulf of Mexico Fishery Management Council (Gulf Council). The management unit extends from the Gulf through the Mid-Atlantic Fishery Management Council's jurisdiction to the New York/Connecticut/Rhode Island line (**Figure 1.4.1**). The South Atlantic Council provides two voting seats for Mid-Atlantic Council representatives on the Mackerel Cobia Committee. These individuals participate as full committee members and can make motions and vote on motions at the committee level.

Spanish mackerel are managed as two separate stocks: The Gulf migratory stock and the Atlantic migratory stock. A commercial permit is required to harvest and sell Spanish mackerel. The Spanish mackerel permit is open access and covers both Atlantic and Gulf migratory groups.

Additionally, an open access charter/headboat permit is required for Atlantic migratory group CMP species. Currently, management for Atlantic Spanish mackerel runs from the New York/Connecticut/Rhode Island state line to the Miami-Dade/Monroe County, Florida boundary. For management purposes that area is split up into two separate zones, the Northern Zone (NY/CT/RI state line to the North Carolina/South Carolina state line) and the Southern Zone (NC/SC state line and the Miami-Dade/Monroe county, FL boundary). Each zone has its own quota and set of regulations (**Table 3.2.2.1**).

**Table 3.2.2.1.** Current regulations for the Atlantic king mackerel commercial fishery.

| | |
|---|---|
| **Zones** | Northern Zone (NY/CT/RI state line to the NC/SC state line)<br>Southern Zone (NC/SC state line to the Miami-Dade/Monroe County Line, Florida) |
| **Allocations** | • Total Commercial: 55%<br>  ○ Northern Zone: 20%<br>  ○ Southern Zone: 80% |
| **Annual Catch Limit** | • Total Commercial: 3,300,000 pounds<br>  ○ Northern Zone: 662,670 pounds<br>  ○ Southern Zone: 2,667,330 pounds |
| **Season** | March 1st to the end of February |
| **Trip/Bag Limit** | **Northern Zone** |
| | 3,500 pounds year-round |
| | **Southern Zone** |
| | Adjusted Quota = 2,417,330 pounds<br>• Starting March 1st until 75% of the adjusted quota is reached: 3,500 pounds<br>• From 75% until 100% of the adjusted quota is reached: 1,500 pounds<br>• From 100% adjusted quota until 100% of the full quota is reached: 500 pounds |
| **Minimum Size Limit** | 12-inches FL |

The Atlantic States Marine Fisheries Commission (Commission) began managing Spanish mackerel in November 1990. In 2011, the Commission's South Atlantic State/Federal Fisheries Management Board (South Atlantic Board) approved an Omnibus Amendment for Spot, Spotted Seatrout, and Spanish mackerel. The Omnibus Amendment included a process for the South Atlantic Board to review and respond to changes in federal regulations, allowing for complementary management throughout the range of Atlantic Spanish mackerel.

*Commercial Landings for Atlantic Spanish Mackerel*

Commercial landings of Atlantic Spanish mackerel in pounds (as reported) from 2000-2001 through the 2017-2018 fishing year, by zone, are presented in **Table 3.2.2.2**. Landings are presented by zone to ensure confidentiality. The Northern Zone includes North Carolina and the Mid-Atlantic states. The Southern Zone includes South Carolina, Georgia, and the east coast of Florida to the Miami-Dade/Monroe Country boundary.

**Table 3.2.2.2.** Atlantic Spanish mackerel total commercial landings (pounds) and ACL 2000 through 2017, by zone.

| Fishing Year | Northern Zone Landings | Southern Zone Landings | Total Landings | Commercial ACL | %ACL |
|---|---|---|---|---|---|
| 2000-2001 | 914,936 | 1,890,022 | 2,804,958 | 3,870,000 | 72.5% |
| 2001-2002 | 897,041 | 2,161,871 | 3,058,912 | 3,870,000 | 79.0% |
| 2002-2003 | 852,463 | 2,353,648 | 3,206,111 | 3,870,000 | 82.8% |
| 2003-2004 | 590,160 | 2,972,562 | 3,562,722 | 3,870,000 | 92.1% |
| 2004-2005 | 553,718 | 2,810,423 | 3,364,141 | 3,870,000 | 86.9% |
| 2005-2006 | 505,132 | 3,163,591 | 3,668,723 | 3,870,000 | 94.8% |
| 2006-2007 | 489,451 | 3,155,226 | 3,644,677 | 3,620,000 | 100.7% |
| 2007-2008 | 560,504 | 2,520,799 | 3,081,303 | 3,620,000 | 85.1% |
| 2008-2009 | 580,818 | 2,591,108 | 3,171,926 | 3,620,000 | 87.9% |
| 2009-2010 | 1,118,458 | 3,073,962 | 4,192,420 | 3,620,000 | 115.8% |
| 2010-2011 | 968,432 | 3,600,537 | 4,568,969 | 3,620,000 | 126.2% |
| 2011-2012 | 916,291 | 3,095,919 | 4,012,210 | 3,880,660 | 103.4% |
| 2012-2013 | 945,232 | 2,208,148 | 3,153,380 | 3,130,000 | 100.8% |
| 2013-2014 | 636,168 | 2,517,341 | 3,153,509 | 3,130,000 | 100.8% |
| 2014-2015 | 687,487 | 2,211,998 | 2,899,485 | 3,330,000 | 87.1% |
| 2015-2016 | 582,200 | 2,110,118 | 2,692,318 | 3,330,000 | 80.9% |
| 2016-2017 | 640,222 | 2,559,874 | 3,200,096 | 3,330,000 | 96.1% |
| 2017-2018 | 845,291 | 2,489,125 | 3,334,416 | 3,330,000 | 100.1% |

Source: The commercial ACL file provided from the SEFSC on November 15, 2019.
Note: From 2000-2004 the fishing year started on April 1st. In following years, the fishing year started on March 1st.

Atlantic Spanish mackerel commercial landings since 2000-2001 have ranged from a low of 2,804,958 pounds in 2000-2001 to a high of 4,568,969 pounds in 2010-2011 (**Table 3.2.2.2**). Majority of Atlantic Spanish mackerel landed commercially in the Northern Zone are landed in North Carolina. Southern Zone commercial landings are primarily from Florida. Over the time period examined, landings have generally fluctuated. After peaking in 2010-2011, commercial landings of Atlantic Spanish mackerel decreased until 2015-2016, at which point they began to increase. Generally, landings over the time period have averaged around 3.3 million pounds (current commercial ACL is 3,330,000 pounds).

*Commercial Atlantic Spanish Mackerel Landings by Zone*

Since zone quotas were established in 2015, the Northern Zone and the Southern Zone has exceeded their quota during the 2017-2018 fishing year[1]. During the 2017/2018 season, 100,000 pounds of quota was transferred from the Southern Zone (NC/SC line to the Miami-Dade/Monroe County line, Florida) to the Northern Zone to prevent an early closure. However, the Northern Zone quota was still projected to be met and federal waters were closed to commercial harvest of Spanish mackerel on November 7, 2017.

*Commercial Atlantic Spanish Mackerel Landings by Gear*

Currently, automatic reel, bandit gear, handline, rod and reel, cast net, run-around gillnet, and stab net are the only authorized gear types for harvest of Atlantic Spanish mackerel. Commercial harvest of Atlantic Spanish mackerel using gillnets falls under regulations established via the Atlantic Large Whale Take Reduction Plan (ALW TRP), which aims to reduce the level of serious injury and mortality of Atlantic right whales, humpback whales, and fin whales resulting from interactions with gillnet and trap/pot fisheries. The ALWTRP contains formal regulations with which Spanish mackerel gillnet fishermen must comply. There are five gillnet management zones within the management area of the CMP FMP (Mid/South Atlantic Gillnet Waters, Southeast Restricted Area North, Southeast Restricted Area South, Southeast US Monitoring Area, and the Other Southeast Gillnet Waters). Of importance to Spanish mackerel gillnet fishermen is Southeast US Restricted Area South which provides detailed requirements for Spanish mackerel gillnets to be exempt from the seasonal (December 1 – March 31) prohibition on fishing with or possessing gillnets.

*Recreational Landings for Atlantic Spanish Mackerel*

Recreational landings of Atlantic Spanish mackerel in pounds whole weight (ww) from 2000-2001 through 2017-2018 by zone are presented in **Table 3.2.2.3**. Recreational landings of Atlantic Spanish mackerel have ranged from a low of 761,377 pounds ww in 2015-2016 to a high of 2,092,364 pounds ww in 2000-2001 (**Table 3.2.2.3**). In terms of geographical distribution, like commercial landings, recreational landings of Atlantic Spanish mackerel can be attributed to mainly North Carolina in the Northern Zone and Florida in the Southern Zone. During the time period examined, Atlantic Spanish mackerel recreational landings peaked in the Northern zone in 2008-2009 and in the Southern Zone in 2000-2001. The recreational ACL for Atlantic Spanish mackerel was specified in 2012 and revised in CMP Framework Amendment 1 (SAFMC and GMFMC 2014) based on the results from SEDAR 28 (2012). Recreational landings of Atlantic Spanish mackerel have not exceeded the recreational ACL since it was established in 2012.

[1] Please see the Historical Landings link on the South Atlantic ACL Monitoring page for more information.

**Table 3.2.2.3.** Atlantic migratory group Spanish mackerel total recreational landings (ww) and recreational ACL (where applicable) from 2000-2001 through 2017-2018, by zone.

| Fishing Year | Northern Zone Landings | Southern Zone Landings | Total Landings | Recreational ACL | %ACL |
|---|---|---|---|---|---|
| 2000-2001 | 817,063 | 1,275,301 | 2,092,364 | N/A | N/A |
| 2001-2002 | 553,099 | 1,179,747 | 1,732,846 | N/A | N/A |
| 2002-2003 | 552,056 | 1,043,218 | 1,595,274 | N/A | N/A |
| 2003-2004 | 491,324 | 1,081,556 | 1,572,879 | N/A | N/A |
| 2004-2005 | 551,372 | 627,256 | 1,178,628 | N/A | N/A |
| 2005-2006 | 331,644 | 821,499 | 1,153,143 | N/A | N/A |
| 2006-2007 | 451,635 | 902,598 | 1,354,232 | N/A | N/A |
| 2007-2008 | 761,023 | 825,141 | 1,586,164 | N/A | N/A |
| 2008-2009 | 1,041,480 | 1,045,648 | 2,087,128 | N/A | N/A |
| 2009-2010 | 961,150 | 1,035,708 | 1,996,858 | N/A | N/A |
| 2010-2011 | 619,152 | 874,753 | 1,493,905 | N/A | N/A |
| 2011-2012 | 541,612 | 831,176 | 1,372,789 | N/A | N/A |
| 2012-2013 | 700,274 | 471,625 | 1,171,898 | 2,560,000 | 45% |
| 2013-2014 | 690,522 | 886,370 | 1,576,892 | 2,560,000 | 62% |
| 2014-2015 | 466,045 | 416,073 | 882,118 | 2,727,000 | 32% |
| 2015-2016 | 455,733 | 305,645 | 761,377 | 2,727,000 | 28% |
| 2016-2017 | 492,232 | 700,249 | 1,192,481 | 2,727,000 | 44% |
| 2017-2018 | 511,420 | 282,785 | 794,205 | 2,727,000 | 29% |

Source: Recreational ACL dataset provided from SEFSC on January 2, 2020.
Note: From 2000-2004 the fishing year started on April 1st. In following years, the fishing year started on March 1st.

## 3.2.3 Protected Species

The National Marine Fisheries Service (NMFS) completed a biological opinion on June 18, 2015 (2015 Opinion), evaluating the impacts of the CMP fishery on Endangered Species Act (ESA)-listed species. In the biological opinion, NMFS determined that the proposed continued authorization of the CMP fishery is not likely to adversely affect any ESA-listed whales, Gulf sturgeon, or corals. NMFS also determined that the CMP fishery is not likely to adversely affect designated critical habitats for elkhorn and staghorn coral or the Northwest Atlantic distinct population segments (DPS) of loggerhead sea turtle and will have no effect on designated critical habitat for the North Atlantic right whale. The 2015 Opinion concluded that the CMP fishery's continued authorization is likely to adversely affect, but is not likely to jeopardize, green, hawksbill, Kemp's ridley, leatherback, or the Northwest Atlantic DPS of loggerhead sea turtles, Atlantic sturgeon, or the smalltooth sawfish. An incidental take statement for sea turtles, smalltooth sawfish, and Atlantic sturgeon was issued. Reasonable and prudent measures to minimize the impact of these incidental takes were specified, along with terms and conditions to implement them.

On April 6, 2016, NMFS and the U.S. Fish and Wildlife Service published a final rule (81 FR 20057), effective May 6, 2016, listing eleven DPSs of green sea turtle. The final rule, which

superseded the previous green sea turtle listing, listed eight DPS as threatened and three DPSs as endangered. On June 29, 2016, NMFS published a final rule (81 FR 42268) to list Nassau grouper as threatened under the ESA, effective July 29, 2016. Because the range of both the North Atlantic and South Atlantic DPSs of green sea turtles and the Nassau grouper occur within the action area of the CMP fishery, NMFS reinitiated consultation on the CMP fishery in March 2017. NMFS completed an Amendment to the 2015 Opinion on November 13, 2017. The amended biological opinion concluded that the CMP fishery's continued authorization is not likely to adversely affect Nassau grouper and is likely to adversely affect, but is not likely to jeopardize, the North Atlantic and South Atlantic DPSs of green sea turtle. A revised incidental take statement was issued.

Since then, NMFS listed the giant manta ray (*Manta birostris*) as threatened under the ESA, effective February 21, 2018, and listed the oceanic whitetip shark (*Carcharinus longimanus*) as threatened under the ESA, effective March 1, 2018.

On June 11, 2018, NMFS requested reinitiation of ESA section 7 consultation on the Atlantic CMP fisheries under the Magnuson-Stevens Act to address the listings of the giant manta ray and oceanic whitetip sharks. In the same consultation request memorandum, NMFS developed ESA section 7(a)(2) and section 7(d) analyses that considered allowing the CMP fishery to continue during the reinitiation period. As a result of those analyses, NMFS has determined that allowing the Atlantic CMP fisheries to continue during the reinitiation period is not likely to jeopardize any protected species, nor does it constitute an irreversible or irretrievable commitment of resources.

The actions contained in CMP Framework Amendment 9 are not anticipated to modify the operation of the CMP fishery in a manner that would cause effects to listed species or critical habitat that were not considered in the 2015 and 2017 biological opinions or in the June 11, 2018, analyses.

The Gulf and South Atlantic CMP hook-and-line sector is classified in the 2019 and 2020 MMPA List of Fisheries as a Category III fishery (May 16, 2019, 84 FR 22051; and October 10, 2019, 84 FR 54543), meaning the annual mortality and serious injury of a marine mammal resulting from the fishery is less than or equal to 1% of the maximum number of animals, not including natural moralities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population. The Gulf and South Atlantic CMP gillnet sector is classified as Category II fishery in the 2020 MMPA List of Fisheries. This classification indicates an occasional incidental mortality or serious injury of a marine mammal stock resulting from the fishery (1-50% annually of the potential biological removal). The gillnet sector has no documented interaction with marine mammals; NMFS classifies this sector as Category II based on analogy (i.e., similar risk to marine mammals) with other gillnet fisheries.

### 3.2.4 Bycatch and Co-Occurring Species

A bycatch practicability analysis for CMP species is provided in Amendment 26 (GMFMC and SAFMC 2017), is incorporated herein by reference, and is summarized below.

In the Atlantic (Florida through New York) regions, most Atlantic Spanish mackerel are harvested with hook-and-line gear, which tends to have a low level of bycatch. Co-occurring species caught with Atlantic Spanish mackerel include bluefish, king mackerel blue runner, crevalle jack, and little tunny. The action in this framework amendment is not expected to significantly increase or decrease the magnitude of bycatch or bycatch mortality in the CMP fishery king mackerel hook-and-line sector. This sector has a relatively low baseline levels of bycatch, and that is not expected to change as a result of implementation of this framework amendment.

## 3.3 Economic Environment

### 3.3.1 Economic Description of the Commercial Sector

The major source of data summarized in this description is the Atlantic Coastal Cooperatives Statistics Program (ACCSP) data warehouse. Inflation adjusted revenues and prices are reported in 2018 dollars using the annual, non-seasonally adjusted Gross Domestic Product (GDP) implicit price deflator provided by the U.S. Bureau of Economic Analysis (BEA). This section presents calendar year estimates of fishing activity for vessels that fished for Atlantic migratory group Spanish mackerel.

**Permits**

Any fishing vessel that harvests and sells Spanish mackerel from the Atlantic or Gulf Exclusive Economic Zone (EEZ) must have a valid federal open access commercial Spanish mackerel permit. As of November 27, 2019, there were 1,903 valid open access commercial Spanish mackerel permits. Commercial harvest of Atlantic Spanish mackerel in the EEZ may only be sold to dealers with a federal dealer permit. As of November 27, 2019, there were 404 entities with a federal Gulf and South Atlantic dealer permit. A commercial license is required to sell Spanish mackerel in all states as well. Data on the total number of licensed vessels and dealers in each Atlantic state are currently unavailable.

**Landings, Value, and Effort**

Atlantic Spanish mackerel is managed under a stock annual catch limit (ACL) that is specified and monitored in terms of landed weight (lw)[2], which is a combination of gutted and ww. This means landings in gutted weight (gw) are not converted to ww, or vice-versa, but landings in ww or gw are simply added together to track landings against the ACL. The number of commercial Atlantic Spanish mackerel trips declined by approximately 21% from 2014 to 2015, but then remained fairly stable through 2018 (**Table 3.3.1.1**). Landings of Atlantic Spanish mackerel also dropped by 27% from 2014 to 2015, but then steadily increased to a 5-year high in 2018. On average (2014 through 2018), vessels earned approximately $675 per trip on trips that harvested Atlantic Spanish mackerel and Atlantic Spanish mackerel accounted for approximately 58% of trip revenue (**Table 3.3.1.1**).

[2] Landed weight is equivalent to "as reported."

**Table 3.3.1.1.** Landings, ex-vessel revenue, and average price per pound for trips that harvested Atlantic Spanish mackerel (2018 dollars).

| Year | # of trips that landed Atlantic Spanish mackerel | Atlantic Spanish mackerel landings (lbs lw) | Landings from other species on trips that harvested Atlantic Spanish mackerel (lbs ww) | Dockside revenue from Atlantic Spanish mackerel | Dockside revenue from other species landings on trips that harvested Atlantic Spanish mackerel | Average dockside price per pound for Atlantic Spanish mackerel |
|---|---|---|---|---|---|---|
| 2014 | 11,851 | 3,258,285 | 2,814,430 | $4,145,147 | $3,444,180 | $1.27 |
| 2015 | 9,368 | 2,381,178 | 2,592,037 | $3,383,120 | $2,683,882 | $1.42 |
| 2016 | 10,021 | 3,100,842 | 2,698,858 | $3,818,091 | $3,162,672 | $1.23 |
| 2017 | 9,158 | 3,510,657 | 2,461,234 | $4,273,048 | $2,316,054 | $1.22 |
| 2018 | 10,477 | 3,741,675 | 2,725,194 | $4,186,422 | $2,848,936 | $1.12 |
| Average | 10,175 | 3,198,527 | 2,658,350 | $3,961,165 | $2,891,145 | $1.24 |

Source: 2019 ACCSP data warehouse (M. Rinaldi, ACCSP, pers. comm.)
Note: Calendar estimates are provided here for all statistics; however, because the Spanish mackerel fishing year does not align with the calendar year, these will differ from Spanish mackerel fishing year landings estimates.

Because of missing values in available state dealer data, not all Atlantic Spanish mackerel landings could be tied to individual vessels. On average (2014-2018), approximately 5% of Atlantic Spanish mackerel landings and 10% of Atlantic Spanish mackerel trips could not be assigned to individual vessels. **Table 3.3.1.2** provides revenue profiles for those vessels which could be identified. On average (2014 through 2018), these vessels derived approximately 8% of their total dockside revenue from Atlantic Spanish mackerel landings, with the rest coming from other species (**Table 3.3.1.2**).

**Table 3.3.1.2**. Ex-vessel revenue for vessels that fished commercially for Atlantic Spanish mackerel (2018 dollars).

| Year | # of vessels with landings of Atlantic Spanish mackerel | Dockside revenue from Atlantic Spanish mackerel | Dockside revenue from other species landings on trips that harvested Atlantic Spanish mackerel | Dockside revenue from trips that did not harvest Atlantic Spanish mackerel | Total dockside revenue | Average total dockside revenue per vessel |
|---|---|---|---|---|---|---|
| 2014 | 992 | $3,711,143 | $3,227,959 | $46,867,268 | $53,806,368 | $54,240 |
| 2015 | 919 | $3,219,478 | $2,554,779 | $36,870,100 | $42,644,356 | $46,403 |
| 2016 | 977 | $3,721,459 | $3,030,644 | $45,030,280 | $51,782,384 | $53,001 |
| 2017 | 919 | $4,175,185 | $2,234,022 | $40,885,832 | $47,295,040 | $51,464 |
| 2018 | 977 | $4,079,697 | $2,680,336 | $36,430,212 | $43,190,240 | $44,207 |
| Average | 957 | $3,781,392 | $2,745,548 | $41,216,738 | $47,743,678 | $49,863 |

Source: 2019 ACCSP data warehouse (M. Rinaldi, ACCSP, pers. comm.)
Notes: Not all dealer reports contain a vessel ID. On average (2014-2018), approximately 5% of Atlantic Spanish mackerel landings and 10% of Atlantic Spanish mackerel trips could not be assigned to an individual vessel. Includes all other reported landings (state and federal) from the South Atlantic and Greater Atlantic regions for these vessels.
Calendar estimates are provided here for all statistics; however, because the Spanish mackerel fishing year does not align with the calendar year, these will differ from Spanish mackerel fishing year landings estimates.

### Dealers

From 2014 through 2018, there were 173 dealers on average that purchased Atlantic Spanish mackerel (**Table 3.3.1.3**). Atlantic Spanish mackerel accounted for approximately 2% of both total landings (lbs ww) purchased by these dealers and total ex-vessel payments made by these dealers. Total purchases by these dealers were fairly stable from 2014 through 2018, with a peak in 2017 (**Table 3.3.1.3**).

**Table 3.3.1.3.** Landings and payment information for dealers that purchased Atlantic Spanish mackerel (2018 dollars).

| Year | # of dealers with Atlantic Spanish mackerel landings | Atlantic Spanish mackerel purchased (lbs lw) | Payments for Atlantic Spanish mackerel | All fish purchased by these dealers (lbs ww) | Total payments for all fish purchased by these dealers | Average annual payments made by each dealer |
|---|---|---|---|---|---|---|
| 2014 | 188 | 3,253,766 | $4,138,275 | 161,701,855 | $226,207,840 | $1,203,233 |
| 2015 | 155 | 2,371,405 | $3,370,504 | 150,070,001 | $224,914,272 | $1,451,060 |
| 2016 | 181 | 3,062,660 | $3,764,466 | 149,820,585 | $221,443,664 | $1,223,446 |
| 2017 | 168 | 3,501,519 | $4,260,385 | 199,719,062 | $255,312,448 | $1,519,717 |
| 2018 | 171 | 3,730,896 | $4,169,392 | 178,873,442 | $214,364,016 | $1,253,591 |
| Average | 173 | 3,184,049 | $3,940,605 | 168,036,989 | $228,448,448 | $1,330,209 |

Source: 2019 ACCSP data warehouse (M. Rinaldi, ACCSP, pers. comm.)
Notes: A small percentage of dealer reports from 2014 through 2018 are missing a dealer ID (less than 2% on average). These trips have been excluded. As a result, there are slight differences in Atlantic Spanish mackerel estimates between this table and **Table 3.3.1.1**, which does include all trips.
Calendar estimates are provided here for all statistics; however, because the Spanish mackerel fishing year does not align with the calendar year, these will differ from Spanish mackerel fishing year landings estimates.

## Imports

Imports of seafood products compete in the domestic seafood market and have in fact dominated many segments of the seafood market. Imports aid in determining the price for domestic seafood products and tend to set the price in the market segments in which they dominate. Seafood imports have downstream effects on the local fish market. At the harvest level for particular species, imports affect the returns to fishermen through the ex-vessel prices they receive for their landings. As substitutes to domestic production of these species, imports tend to cushion the adverse economic effects on consumers resulting from a reduction in domestic landings. Trade data for mackerel is readily available[3] and mackerel imports likely have a strong influence on the ex-vessel price of Spanish mackerel.

Ninety-nine percent of mackerel imports, on average (2014 through 2018), were comprised of frozen or prepared/preserved fish[4]; the remaining one percent were fresh. Imports of mackerel increased steadily from 41.3 million pounds product weight (pw) in 2014 to 55.9 million pounds pw in 2018. Total revenue from mackerel imports increased from $54.3 million (2018 dollars) to $64.3 million during this time period. Imports of mackerel primarily originated in China, Norway, and Thailand, and to a lesser extent, Vietnam and South Korea. These imports primarily entered the U.S. through the ports of New York, Los Angeles, Baltimore, and Norfolk. Mackerel imports were highest on average (2014 through 2018) during the months of January, November and December.

[3] NOAA Fisheries Service purchases fisheries trade data from the Foreign Trade Division of the U.S. Census Bureau. Data are available for download at http://www.st.nmfs.noaa.gov/st1/trade/index.html.
[4] Includes dried, salted and smoked mackerel.

**Business Activity**

The commercial harvest and subsequent sales and consumption of fish generates business activity as fishermen expend funds to harvest the fish and consumers spend money on goods and services, such as seafood purchased at a local fish market and served during restaurant visits. These expenditures spur additional business activity in the region(s) where the harvest and purchases are made, such as jobs in local fish markets, grocers, restaurants, and fishing supply establishments. In the absence of the availability of a given species for purchase, consumers would spend their money on substitute goods, such as other finfish or seafood products, and services, such as visits to different food service establishments. As a result, the analysis presented below represents a distributional analysis only; that is, it only shows how economic effects may be distributed through regional markets and should not be interpreted to represent the impacts if these species are not available for harvest or purchase.

Estimates of the U.S. average annual business activity associated with the commercial harvest of Atlantic Spanish mackerel were derived using the model developed for and applied in NMFS (2018) and are provided in **Table 3.3.1.4**.[5] This business activity is characterized as jobs (full- and part-time), income impacts (wages, salaries, and self-employed income), output impacts (gross business sales), and value-added impacts, which represent the contribution made to the U.S. Gross Domestic Product (GDP). These impacts should not be added together because this would result in double counting. These results are based on average relationships developed through the analysis of many fishing operations that harvest many different species. Separate models to address individual species are not available. For example, the results provided here apply to a general "reef fish" category rather than just Spanish mackerel, and a harvester job is "generated" for approximately every $33,000 (2018 dollars) in ex-vessel revenue. These results contrast with the number of harvesters (vessels) with recorded landings of Spanish mackerel presented in **Table 3.3.1.2**.

**Table 3.3.1.4**. Average annual business activity (2014 through 2018) associated with the commercial harvest of Atlantic Spanish mackerel. All monetary estimates are in 2018 dollars.

| Species | Average Ex-vessel Value ($ thousands) | Total Jobs | Harvester Jobs | Output (Sales) Impacts ($ thousands) | Income Impacts ($ thousands) | Value Added ($ thousands) |
|---|---|---|---|---|---|---|
| Spanish mackerel | $3,961 | 507 | 120 | $39,282 | $14,426 | $20,382 |

Source: Calculated by NMFS SERO using the model developed for and applied in NMFS (2018).
Note: Converted to 2018 dollars using the annual, not seasonally adjusted GDP implicit price deflator provided by the U.S. Bureau of Economic Analysis.

## 3.3.2 Economic Description of the Recreational Sector

The recreational fishing sector is comprised of the private and for-hire modes. The private mode includes anglers fishing from shore (all land-based structures) and private/rental boats. The for-hire mode is composed of charter boats and headboats (also called party boats). Charter boats generally carry fewer passengers and charge a fee on an entire vessel basis, whereas

[5] A detailed description of the input/output model is provided in NMFS (2011).

headboats carry more passengers and payment is per person. The type of service, from a vessel- or passenger-size perspective, affects the flexibility to search different fishing locations during the course of a trip and target different species since larger concentrations of fish are required to satisfy larger groups of anglers.

**Permits**

A federal charter/headboat (for-hire) vessel permit is required for harvesting CMP species, including Spanish mackerel, when fishing on for-hire vessels. The South Atlantic for-hire permit is an open access system. As of Nov 14, 2019, there were 1,818 valid South Atlantic charter/headboat CMP permits. Although the for-hire permit application collects information on the primary method of operation, the resultant permit itself does not identify the permitted vessel as either a headboat or a charter boat. Operation as either a headboat or charter boat is not restricted by the permitting regulations and vessels may operate in both capacities. However, only selected headboats are required to submit harvest and effort information to the NMFS Southeast Region Headboat Survey (SRHS). Participation in the SRHS is based on determination by the SEFSC that the vessel primarily operates as a headboat. As of August 20, 2019, 65 South Atlantic headboats were registered in the SRHS (K. Fitzpatrick, NMFS SEFSC, pers. comm.). The majority of these headboats in the SRHS were located in Florida/Georgia (40), followed by North Carolina (14) and South Carolina (11).

There are no specific federal permitting requirements for recreational anglers to fish for or harvest Spanish mackerel. Instead, anglers are required to possess either a state recreational fishing permit that authorizes saltwater fishing in general, or be registered in the federal National Saltwater Angler Registry system, subject to appropriate exemptions. As a result, it is not possible to identify with available data how many individual anglers would be expected to be affected by this proposed amendment.

**Landings**

Atlantic Spanish mackerel is managed under a stock annual catch limit (ACL) that is specified and monitored in terms of landed weight (lw)[6], which is a combination of gutted and ww. This means landings in gw are not converted to ww, or vice-versa, but landings in whole or gw are simply added together to track landings against the ACL. On average, from 2014 through 2018, the recreational sector landed approximately one million lbs of Atlantic Spanish mackerel annually (**Figure 3.3.2.1**). North Carolina and East Florida/Georgia accounted for the majority of these landings. Recreational landings of Spanish mackerel tended to be the greatest from May through October during 2014 through 2018, with some exceptions (**Figure 3.3.2.2**).

[6] Landed weight is equivalent to "as reported."

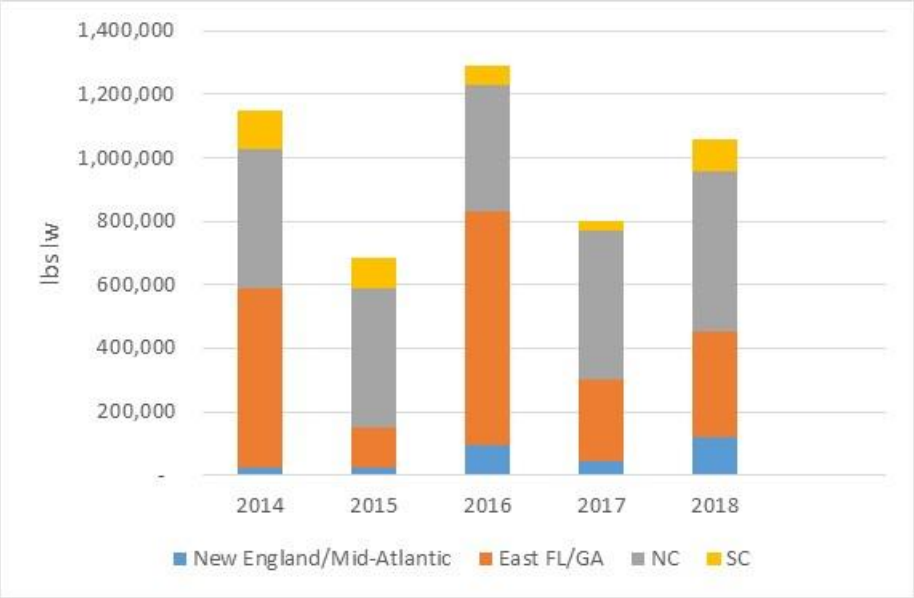


**Figure 3.3.2.1.** Recreational landings of Atlantic migratory group Spanish mackerel by state (2014 through 2018).
Source: SEFSC MRIP ACL data set (Nov 2019).
Notes: Some states are combined here to align with the way headboat landings were reported. All states north of North Carolina are grouped into the New England/Mid-Atlantic category.
Calendar year estimates are provided here to be consistent with other information presented in this section; however, because the Spanish mackerel fishing year does not align with the calendar year (it runs from Mar-Feb), these values will be somewhat different than fishing year estimates presented elsewhere.

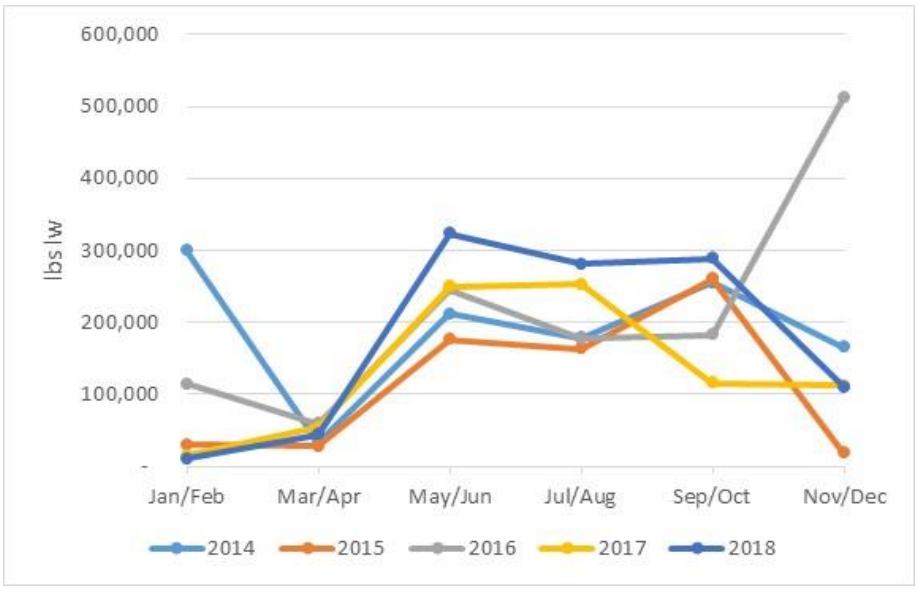


**Figure 3.3.2.2.** Distribution of Atlantic migratory group Spanish mackerel harvest (lbs lw for 2014 through 2018), by wave.
Source: SEFSC Recreational ACL file (Nov 2019)
Note: Calendar year estimates are provided here to be consistent with other information presented in this section; however, because the Spanish mackerel fishing year does not align with the calendar year (it runs from Mar-Feb), these values will be somewhat different than fishing year estimates presented elsewhere.

**Angler Effort**

Recreational effort derived from the Marine Recreational Information Program (MRIP) database can be characterized in terms of the number of trips as follows:

- Target effort - The number of individual angler trips, regardless of duration, where the intercepted angler indicated that the species or a species in the species group was targeted as either the first or the second primary target for the trip. The species did not have to be caught.
- Catch effort - The number of individual angler trips, regardless of duration and target intent, where the individual species or a species in the species group was caught. The fish did not have to be kept.
- Total recreational trips - The total estimated number of recreational trips, regardless of target intent or catch success.

Estimates of Atlantic Spanish mackerel target and catch effort are provided in **Table 3.3.2.1** and **Table 3.3.2.2**, respectively. It is important to note that in 2018, MRIP transitioned from the old Coastal Household Telephone Survey (CHTS) to a new mail-based fishing effort survey (FES). The estimates presented in **Table 3.3.2.1** and **Table 3.3.2.2** are calibrated to the FES and may be greater than estimates that are non-calibrated. The greatest number of Atlantic Spanish mackerel target trips, as estimated by MRIP, were recorded in North Carolina and the shore mode was the predominant mode of fishing on these trips (**Table 3.3.2.1**). The number of target trips for Atlantic Spanish mackerel remained mostly stable in North Carolina from 2014 through 2018 but fluctuated more heavily in Florida and South Carolina (**Table 3.3.2.1**). The greatest number of Atlantic Spanish mackerel catch trips, as estimated by MRIP, were recorded in Florida and the shore mode was the predominant mode of fishing on these trips as well (**Table 3.3.2.2)**. Although not shown in the tables, nearly all of the estimated New England/Mid-Atlantic target and catch trips from 2014 through 2018 occurred in Maryland and Virginia.

**Table 3.3.2.1**. Atlantic Spanish mackerel target trips, by mode and state, 2014 through 2018.

| | FL | GA | NC | SC | NEW ENGLAND / MID-ATLANTIC | Total |
|---|---|---|---|---|---|---|
| | **Shore Mode** | | | | | |
| 2014 | 525,617 | 8020 | 519768 | 254826 | 2,083 | 1,310,314 |
| 2015 | 370,320 | 0 | 429,890 | 412312 | 26,504 | 1,239,026 |
| 2016 | 447,848 | 10048 | 531083 | 215452 | 113,431 | 1,317,862 |
| 2017 | 231,087 | 29989 | 590,361 | 161363 | 669 | 1,013,469 |
| 2018 | 647,366 | 18923 | 486,637 | 282193 | 29,975 | 1,465,094 |
| Average | 444,448 | 13,396 | 511,548 | 265,229 | 34,532 | 1,269,153 |
| | **Charter Mode** | | | | | |
| 2014 | 908 | 0 | 13,144 | 7976 | 3,399 | 25,427 |
| 2015 | 0 | 0 | 9,507 | 4,158 | 19 | 13,684 |
| 2016 | 0 | 0 | 12,200 | 2,023 | 7,532 | 21,755 |
| 2017 | 1,432 | 1428 | 5,284 | 1,761 | 1,065 | 10,970 |
| 2018 | 0 | 685 | 10,944 | 14,382 | 2,371 | 28,382 |
| Average | 468 | 423 | 10,216 | 6,060 | 2,877 | 20,044 |
| | **Private/Rental Mode** | | | | | |
| 2014 | 86,582 | 1,147 | 274,086 | 28,030 | 35,353 | 425,198 |
| 2015 | 32,604 | 9,348 | 295,522 | 27,836 | 17,748 | 383,058 |
| 2016 | 62,723 | 992 | 283,192 | 69,332 | 57,118 | 473,357 |
| 2017 | 52,303 | 3881 | 272,385 | 56,410 | 36,881 | 421,860 |
| 2018 | 12,695 | 10,257 | 275,852 | 51,775 | 70,223 | 420,802 |
| Average | 49,381 | 5,125 | 280,207 | 46,677 | 43,465 | 424,855 |
| | **All Modes** | | | | | |
| 2014 | 613,107 | 9,167 | 806,998 | 290,832 | 40,835 | 1,760,939 |
| 2015 | 402,924 | 9,348 | 734,919 | 444,306 | 44,271 | 1,635,768 |
| 2016 | 510,571 | 11,040 | 826,475 | 286,807 | 178,081 | 1,812,974 |
| 2017 | 284,822 | 35,298 | 868,030 | 219,534 | 38,615 | 1,446,299 |
| 2018 | 660,061 | 29,865 | 773,433 | 348,350 | 102,569 | 1,914,278 |
| Average | 494,297 | 18,944 | 801,971 | 317,966 | 80,874 | 1,714,052 |

Source: MRIP database, SERO, NMFS.

Notes: Headboat data are unavailable in the South Atlantic. MRIP does capture headboat effort in New England and the Mid-Atlantic; however, there were a trivial number of estimated headboat Spanish mackerel target trips in those sub-regions during 2014 through 2018.

These estimates are based on the MRIP FES. Directed effort estimates that are calibrated to the new MRIP mail-based FES may be greater than non-calibrated estimates presented elsewhere.

**Table 3.3.2.2.** Atlantic Spanish mackerel catch trips, by mode and state, 2014 through 2018.

| | FL | GA | NC | SC | NEW ENGLAND / MID-ATLANTIC | Total |
|---|---|---|---|---|---|---|
| | **Shore Mode** | | | | | |
| 2014 | 291,803 | 6267 | 345051 | 87990 | 18,537 | 749,648 |
| 2015 | 84,397 | 779 | 134,611 | 180646 | 514 | 400,947 |
| 2016 | 597,709 | 10616 | 151886 | 135347 | 68,294 | 963,852 |
| 2017 | 512,139 | 8513 | 278,870 | 57470 | 8,361 | 865,353 |
| 2018 | 823,581 | 4734 | 311,130 | 129958 | 47,335 | 1,316,738 |
| Average | 461,926 | 6,182 | 244,310 | 118,282 | 28,608 | 859,308 |
| | **Charter Mode** | | | | | |
| 2014 | 5,147 | 324 | 21,411 | 13971 | 1,577 | 42,430 |
| 2015 | 2,585 | 0 | 21,177 | 9,142 | 11,118 | 44,022 |
| 2016 | 12,789 | 416 | 28,806 | 8,405 | 11,631 | 62,047 |
| 2017 | 5,681 | 3386 | 28,216 | 5,862 | 3,455 | 46,600 |
| 2018 | 6,410 | 2,187 | 31,126 | 27,715 | 12,232 | 79,670 |
| Average | 6,522 | 1,263 | 26,147 | 13,019 | 8,003 | 54,954 |
| | **Private/Rental Mode** | | | | | |
| 2014 | 396,396 | 7,255 | 179,700 | 34,065 | 32,464 | 649,880 |
| 2015 | 122,227 | 5,597 | 264,795 | 25,681 | 10,813 | 429,113 |
| 2016 | 76,469 | 1,223 | 227,733 | 25,317 | 41,796 | 372,538 |
| 2017 | 103,527 | 19988 | 194,889 | 17,281 | 43,693 | 379,378 |
| 2018 | 216,770 | 32,158 | 213,834 | 31,738 | 86,509 | 581,009 |
| Average | 183,078 | 13,244 | 216,190 | 26,816 | 43,055 | 482,384 |
| | **All Modes** | | | | | |
| 2014 | 693,346 | 13,846 | 546,162 | 136,026 | 52,578 | 1,441,958 |
| 2015 | 209,209 | 6,376 | 420,583 | 215,469 | 22,445 | 874,082 |
| 2016 | 686,967 | 12,255 | 408,425 | 169,069 | 121,721 | 1,398,437 |
| 2017 | 621,347 | 31,887 | 501,975 | 80,613 | 55,509 | 1,291,331 |
| 2018 | 1,046,761 | 39,079 | 556,090 | 189,411 | 146,076 | 1,977,417 |
| Average | 651,526 | 20,689 | 486,647 | 158,118 | 79,666 | 1,396,645 |

Source: MRIP database, SERO, NMFS.

Notes: Headboat data are unavailable in the South Atlantic. MRIP does capture headboat effort in New England and the Mid-Atlantic; however, there were a trivial number of estimated headboat Spanish mackerel catch trips in those sub-regions during 2014 through 2018.

These estimates are based on the MRIP FES. Directed effort estimates that are calibrated to the new MRIP mail-based FES may be greater than non-calibrated estimates presented elsewhere.

Similar analysis of recreational angler trips is not possible for the headboat mode because headboat data are not collected at the angler level. Estimates of effort by the headboat mode are

provided in terms of angler days, or the total number of standardized full-day angler trips.[7] Headboat effort in the South Atlantic, in terms of angler days, was stable in Florida through Georgia from 2014 through 2016, but then it dropped sharply in 2017 through 2018. In North Carolina and South Carolina, there were modest fluctuations in headboat effort during this time period (**Table 3.3.2.3**). Headboat effort was the highest, on average, during the summer months of June through August (**Table 3.3.2.4**).

**Table 3.3.2.3**. South Atlantic headboat angler days and percent distribution by state (2014 through 2018).

| | Angler Days | | | Percent Distribution | | |
|---|---|---|---|---|---|---|
| | **FL/GA*** | **NC** | **SC** | **FL/GA** | **NC** | **SC** |
| **2014** | 195,890 | 22691 | 42,025 | 75.17% | 8.71% | 16.13% |
| **2015** | 194,979 | 22716 | 39,702 | 75.75% | 8.83% | 15.42% |
| **2016** | 196,660 | 21565 | 42,207 | 75.51% | 8.28% | 16.21% |
| **2017** | 126,126 | 20170 | 36,914 | 68.84% | 11.01% | 20.15% |
| **2018** | 120,560 | 16813 | 37,611 | 68.90% | 9.61% | 21.49% |
| **Average** | 166,843 | 20,791 | 39,692 | 73% | 9% | 18% |

*East Florida and Georgia are combined for confidentiality purposes.
Source: NMFS Southeast Region Headboat Survey (SRHS).

**Table 3.3.2.4**. South Atlantic headboat angler days and percent distribution by month (2014 through 2018).

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Headboat Angler Days** | | | | | | | | | | | |
| **2014** | 8,748 | 13,512 | 19,808 | 22,570 | 25,764 | 39,115 | 44,066 | 32,886 | 15,203 | 15,235 | 9,088 | 14,611 |
| **2015** | 12,661 | 11,148 | 21,842 | 25,128 | 25,172 | 36,907 | 42,558 | 30,772 | 15,649 | 13,375 | 9,623 | 12,562 |
| **2016** | 9,818 | 12,243 | 23,872 | 22,217 | 27,374 | 37,454 | 45,744 | 29,223 | 17,061 | 9,202 | 12,820 | 13,404 |
| **2017** | 7,693 | 10,066 | 13,382 | 17,448 | 19,377 | 27,050 | 33,356 | 21,037 | 6,684 | 8,928 | 8,929 | 9,260 |
| **2018** | 4,428 | 9,862 | 14,080 | 15,167 | 13,264 | 29,038 | 30,235 | 26,233 | 9,715 | 8,072 | 7,673 | 7,217 |
| **Avg** | 8,670 | 11,366 | 18,597 | 20,506 | 22,190 | 33,913 | 39,192 | 28,030 | 12,862 | 10,962 | 9,627 | 11,411 |
| | **Percent Distribution** | | | | | | | | | | | |
| **2014** | 3% | 5% | 8% | 9% | 10% | 15% | 17% | 13% | 6% | 6% | 3% | 6% |
| **2015** | 5% | 4% | 8% | 10% | 10% | 14% | 17% | 12% | 6% | 5% | 4% | 5% |
| **2016** | 4% | 5% | 9% | 9% | 11% | 14% | 18% | 11% | 7% | 4% | 5% | 5% |
| **2017** | 4% | 5% | 7% | 10% | 11% | 15% | 18% | 11% | 4% | 5% | 5% | 5% |
| **2018** | 3% | 6% | 8% | 9% | 8% | 17% | 17% | 15% | 6% | 5% | 4% | 4% |
| **Avg** | 4% | 5% | 8% | 9% | 10% | 15% | 17% | 12% | 6% | 5% | 4% | 5% |

Source: NMFS Southeast Region Headboat Survey (SRHS).

[7] Headboat trip categories include half-, three-quarter-, full-, and 2-day trips. A full-day trip equals one angler day, a half-day trip equals .5 angler days, etc. Angler days are not standardized to an hourly measure of effort and actual trip durations may vary within each category.

**Economic Value**

Participation, effort, and harvest are indicators of the value of saltwater recreational fishing. However, a more specific indicator of value is the satisfaction that anglers experience over and above their costs of fishing. The monetary value of this satisfaction is referred to as consumer surplus (CS). The value or benefit derived from the recreational experience is dependent on several quality determinants, which include fish size, catch success rate, and the number of fish kept. These variables help determine the value of a fishing trip and influence total demand for recreational fishing trips.

Haab et al. (2012) estimated the CS for catching and keeping one additional Spanish mackerel in the Southeastern U.S. using four separate econometric modeling techniques. Of the four models, only the finite mixture model, which takes into account variation in the preferences of anglers, produced a positive value for Spanish mackerel. The CS estimate for Spanish mackerel from the finite mixture model was $18.38 (2018 dollars) with a 95% confidence interval of $5.66 to $33.93. The other logit-based models from the study produced CS estimates that ranged from negative $14.14 (2018 dollars) to negative $8.48, a result of anglers avoiding fishing locations where Spanish mackerel are prevalent.

The foregoing estimates of economic value should not be confused with economic impacts associated with recreational fishing expenditures. Although expenditures for a specific good or service may represent a proxy or lower bound of value (a person would not logically pay more for something than it was worth to them), they do not represent the net value (benefits minus cost), nor the change in value associated with a change in the fishing experience.

With regards to for-hire businesses, economic value can be measured by producer surplus (PS) per passenger trip (the amount of money that a vessel owner earns in excess of the cost of providing the trip). Estimates of the PS per for-hire passenger trip are not available. Instead, trip net revenue (TNR), which is the return used to pay all labor wages, returns to capital, and owner profits, is used as a proxy for PS. For the South Atlantic region, estimated TNR values are $172 (2018 dollars) per charter angler trip and $46 per headboat angler trip (C. Liese, NMFS SEFSC, pers. comm.). Holland et al. (2012) estimated average annual gross revenue for charter vessels and headboats operating in the South Atlantic at $123,000 and $218,000 (2018 dollars), respectively. Estimates of average annual producer surplus or profits are not available.

**Business Activity**

The desire for recreational fishing generates economic activity as consumers spend their income on various goods and services needed for recreational fishing. This spurs economic activity in the region where recreational fishing occurs. It should be clearly noted that, in the absence of the opportunity to fish, the income would presumably be spent on other goods and services and these expenditures would similarly generate economic activity in the region where the expenditure occurs. As such, the analysis below represents a distributional analysis only.

Estimates of the business activity (economic impacts) associated with recreational angling for Atlantic Spanish mackerel were calculated using average trip-level impact coefficients and expenditures data provided by the National Oceanic and Atmospheric Administration (NOAA) Office of Science and Technology (S. Lovell, NMFS, pers. comm.). Economic impact estimates

were adjusted to 2018 dollars using the annual, not seasonally adjusted GDP implicit price deflator provided by the U.S. Bureau of Economic Analysis.

Business activity (economic impacts) for the recreational sector is characterized in the form of jobs (full- and part-time), income impacts (wages, salaries, and self-employed income), output impacts (gross business sales), and value-added impacts (contribution to the GDP in a state or region). Estimates of the average annual economic impacts (2014-2018) resulting from Atlantic Spanish mackerel target trips are provided in **Table 3.3.2.5**. The average impact coefficients, or multipliers, used in the model are invariant to the "type" of effort and can therefore be directly used to measure the impact of other effort measures such as snapper grouper catch trips. To calculate the multipliers from **Table 3.3.2.5**, simply divide the desired impact measure (sales impact, value-added impact, income impact or employment) associated with a given state and mode by the number of target trips for that state and mode.

The estimates provided in **Table 3.3.2.5** only apply at the state-level. Addition of the state-level estimates to produce a regional (or national) total may underestimate the actual amount of total business activity, because state-level impact multipliers do not account for interstate and interregional trading. It is also important to note, that these economic impacts estimates are based on trip expenditures only and do not account for durable expenditures. Durable expenditures cannot be reasonably apportioned to individual species or species groups. As such, the estimates provided in **Table 3.3.2.5** may be considered a lower bound on the economic activity associated with those trips that targeted Atlantic Spanish mackerel.

Estimates of the business activity associated with headboat effort are not available. Headboat vessels are not covered in MRIP in the South Atlantic, so, in addition to the absence of estimates of target effort, estimation of the appropriate business activity coefficients for headboat effort has not been conducted. MRIP does capture headboat effort in New England and the Mid-Atlantic; however, there were a trivial number of estimated headboat Spanish mackerel target trips in those sub-regions during 2014 through 2018.

**Table 3.3.2.5**. Estimated annual average economic impacts (2014 through 2018) from Atlantic Spanish mackerel target trips, by state and mode, using state-level multipliers. All monetary estimates are in 2018 dollars (in thousands).

| | NC | SC | GA | FL | MD | VA |
|---|---|---|---|---|---|---|
| | **Charter Mode** | | | | | |
| Target Trips | 10,216 | 6,060 | 423 | 468 | 602 | 2,273 |
| Value Added Impacts | $4,224 | $1,450 | $78 | $108 | $100 | $598 |
| Sales Impacts | $7,337 | $2,519 | $132 | $181 | $163 | $1,010 |
| Income Impacts | $2,485 | $837 | $45 | $64 | $63 | $336 |
| Employment (Jobs) | 76 | 28 | 1 | 2 | 2 | 11 |
| | **Private/Rental Mode** | | | | | |
| Target Trips | 280,207 | 46,677 | 5,125 | 49,381 | 19,433 | 23,842 |
| Value Added Impacts | $8,571 | $1,068 | $125 | $1,335 | $515 | $739 |
| Sales Impacts | $14,171 | $1,639 | $189 | $1,991 | $815 | $1,145 |
| Income Impacts | $4,944 | $503 | $61 | $659 | $301 | $403 |
| Employment (Jobs) | 138 | 21 | 3 | 20 | 8 | 10 |
| | **Shore** | | | | | |
| Target Trips | 511,548 | 265,229 | 13,396 | 444,448 | 0 | 34,116 |
| Value Added Impacts | $31,622 | $12,558 | $462 | $9,474 | $0 | $958 |
| Sales Impacts | $52,002 | $19,838 | $748 | $13,985 | $0 | $1,458 |
| Income Impacts | $18,303 | $6,653 | $247 | $4,795 | $0 | $551 |
| Employment (Jobs) | 519 | 217 | 9 | 139 | 0 | 13 |
| | **All Modes** | | | | | |
| Target Trips | 801,971 | 317,966 | 18,944 | 494,297 | 20,034 | 60,231 |
| Value Added Impacts | $44,417 | $15,075 | $665 | $10,916 | $616 | $2,295 |
| Sales Impacts | $73,510 | $23,996 | $1,070 | $16,157 | $978 | $3,613 |
| Income Impacts | $25,732 | $7,993 | $352 | $5,518 | $364 | $1,290 |
| Employment (Jobs) | 734 | 267 | 12 | 160 | 10 | 34 |

Source: effort data from MRIP; economic impact results calculated by NMFS SERO using data provided by the NOAA Office of Science and Technology (S. Lovell, NMFS, pers. comm.).
Note: Maryland and Virginia accounted for 99% of estimated Spanish mackerel target trips in New England and the Mid-Atlantic during 2014 through 2018.

## 3.4 Social Environment

### Participation in the Commercial Atlantic Spanish Mackerel Fishery

Because this framework amendment only proposes changes to the commercial regulations for Spanish mackerel, this section focuses on the communities that are the most likely to be affected by regulatory changes to the commercial fishery for Spanish mackerel. In addition, the proposed action in this amendment would primarily affect commercial fishermen harvesting Spanish mackerel in the federal waters off North Carolina, South Carolina, Georgia, and the east coast of Florida (excluding Monroe County). However, some Spanish mackerel commercial fishermen in

Mid-Atlantic could also be affected, so data below includes a description of the top commercial Spanish mackerel counties and communities in the South Atlantic and Northeast regions, which are summarized below.

**Table 3.4.1.1.** Number of commercial Spanish mackerel permits by state and region.

| State | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|
| Northeast | | | | | |
| Maine | 3 | 3 | 2 | 3 | 4 |
| Connecticut | 0 | 0 | 1 | 1 | 1 |
| Massachusetts | 7 | 5 | 5 | 5 | 5 |
| Rhode Island | 1 | 1 | 0 | 2 | 2 |
| Mid-Atlantic | | | | | |
| New York | 6 | 7 | 6 | 7 | 10 |
| New Jersey | 34 | 33 | 35 | 37 | 38 |
| Pennsylvania | 1 | 1 | 1 | 1 | 0 |
| Delaware | 1 | 1 | 1 | 1 | 2 |
| Maryland | 9 | 8 | 10 | 10 | 11 |
| Virginia | 16 | 18 | 21 | 20 | 19 |
| South Atlantic | | | | | |
| North Carolina | 264 | 304 | 317 | 340 | 347 |
| South Carolina | 14 | 23 | 42 | 53 | 56 |
| Georgia | 10 | 15 | 17 | 18 | 19 |
| Florida* | 801 | 822 | 837 | 832 | 852 |
| Grand Total | 1167 | 1241 | 1295 | 1330 | 1366 |

Source: 2019 Southeast Regional Office Permit Database

*Excludes Monroe County and the Florida West Coast

There were 1366 commercial Spanish mackerel permits associated with the CMP fishery for states along Atlantic Coast, excluding Monroe County in Florida in 2018 (**Table 3.4.1**). This is an increase over the past five years as there were 1167 in 2014 with a steady increase for most states through 2018. The South Atlantic Region has the most Spanish mackerel permits with Florida having more than twice as many as the next state, North Carolina. In the Mid-Atlantic Region, New Jersey has the most permits with Virginia second and in the Northeast it is Massachusetts with the most permits, however there are far fewer permits in either region compared to the South Atlantic.

*Commercial Spanish Mackerel Communities in the Atlantic*

The top 20 communities with Spanish mackerel permits in the South Atlantic Region are ranked by the number of permits in 2018 in **Figure 3.4.2**. Miami, FL leads all communities throughout the time series with Fort Pierce, FL ranked second in 2018. Port Canaveral, FL is third, although Jupiter, FL was ranked higher in previous years. While Florida communities hold the top six positions, the North Carolina communities of Southport, Morehead City, Beaufort, Hatteras, and Wanchese are next respectively. The South Carolina community of Murrells Inlet ranks twelfth.

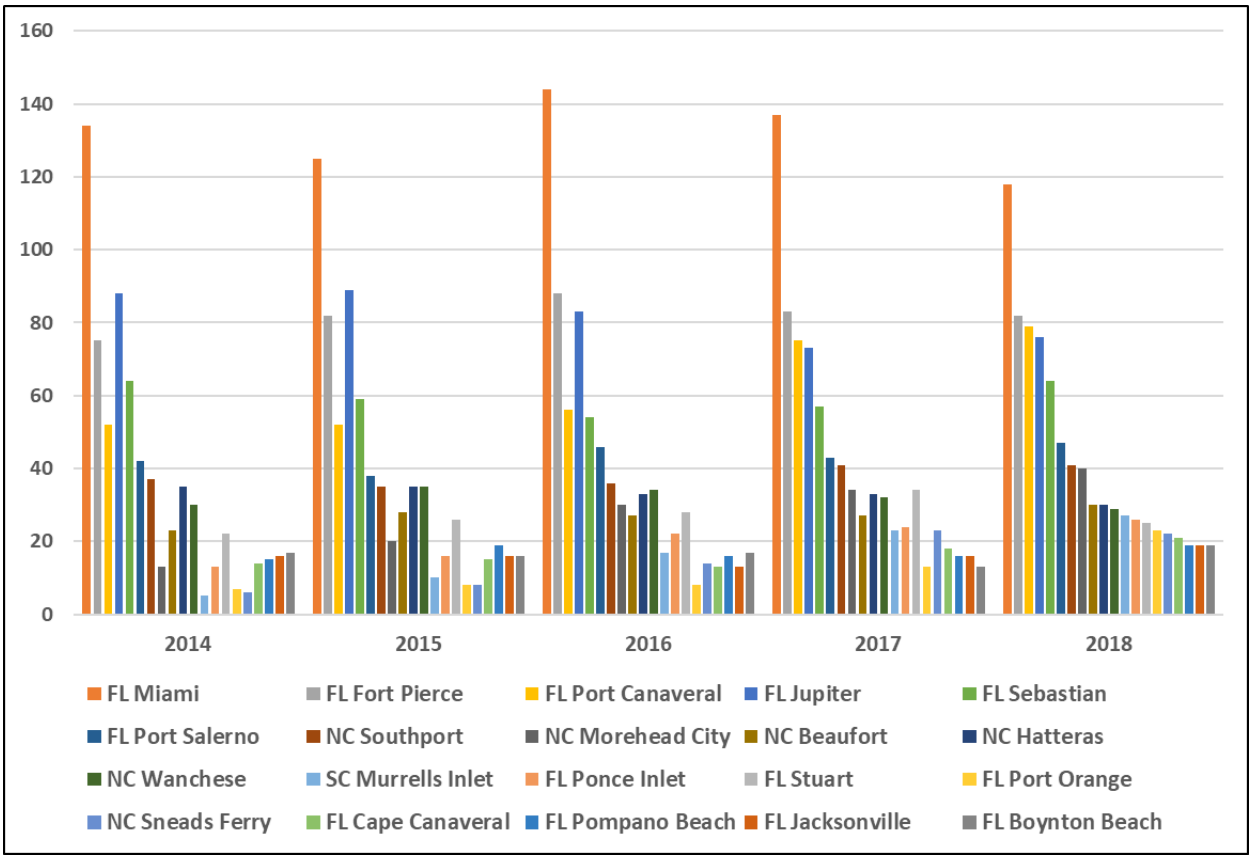


**Figure 3.4.1.** Top 20 communities with Spanish mackerel permits 2014 through 2018, ranked by 2018.
Source: 2019 Southeast Regional Office Permit Database

The top communities in the Northeast in terms of number of Spanish Mackerel permits are displayed in **Figure 3.4.2**. Barnegat Light, NJ has the most, with Ocean City, MD next and Cape May, NJ third. The number of Spanish Mackerel permits has remained relatively stable over time with Point Pleasant, NJ seeing the largest reduction in number over time.

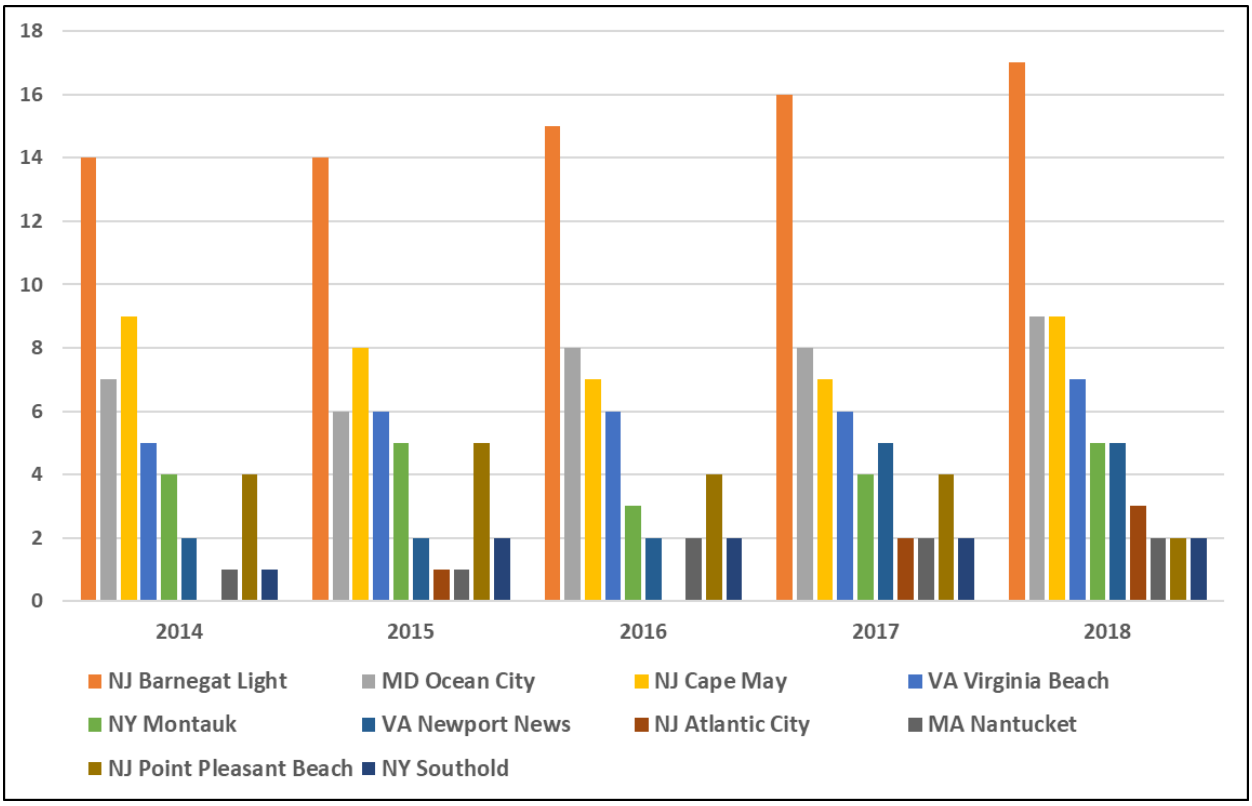


**Figure 3.4.2.** Top 10 Mid-Atlantic and Northeast communities with Spanish mackerel permits 2014 through 2018, ranked by 2018.
Source: 2019 Southeast Regional Office Permit Database

*Regional Quotient*

The descriptions in this section include information about the top counties based upon a regional quotient of commercial landings for Spanish mackerel (**Figure 3.4.3**). To identify key counties associated with the Spanish mackerel commercial fishery, a 'regional quotient' (RQ) is calculated based on the pounds of king mackerel commercial landings divided by the amount of king mackerel landings regionally (Monroe County landings are excluded). Martin County in Florida out paces other counties with Palm Beach County second in only the most recent year. St. Lucie County has ranked second for all prior years until 2018. It is only in 2014 when any county ranks ahead of any Florida County, when Dare County, North Carolina Is ranked fourth ahead of Brevard County, Florida.

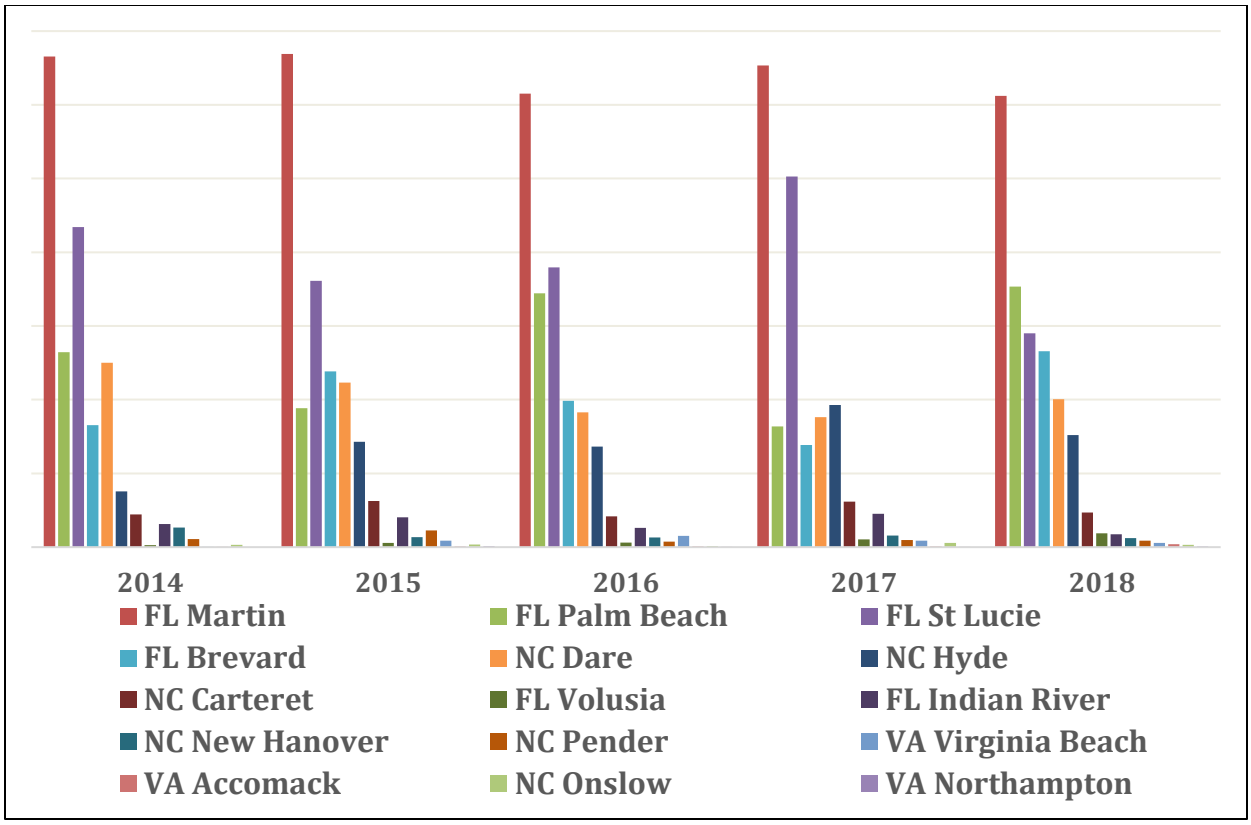


**Figure 3.4.3.** Top 15 Counties with Spanish mackerel landings 2014 through 2018 ranked by regional quotient in 2018.
Source: 2019 ACCSP data warehouse (M. Rinaldi, ACCSP, pers. comm.)

*Engagement and Reliance with Commercial Fishing*

The reliance and engagement indices provide information on how a community is involved overall with commercial fishing. The primary communities in the Spanish mackerel fishery with substantial commercial fishing reliance and/or engagement in the Southeast (communities with engagement or reliance values above one standard deviation from the mean) include Cape Canaveral, Fort Pierce, Jacksonville, Jupiter, Miami, Pompano Beach, Port Canaveral, Port Orange, Port Salerno, Sebastian, and Stuart in Florida; Beaufort, Hatteras, Morehead City, Southport and Wanchese in North Carolina; and Murrells Inlet, South Carolina (**Figure 3.4.4**). All communities in North Carolina, except for Morehead City are both highly engaged and reliant on commercial fishing.

Communities in the Northeast (**Figure 3.4.5**) that are highly engaged in commercial fishing include Ocean City in Maryland; Atlantic City, Barnegat Light, and Cape May in New Jersey; Montauk in New York; and Newport News in Virginia. The communities of Barnegat Light, Cape May and Montauk also show high reliance on commercial fishing.

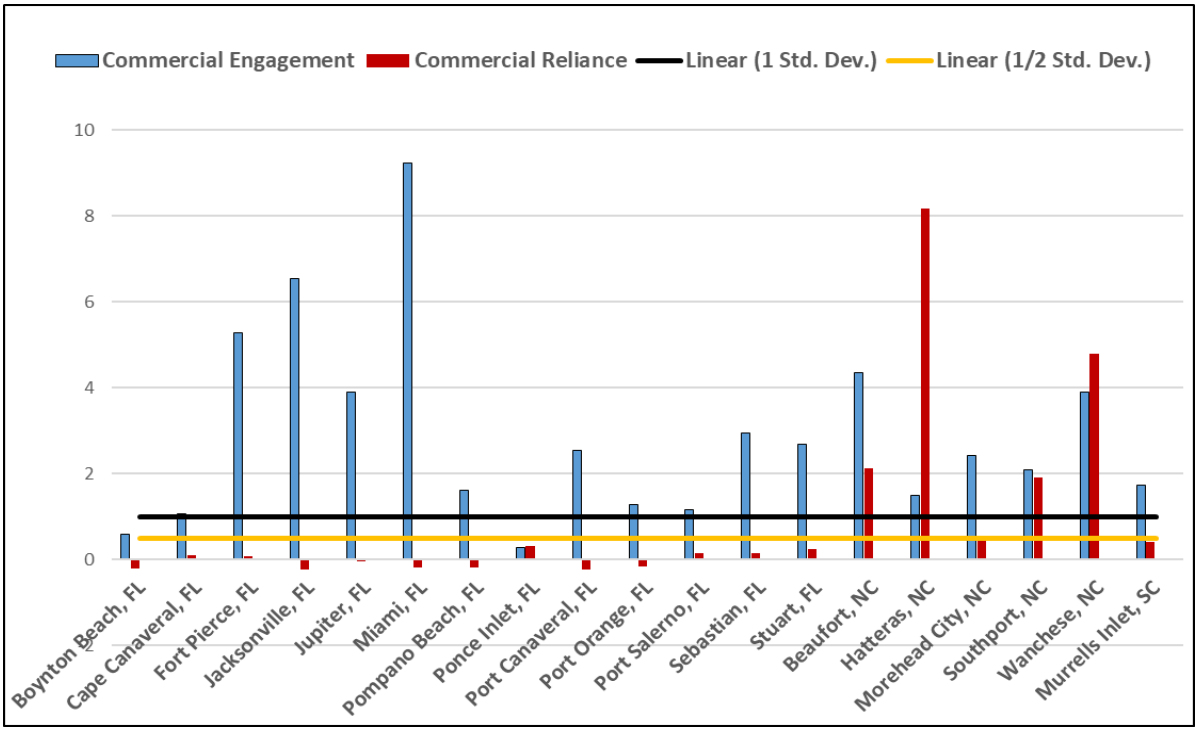


**Figure 3.4.4.** South Atlantic Spanish mackerel communities commercial fishing engagement and reliance scores.
Source: SERO 2019 Social Indicator Database

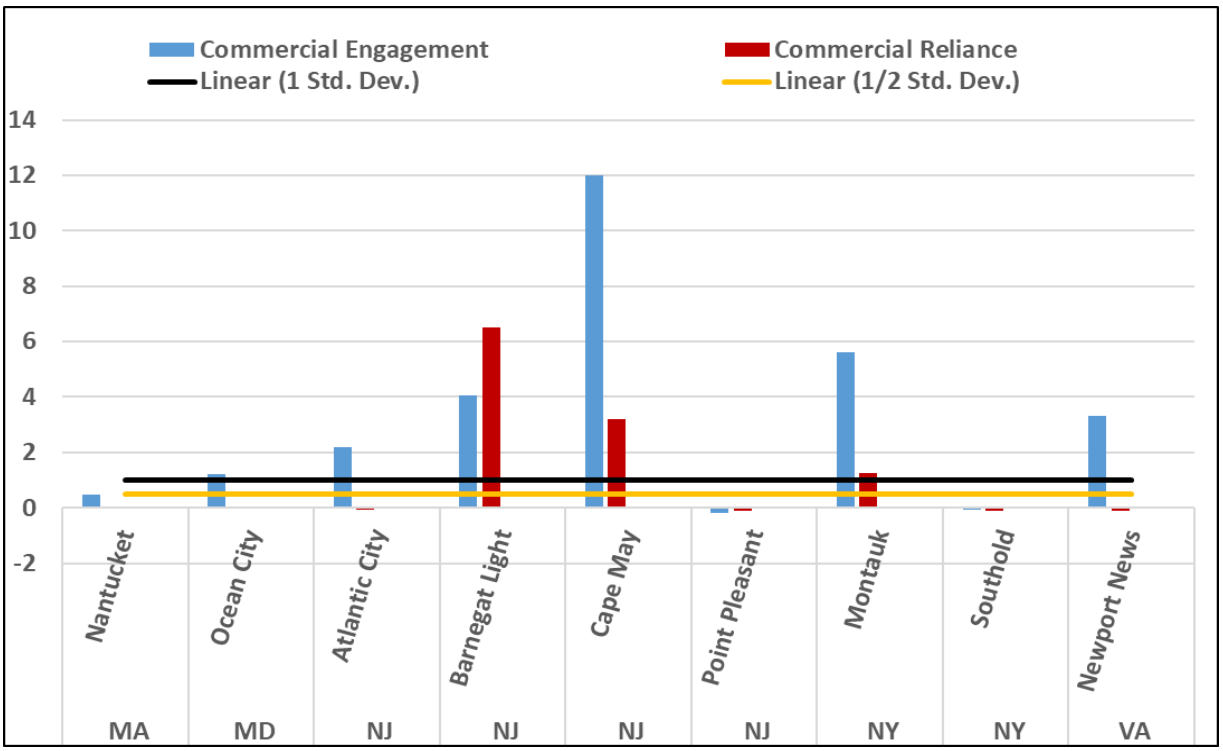


**Figure 3.4.5.** Mid-Atlantic and Northeast Spanish mackerel communities commercial fishing engagement and reliance scores.
Source: NEFSC 2019 Social Indicator Database

## 3.4.1 Environmental Justice Considerations

Executive Order 12898 requires federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. This executive order is generally referred to as environmental justice (EJ).

To evaluate EJ considerations for the proposed actions, analysis was completed utilizing a suite of indices created to examine the social vulnerability of coastal communities and is shown in **Figures 3.4.1.1 and 3.4.1.2**. The three indices are poverty, population composition, and personal disruptions. The variables included in each of these indices have been identified through the literature as being important components that contribute to a community's vulnerability. Indicators such as increased poverty rates for different groups; more single female-headed households; more households with children under the age of 5; and disruptions like higher separation rates, higher crime rates, and unemployment all are signs of populations having vulnerabilities. The data used to create these indices are from the American Community Survey estimates at the U.S. Census Bureau. The thresholds of 1 and 0.5 standard deviation are the same for these standardized indices. For those communities that exceed both thresholds for all indices, it would be expected that they are exhibiting vulnerabilities to sudden changes or social disruption that might accrue from regulatory change.

Similar to the reliance index discussed previously, the vulnerability indices also use normalized factor scores. Comparison of vulnerability scores is relative, but the score is related to the percent of communities with similar attributes. The social vulnerability indices provide a way to gauge change over time with these communities but also provides a comparison of one community with another.

With regard to social vulnerabilities, the following South Atlantic communities exceed the threshold of 0.5 standard deviation for at least one of the social vulnerability indices (**Figure 3.4.1.1**): Boynton Beach, Fort Pierce, Miami, and Pompano Beach in Florida; and Beaufort and Morehead City in North Carolina. The Florida communities of Fort Pierce and Miami exceed the thresholds on all three social vulnerability indices above the one standard deviation threshold. These communities are expressing substantial vulnerabilities and may be susceptible to further effects from any regulatory change depending upon the direction and extent of that change.

With regard to social vulnerabilities in the Northeast, only Atlantic City, New Jersey and Newport News, Virginia exceed the threshold of 0.5 standard deviation for at least one of the social vulnerability indices (**Figure 3.4.1.2**). However, Atlantic City exceeds the both thresholds for all three indices and therefore exhibits substantial vulnerabilities.

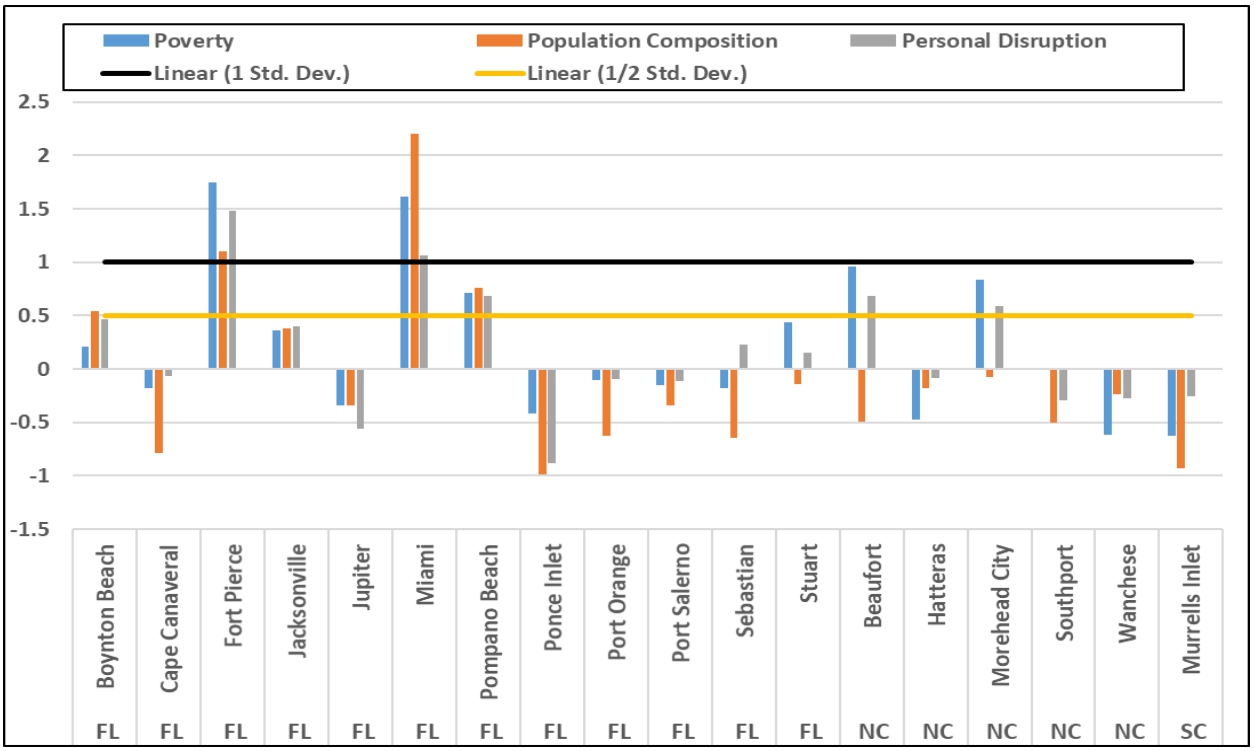


**Figure 3.4.1.1** Social vulnerability indices for communities with the top number of permits for Spanish mackerel in the South Atlantic.
Source: SERO Social Indicator Database 2019

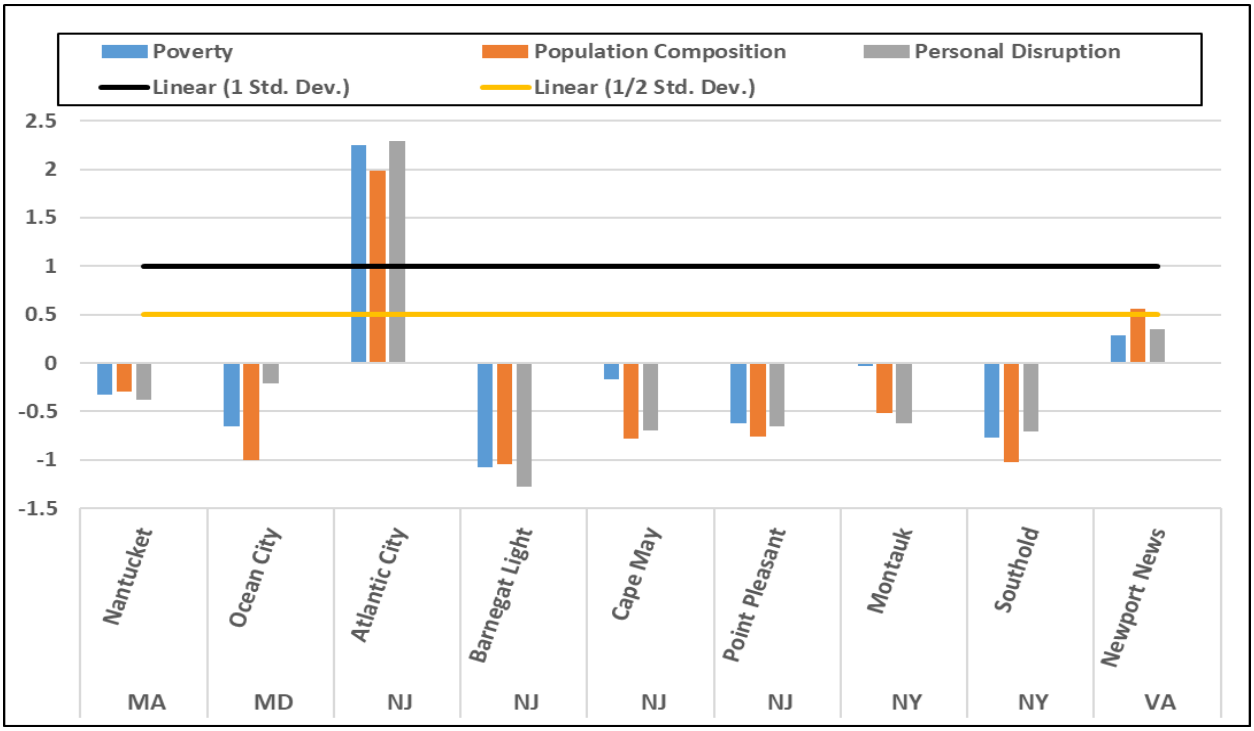


**Figure 3.4.1.2** Social vulnerability indices for communities with the top number of permits for Spanish mackerel in the Mid-Atlantic and Northeast.
Source: SERO Social Indicator Database 2019

Although some communities expected to be affected by this proposed action may have minority or economic profiles that exceed the EJ thresholds and, therefore, may constitute areas of concern, significant EJ issues are not expected to arise as a result of this proposed amendment. No adverse human health or environmental effects are expected to accrue from this proposed amendment, nor are these measures expected to result in an increased risk of exposure of affected individuals to adverse health hazards. The proposed management measure would apply to all participants in the affected area, regardless of minority status or income level, and information is not available to suggest that minorities or lower income persons are, on average, more dependent on the affected species than non-minority or higher income persons.

Finally, the general participatory process used in the development of fishery management measures (e.g., public hearings, advisory panel meetings, and open South Atlantic and Gulf Council meetings) provided sufficient opportunity for meaningful involvement by potentially affected individuals to participate in the development process of this action and have their concerns factored into the decision process. Public input from individuals who participate in the fishery has been considered and incorporated into management decisions throughout development of the action.

## 3.5 Administrative Environment

Federal fishery management is conducted under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (16 U.S.C. 1801 et seq.), originally enacted in 1976 as the Fishery Conservation and Management Act. The Magnuson-Stevens Act claims sovereign rights and exclusive fishery management authority over most fishery resources within the EEZ, an area extending 200 nautical miles from the seaward boundary of each of the coastal states, and authority over U.S. anadromous species and continental shelf resources that occur beyond the EEZ.

Responsibility for federal fishery management decision-making is divided between the Secretary of Commerce (Secretary) and eight regional fishery management councils that represent the expertise and interests of constituent states. Regional councils are responsible for preparing, monitoring, and revising management plans for fisheries needing management within their jurisdiction. The Secretary is responsible for promulgating regulations to implement proposed plans and amendments after ensuring that management measures are consistent with the Magnuson-Stevens Act, and with other applicable laws summarized in Appendix B. In most cases, the Secretary has delegated this authority to NMFS.

The Gulf Council is responsible for fishery resources in federal waters of the Gulf. These waters extend to 200 nautical miles offshore from the nine-mile seaward boundary of the Florida and Texas, and the three-mile seaward boundary of the Alabama, Mississippi, and Louisiana; however, a bill signed by the U.S. President in December 2016 extended the seaward boundary of state waters for Alabama, Mississippi, and Louisiana to nine miles until October 2016. The Council consists of 17 voting members: 11 public members appointed by the Secretary; one each from the fishery agencies of Texas, Louisiana, Mississippi, Alabama, and Florida; and one from NOAA Fisheries.

The South Atlantic Council is responsible for conservation and management of fishery resources in federal waters of the U.S. South Atlantic. These waters extend from 3 to 200 miles offshore from the seaward boundary of the states of North Carolina, South Carolina, Georgia, and east Florida to Key West. The Council has thirteen voting members: one from NOAA Fisheries Service; one each from the state fishery agencies of North Carolina, South Carolina, Georgia, and Florida; and eight public members appointed by the Secretary. Non-voting members include representatives of the U.S. Fish and Wildlife Service, USCG, and Atlantic States Marine Fisheries Commission (ASMFC).

The Mid-Atlantic Council has two voting seats on the South Atlantic Council's Mackerel Committee but does not vote during Council sessions. The Mid-Atlantic Council is responsible for fishery resources in federal waters off New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, and North Carolina, but has delegated management of CMP species to the South Atlantic Council.

The Councils use Scientific and Statistical Committees to review the data and science being used in assessments and fishery management plans/amendments. Regulations contained within FMPs are enforced through actions of the NOAA's Office for Law Enforcement, the USCG, and various state authorities.

The public is involved in the fishery management process through participation at public meetings, on advisory panels and through council meetings that, with few exceptions for discussing personnel matters, are open to the public. The regulatory process is in accordance with the Administrative Procedures Act, in the form of "notice and comment" rulemaking, which provides extensive opportunity for public scrutiny and comment, and requires consideration of and response to those comments.

### 3.5.2 State Fishery Management

The purpose of state representation at the Council level is to ensure state participation in federal fishery management decision-making and to promote the development of compatible regulations in state and federal waters. The state governments have the authority to manage their respective state fisheries including enforcement of fishing regulations. Each of the eight states exercises legislative and regulatory authority over their states' natural resources through discrete administrative units. Although each agency listed below is the primary administrative body with respect to the state's natural resources, all states cooperate with numerous state and federal regulatory agencies when managing marine resources.

The states are also involved through the Gulf of Mexico Marine Fisheries Commission (GSMFC) and the ASMFC in management of marine fisheries. These commissions were created to coordinate state regulations and develop management plans for interstate fisheries.

NMFS' State-Federal Fisheries Division is responsible for building cooperative partnerships to strengthen marine fisheries management and conservation at the state, inter-regional, and national levels. This division implements and oversees the distribution of grants for two national (Inter-jurisdictional Fisheries Act and Anadromous Fish Conservation Act) and two regional (Atlantic Coastal Fisheries Cooperative Management Act and Atlantic Striped Bass Conservation

Act) programs. Additionally, it works with the commissions to develop and implement cooperative State-Federal fisheries regulations.

More information about these agencies can be found from the following web pages:
Texas Parks & Wildlife Department – http://www.tpwd.state.tx.us
Louisiana Department of Wildlife and Fisheries http://www.wlf.louisiana.gov/
Mississippi Department of Marine Resources http://www.dmr.state.ms.us/
Alabama Department of Conservation and Natural Resources https://www.outdooralabama.com/
Florida Fish and Wildlife Conservation Commission http://www.myfwc.com
Georgia Department of Natural Resources, Coastal Resources Division https://coastalgadnr.org/
South Carolina Department of Natural Resources http://www.dnr.sc.gov/
North Carolina Department of Environmental Quality http://deq.nc.gov/

# Chapter 4. Environmental Effects

## 4.1 Action. Modify the commercial trip limit for Atlantic migratory group Spanish mackerel in the Northern Zone.

| Alternatives* |
| --- |
| **1.** Northern Zone: 3,500-pounds. |
| **2. Reduce the commercial trip limit for Spanish mackerel in the Northern Zone**<br>**2a.** 2,500-pounds<br>**2b. 2,000-pounds**<br>**2c.** 1,500-pounds |
| ***Preferred indicated in bold. Refer to Chapter 2 for detailed language of alternatives. |

### 4.1.1 Biological Effects

**Alternative 1 (No Action)** would maintain the existing commercial trip limit of 3,500 pounds (lb) whole weight (ww) or gutted weight (gw) in the Northern Zone for Atlantic migratory group Spanish mackerel (Atlantic Spanish mackerel). **Alternative 2** and its sub-alternatives would reduce the trip limit for the Northern Zone to 2,500 lbs ww or gw (**Sub-alternative 2a**), 2,000 lbs ww or gw, (**Preferred Sub-alternative 2b**), or 1,500 lbs ww or gw, (**Sub-alternative 2c**), which would potentially reduce the rate of harvest during the fishing year. There would be no anticipated direct biological effects on the stock under **Alternative 1 (No Action)** and **Preferred Alternative 2** and the sub-alternatives since overall commercial harvest would be limited to the zone quotas and the annual catch limit (ACL)), and accountability measures (AM) would be triggered if the quotas or ACL were reached.

Peak commercial harvest for Atlantic Spanish mackerel in the Northern Zone occurs from April through November (**Figure 4.1.1.1**). The majority of the commercial trips harvested 500 lbs or less per trip (87.0%) and 98.5% of the trips harvested 1,500 pounds or less per trip (**Figure 4.1.1.2**). Analyses indicate an in-season closure for Atlantic Spanish mackerel in the Northern Zone would still occur under all proposed alternatives during the month of October (**Table 4.1.1.1)**. Further, differences in the projected closure dates among the alternatives and sub-alternatives considered under this action are minor. According to the projected closure dates, the trip limit under **Alternative 1 (No Action)** would impose the earliest closure date of October 8th, followed by **Sub-alternative 2a** (October 9th), **Preferred Sub-alternative 2b** (October 10th), with **Sub-alternative 2c** imposing the latest closure date on October 13th. Hence, there is no expected difference in biological effects in terms of overall harvest relative to **Alternative 1 (No Action)**.[8]

[8] Projected closure dates used in the trip limit analysis are based on final landings data ranging from 2014-2018 (see Appendix D). Atlantic Spanish mackerel in 2019 closed earlier (August 24) then the previous two years (November 7 and November 4 in 2017 and 2018, respectively). Including 2019 landings into the analysis would likely change the projected closure date, but the analysis in Appendix D did not include 2019 landings as the landings are preliminary.

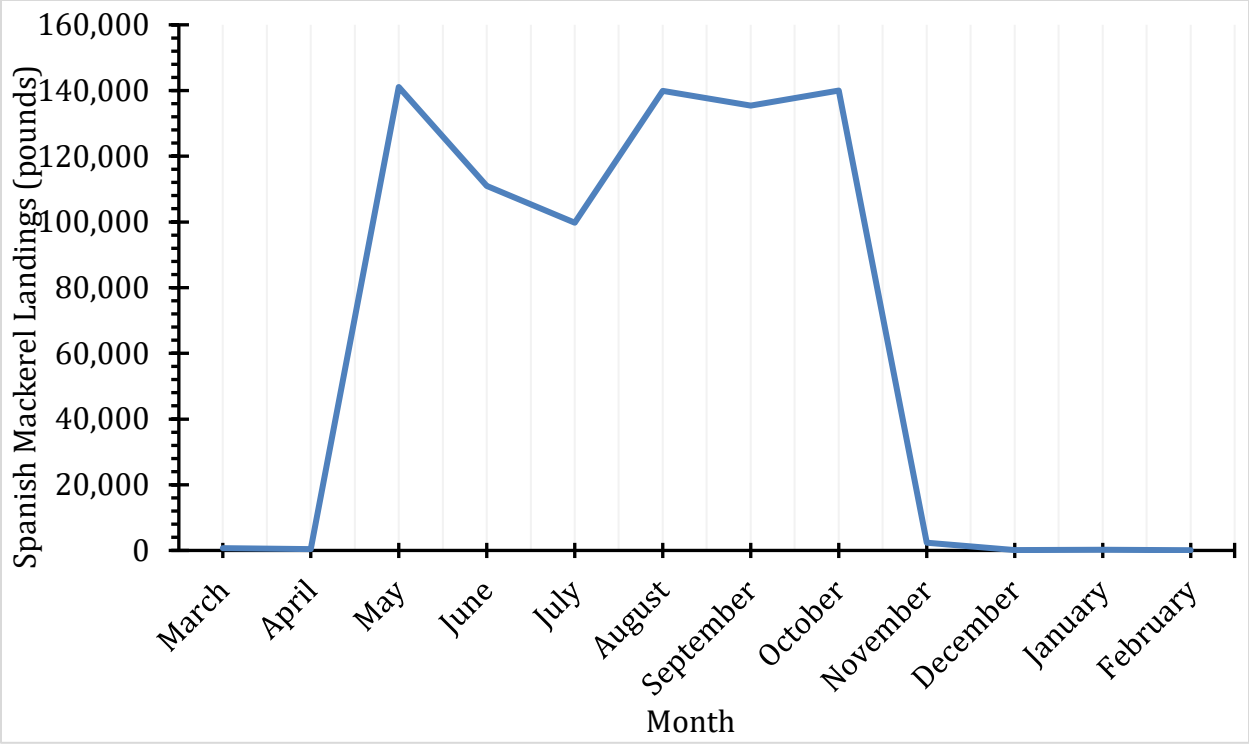


**Figure 4.1.1.1.** Predicted Northern Zone Atlantic Spanish mackerel commercial landings by month.

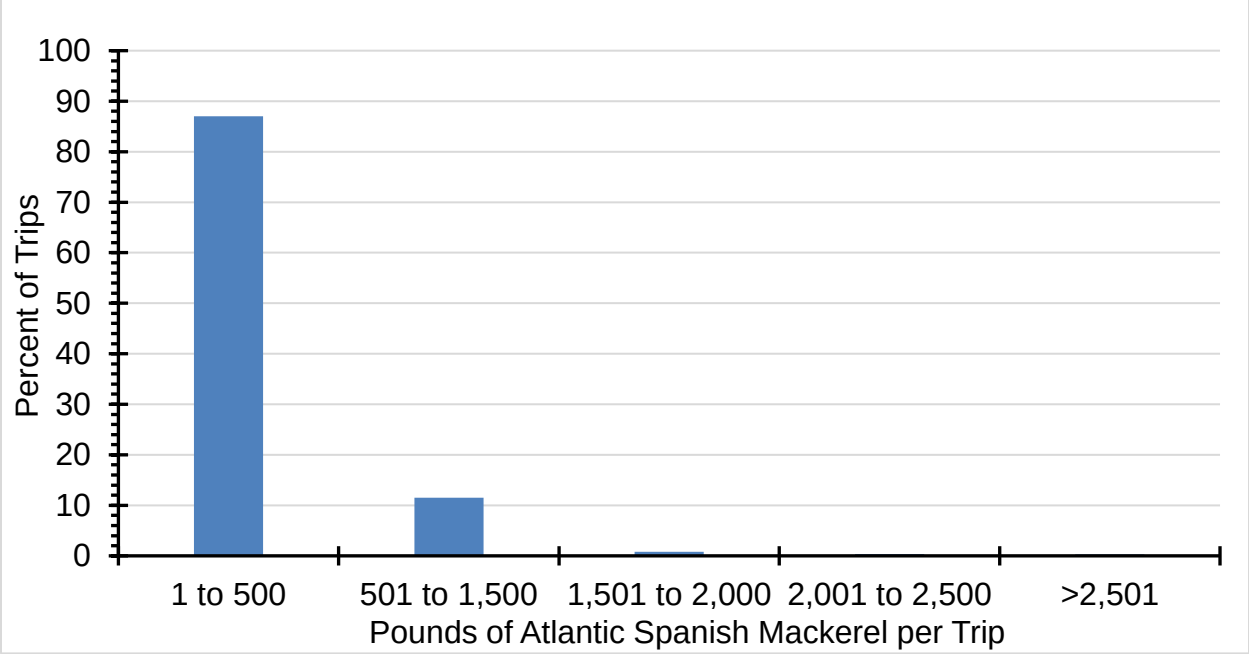


**Figure 4.1.1.2.** Percent of Northern Zone trips that commercially harvested Atlantic Spanish mackerel. The data used for this figure are from the same time period used for the predicted Northern Zone landings, and this time period is defined in Table D-1. The figure was generated from 11,568 trips.

**Table 4.1.1.1.** Predicted closures dates for Northern Zone Atlantic Spanish mackerel following the trip limits proposed in Action 1.

| | **Alternative 1** | **Preferred Alternative 2** | | |
|---|---|---|---|---|
| | 3,500 lbs | (2a) 2,500 lbs | **(2b Preferred) 2,000 lbs** | (2c) 1,500 lbs |
| **Closure Date** | 8-Oct | 9-Oct | **10-Oct** | 13-Oct |

The closure dates were determined from the date when the ACL of 662,670 lbs was met.

***Expected Effects on Discards and Co-Occurring Species***

Longer fishing seasons due to lower tip limits have the potential to decrease discards because fish that are caught can be retained rather than being discarded. However, because the season is not projected to be changed substantially under any of the alternatives (**Table 4.1.1.1**), the trip limit reduction is not expected to have substantial effects on discards or co-occurring species.

***Expected Effects to Protected Species***

The biological impacts on protected species from Action 1 alternatives are not expected to be significantly beneficial or negative. Additionally, alternatives under this action would not significantly modify the way in which the coastal migratory pelagics fishery is prosecuted in terms of gear types. Therefore, there are no additional impacts on Endangered Species Act (ESA)-listed species or designated critical habitats anticipated as a result of this action (see **Section 3.2.3** for a detailed description of ESA-listed species and critical habitat in the action area). Furthermore, no additional impacts on Essential Fish Habitat (EFH) or EFH-Habitat Areas of Particular Concern are expected to result from any of the alternatives considered for this action (see **Section 3.1.3)** for detailed descriptions of EFH in the South Atlantic region.

## 4.1.2 Economic Effects

Generally, trip limits are not considered to be economically efficient because they require an increase in the number of trips and associated trip costs to land the same amount of fish. However, the negative economic effects of this inefficiency can be offset or mitigated by price support resulting from the supply limitations and the lengthening of harvest seasons. Given the ACL for Spanish mackerel that restricts maximum harvest to sustainable levels, the alternative with the fewest number of trips that have to stop retaining Spanish mackerel because the trip limit has been reached would likely result in the least amount of direct negative economic effects, assuming the season does not close. However, there is very little difference in the season length under the alternatives considered; therefore, any negative economic effects would be minor.

**Alternative 1 (No Action)** would maintain the existing trip limit in the Northern Zone of 3,500 lbs. As such, there would be no anticipated economic effects.

**Preferred Alternative 2** and its sub-alternatives would reduce the trip limit in the Northern Zone. It is expected that the commercial quota in the Northern Zone would continue to be fully harvested under the proposed trip limits for all of the sub-alternatives of **Preferred Alternative 2** (Appendix D). Therefore, overall gross revenue generated by Spanish mackerel landings may not noticeably change. Based on the analysis provided in Appendix D, 98.5% of Spanish mackerel trips occurring in the Northern Zone in recent years harvested 1,500 lbs or less of the species. This suggests that the sub-alternatives of **Preferred Alternative 2** would not affect the

majority of commercial Spanish mackerel trips. In cases where trip limits are restrictive, lower trip limits may decrease gross trip revenue and decrease overall net revenue received for Spanish mackerel landings by requiring more trips to land the same amount of Spanish mackerel in comparison to **Alternative 1 (No Action)**, thereby, increasing total trip costs. These economic effects cannot be estimated with available data due to limitations in calculating how limited discarding of Spanish mackerel on some trips affect cumulative annual trip costs. **Sub-alternative 2c** has the lowest trip limit, therefore, these potential negative economic effects would be highest under this alternative, followed by **Preferred Sub-alternative 2b**, **Sub-alternative 2a,** and **Alternative 1 (No Action).**

These negative economic effects may be mitigated through a prolonged harvest season or if ex-vessel prices increase due to restrictions on harvest. The extent to which these mitigating circumstances may affect the net economic outcome of **Preferred Alternative 2** is likely minimal because the trip limits are not anticipated to be restrictive on most Spanish mackerel trips in the Northern Zone and, thus, would likely not restrain harvest to the point that prices are directly affected. Furthermore, the sub-alternatives are not expected to greatly prolong the harvest season in comparison to **Alternative 1 (No Action)**, with one expected additional day of allowable harvest under **Sub-Alternative 2a**, two additional days of allowable harvest under **Preferred Sub-alternative 2b**, and five additional days of allowable harvest under **Sub-alternative 2c** (**Table D.5**).

### 4.1.3 Social Effects

In general, commercial trip limits may help slow the rate of harvest and lengthen a season, but trip limits that are too low may make fishing trips inefficient and costly if fishing grounds are too far away. A longer open season would have direct social benefits to the commercial fleet by ensuring access to the resource and associated income. A longer season would also result in indirect social effects to end users of Spanish mackerel (restaurant owners, fish houses, and consumers) by improving consistency of availability, so long as it doesn't result in a decrease in harvest and/or revenue.

**Alternative 1 (No Action)** would not revise the current trip limit system in place and the higher trip limit when compared to **Alternative 2** and its sub-alternatives is projected to continue to result in in-season commercial closures. In-season closures reduce the opportunity for harvest, which in turn can change fishing behaviors, such as switching to alternative species if the opportunity exists. That behavior can increase pressure on other stocks and/or amplify conflict. If there are no alternative fishing opportunities then loss of income may occur, which can have a negative effect on the economy for fishing communities affected. If these economic consequences are substantial, increased unemployment and other disruptions to community dynamics may occur, especially for vulnerable communities.

**Alternative 2** and its sub-alternatives would reduce the commercial trip limit for Atlantic Spanish mackerel in the northern zone and is projected to lengthen the season by one to five days. Generally, longer fishing seasons provide positive direct and indirect social effects through continued access for commercial fishermen and consistency for end users, so long as trip limits are sufficient to support commercial fishing activity and allow for harvest during periods when it is profitable to land Spanish mackerel. **Sub-alternative 2c** is anticipated to result in the

longest season, followed by **Preferred Sub-alternative 2b**, **Sub-alternative 2a**, and **Alternative 1 (No Action)**. Because the season length is very similar among the action alternatives relatives to **Alternative 1 (No Action)** any negative social effects are likely to be minor.

### 4.1.4 Administrative Effects

**Alternative 1 (No Action)** would not change the administrative environment from its current condition. Currently, there is a commercial quota monitoring system in place for Atlantic Spanish mackerel that is utilized to monitor landings. Additionally, Federal regulations allow for quota transfers between Atlantic Spanish mackerel zones during each fishing year, which requires communication with the states, Southeast Fisheries Science Center, and National Marine Fisheries Service (NMFS) to determine if the quota transfer request will be granted. . In recent years (2017-2018 and 2018-2019[9]), the Northern Zone and Southern Zone have been meeting their commercial zone quotas, and each of the zones have closed in-season, which requires two separate in-season closure notices.

**Alternative 1 (No Action)** would maintain the existing commercial trip limit of 3,500 lbs ww or gw in the Northern Zone. Since the 2000/2001 fishing year, total commercial landings have been close to meeting, have met, or exceeded the total commercial ACL. Since the 2017-2018 fishing year, the Northern Zone has resulted in an in-season closure each year, requiring one in-season closure notice. If total effort for Atlantic Spanish mackerel remains consistent, it is likely that trip limit reductions would be needed during each fishing season, and closures would occur prior to the end of the fishing season (See **Section 4.1.1.**). Therefore, fishery managers would have to continue to prepare and closure notices for the Northern Zone. Additionally, enforcement personnel would have to monitor the closures.

**Alternative 2** would reduce the commercial trip limit for the Northern Zone to either 2,500 lbs ww or gw (**Sub-alternative 2a**), 2,000 lbs ww or gw (**Preferred Sub-alternative 2b**), or to 1,500 lbs ww or gw (**Sub-alternative 2c**). A lower trip limit may slow the rate of harvest and lengthen the season by a slight amount, but fishery managers would still to prepare an in-season closure notice around the same time or year as under **Alternative 1 (No Action)**. Therefore, the administrative effects under **Alternative 1 (No Action), Sub-Alternative 2a, Sub-Alternative 2b,** and **Sub-Alternative 2c** would be identical because closures are still expected to occur and there is little difference in the estimated season length among the alternatives. Outreach materials would take the form of fishery bulletins and updates to NMFS Southeast Regional Office's web site. The burden on law enforcement would not change under **Alternatives 1 (No Action), Sub-alternative 2a**, **Preferred Sub-alternative 2b**, **and Sub-alternative 2c** because commercial trip limit reductions and quota closures implemented when the commercial ACLs or adjusted quota are projected to be met are currently enforced.

[9] Please see the Southeast Region's Annual Catch Limit Monitoring WebPage for more information regarding the trip limit reductions and closures during the 2018-2019 fishing years.

# Chapter 5. DRAFT South Atlantic Council's Choice for the Preferred Alternative

## 5.1. Action. Modify the commercial trip limit for Atlantic migratory group Spanish mackerel in the Northern Zone.

### 5.1.1 Mackerel Cobia Advisory Panel Comments and Recommendations

| Alternatives* |
| --- |
| **1.** Northern Zone: 3,500-pounds<br><br>**2. Reduce the commercial trip limit for Spanish mackerel in the Northern Zone**<br>**2a.** 2,500-pounds<br>**2b. 2,000-pounds**<br>**2c.** 1,500-pounds<br><br>***Preferred indicated in bold. Refer to Chapter 2 for detailed language of alternatives. |

North Carolina fishermen have indicated that they would like to consider a step-down system similar to the system currently in place in the Southern Zone. For example, a step down to 1,500-pounds once 75% of the Northern Zone quota has been reached and then an additional step down to 500-pounds. If the starting trip limit was lower, it may help prolong the season and ensure it was still open during the spot and croaker gillnet season preventing waste. The state of North Carolina can implement changes in trip limits quickly via proclamation.

**MOTION:** CONSIDER A TRIP LIMT IN THE NORTHERN ZONE STARTING AT 3,000 POUNDS WITH A STEP DOWN TO 1,500 POUNDS ONCE 75% OF THE NORTHERN ZONE QUOTA IS REACHED.
MOTION APPROVED (5 IN FAVOR, 3 OPPOSED, 3 ABSENTIONS)

### 5.1.2 Public Comments and Recommendations

### 5.1.3 South Atlantic Council's Choice for Preferred Alternatives

# Chapter 6. Cumulative Effects

## 6.1 Affected Area

The immediate impact area would be the federal 200-mile limit of the Atlantic off the coasts of New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, and east Florida to the Miami-Dade/Monroe County boundary, Florida, which is also the South Atlantic Fishery Management Council's (South Atlantic Council) area of jurisdiction for the Atlantic Spanish mackerel portion of the coastal migratory pelagics (CMP) fishery. The range of the affected species is described in **Chapter 3**. For this action, the cumulative effects analysis (CEA) includes an analysis of actions and events dating back to 2015 and through what is expected to take place approximately before or within 2019-2020.

## 6.2 Past, Present, and Reasonably Foreseeable Actions Impacting the Affected Area

Fishery managers implemented the first substantial regulations pertaining to CMP species in 1982 through the Fishery Management Plan (FMP) for CMP Resources in the Gulf of Mexico (Gulf) and Atlantic Region (CMP FMP; SAFMC 1982). Listed below are other past, present, and reasonably foreseeable actions occurring in the Atlantic region. These actions, when added to the proposed management measures, may result in cumulative effects on the biophysical and socio-economic environment. The complete history of management of the CMP fishery can be found in **Appendix C (History of Management)**.

***Past Actions***

The reader is referred to **Appendix C** for a list of all past regulatory activity for species in the CMP FMP. Recently implemented actions are listed below.

**Framework Amendment 2** to the CMP FMP, implemented in August 2015, modified the quota and trip limit system for commercial harvest of Atlantic migratory group Spanish mackerel (Atlantic Spanish mackerel) in the Southern zone. When 75% of adjusted Southern zone quota is met or projected to be met, the trip limit of 3,500 pounds is reduced to 1,500 pounds. When 100% of adjusted Southern zone quota is met or projected to be met, the trip limit is reduced to 500 pounds until the end of the fishing year or until the Southern zone commercial quota is met or projected to be met, at which time the commercial sector in the Southern zone would be closed to harvest of Spanish mackerel).

**Amendment 31** to the CMP FMP, implement in March 2019, removed Atlantic cobia from the fishery management plan. Atlantic cobia is now managed under the purview of the Atlantic States Marine Fisheries Commission because the majority of Atlantic cobia landings are in state waters.

**Framework Amendment 6** to the CMP FMP, implemented September 2019, updated the Atlantic king mackerel commercial trip limits in the Atlantic Southern Zone during Season 1 (March 1st through September 30th) of the fishing year.

***Present Actions***

Currently, there are no CMP FMP/regulatory amendments in progress affecting Atlantic Spanish mackerel except this framework action. Framework Amendment 8 to the CMP FMP is currently under development, which would increase the commercial king mackerel trip limit south of the Flagler/Volusia County, Florida boundary during Season 2 (October 1st to the end of February).

***Reasonably Foreseeable Future Actions***

This action (Framework Amendment 9) is intended to be a short-term action to address closures. The stock assessment for Spanish mackerel is scheduled to begin in 2021 and will likely result in revised annual catch limits and other management measures for Atlantic Spanish mackerel.

***Expected Impacts from Past, Present, and Future Actions***

In recent years, participants in the CMP commercial sector and associated businesses have experienced some negative economic and social impacts due to changes in trip limits and early closures during the fishing years. Factors such as distance to fishing grounds, weather, and water temperature affect availability of species to the commercial fleets in different parts of the South Atlantic Council's jurisdiction.

The proposed action in Framework Amendment 9 is to modify the commercial trip limit for Atlantic migratory group Spanish mackerel in the Northern Zone. The intent is to extend the commercial season in the Northern Zone, reduce regulatory discards, and achieve optimum yield for Atlantic migratory group Spanish mackerel. Modifying the trip limit may help slow the rate of harvest and lengthen fishing seasons. However, trip limits that are too low may make fishing trips inefficient and too costly if fishing grounds are too far away. Yet, a longer open season could be beneficial to the commercial fleet and to end users (restaurant owners, fish houses, and consumers) by improving consistency of availability. Additionally, trip limits may maximize efficiency on trips targeting multiple species and increase fishing opportunities, thus providing some economic relief for commercial fishermen who harvest these species. Therefore, Framework Amendment 9 alone would not result in significant cumulative impacts on the human environment. When combined with the impacts of past, present, and future actions affecting the CMP fishery, specifically the Atlantic Spanish mackerel portion of the CMP fishery, cumulative impacts are likely to accrue, such as a longer fishing season, increased management control for designated fishing zones, and social and economic benefits associated with improved management strategies. All of the proposed or recently implemented management actions affecting Atlantic Spanish mackerel and the CMP fishery are intended to improve management of the CMP resource, while minimizing, to the maximum extent practicable adverse social and economic impacts.

## 6.3 Consideration of Climate Change and Other Non-Fishery Related Issues

***Climate Change***

The Environmental Protection Agency's climate change webpage (https://www.epa.gov/climate-research) and NOAA's Office of Science and Technology climate webpage (https://www.st.nmfs.noaa.gov/ecosystems/climate/index), provides background information on climate change, including indicators which measure or anticipate effects on oceans, weather and climate, ecosystems, health and society, and greenhouse gases. A compilation of scientific information on climate change can be found in the United Nations Intergovernmental Panel on Climate Change's Fifth Assessment Report (IPCC 2014). Those findings are incorporated here by reference and are summarized. Global climate change can affect marine ecosystems through ocean warming by increased thermal stratification, reduced upwelling, sea level rise, and through increases in wave height and frequency, loss of sea ice, and increased risk of diseases in marine biota. Decreases in surface ocean pH due to absorption of anthropogenic carbon dioxide emissions may affect a wide range of organisms and ecosystems. These influences could negatively affect biological factors such as migration, range, larval and juvenile survival, prey availability, and susceptibility to predators.

In the Southeast, general impacts of climate change have been predicted through modeling, with few studies on specific effects to species. Warming sea temperature trends in the southeast have been documented, and animals must migrate to cooler waters, if possible, if water temperatures exceed survivable ranges (Needham et al. 2012). Mackerels and cobia are migratory species and may shift their distribution over time to account for the changing temperature regime. Higher water temperatures may also allow invasive species to establish communities in areas they may not have been able to survive previously. An area of low oxygen, known as the 'dead zone,' forms in the northern Gulf each summer, which has been increasing in recent years. Climate change may contribute to this increase by increasing rainfall that in turn increases nutrient input from rivers. This increased nutrient load causes algal blooms that, when decomposing, reduce oxygen in the water (Kennedy et al. 2002; Needham et al. 2012). Other potential impacts of climate change to the southeast include increases in hurricanes, decreases in salinity, altered circulation patterns, and sea level rise. The combination of warmer water and expansion of salt marshes inland with sea-level rise may increase productivity of estuarine-dependent species in the short term. However, in the long term, this increased productivity may be temporary because of loss of fishery habitats due to wetland loss (Kennedy et al. 2002). Actions from this amendment are not expected to significantly contribute to climate change through the increase or decrease in the carbon footprint from fishing.

***Weather Variables***

Hurricane season is from June 1 to November 30, and accounts for 97% of all tropical activity affecting the Atlantic basin. These storms, although unpredictable in their annual occurrence, can devastate areas when they occur. Although these effects may be temporary, those fishing-related businesses whose profitability is marginal may go out of business if a hurricane strikes.

***Deepwater-Horizon Oil Spill***

On April 20, 2010, an explosion occurred on the Deepwater Horizon MC252 oil rig, resulting in the release of an estimated 4.9 million barrels of oil into the Gulf. In addition, 1.84 million gallons of Corexit 9500A dispersant were applied as part of the effort to constrain the spill. The cumulative effects from the oil spill and response may not be known for several years. The oil spill affected more than one-third of the Gulf area from western Louisiana east to the panhandle of Florida and south to the Campeche Bank in Mexico. The impacts of the Deepwater Horizon MC252 oil spill on the physical environment are expected to be significant and may be long-term. Oil is dispersed on the surface, and because of the heavy use of dispersants, oil is also documented as being suspended within the water column, some even deeper than the location of the broken well head. Floating and suspended oil washed onto shore in several areas of the Gulf, as well as non-floating tar balls. Whereas suspended and floating oil degrades over time, tar balls are more persistent in the environment and can be transported hundreds of miles. Oil on the surface of the water could restrict the normal process of atmospheric oxygen mixing into and replenishing oxygen concentrations in the water column. In addition, microbes in the water that break down oil and dispersant also consume oxygen; this could lead to further oxygen depletion. Zooplankton that feed on algae could also be negatively impacted, thus allowing more of the hypoxia-fueling algae to grow.

The highest concern is that the oil spill may have impacted spawning success of species that spawn in the summer months, either by reducing spawning activity or by reducing survival of the eggs and larvae. Effects on the physical environment, such as low oxygen, could lead to impacts on the ability of larvae and post-larvae to survive, even if they never encounter oil. In addition, effects of oil exposure may create sub-lethal effects on the eggs, larva, and early life stages. The stressors could potentially be additive, and each stressor may increase the susceptibility to the harmful effects of the other. The oil from the spill site was not detected in the South Atlantic region and does not likely pose a threat to the South Atlantic species addressed in this amendment. However, the effects of the oil spill on fish species would be taken into consideration in future SEDAR assessments. Indirect and inter-related effects on the biological and ecological environment of the fisheries in concert with the Deepwater Horizon MC252 oil spill are not well understood. Changes in the population size structure could result from shifting fishing effort to specific geographic segments of populations, combined with any anthropogenically induced natural mortality that may occur from the impacts of the oil spill. The impacts on the food web from phytoplankton, to zooplankton, to mollusks, to top predators may be significant in the future.

## 6.4 Overall Impacts Expected from Past, Present, and Future Actions

The proposed actions are intended to revise the commercial trip limit for Atlantic migratory group Spanish mackerel in the Northern Zone. The actions are expected to extend the commercial season, reduce regulatory discards, and achieve optimum yield for Atlantic migratory group Spanish mackerel. The proposed management actions are summarized in **Chapter 2** of this document. Detailed discussions of the magnitude and significance of the impacts of the preferred alternatives on the human environment appear in **Chapter 4** of this

document. None of the impacts of the action in this framework amendment, in combination with past, present, and future actions, have been determined to be significant. Although several other management actions, in addition to this framework amendment, are expected to affect CMP species, any additive effects, beneficial and adverse, are not expected to result in a significant level of cumulative impacts.

The proposed action would not adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places as these are not in the South Atlantic Exclusive Economic Zone (EEZ). This action is not likely to result in direct, indirect, or cumulative effects to unique areas, such as significant scientific, cultural, or historical resources, park land, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas as the proposed action is not expected to substantially increase fishing effort or the spatial and/or temporal distribution of current fishing effort within the South Atlantic region. The Monitor, Gray's Reef, and Florida Keys National Marine Sanctuaries are within the boundaries of the South Atlantic EEZ. The proposed actions are not likely to cause loss or destruction of these national marine sanctuaries because the actions are not expected to result in appreciable changes to current fishing practices. Additionally, the proposed actions are not likely to change the way in which the CMP fishery is prosecuted; therefore, the action is not expected to result in adverse impacts on health or human safety beyond the status quo.

## 6.5 Monitoring and Mitigation

The effects of the proposed action are, and will continue to be, monitored through collection of landings data by states, National Marine Fisheries Service, stock assessments and stock assessment updates, life history studies, economic and social analyses, and other scientific observations. The proposed action relates to the harvest of an indigenous species in the Atlantic, and the activity being altered does not itself introduce non-indigenous species and is not reasonably expected to facilitate the spread of such species through depressing the populations of native species. Additionally, it does not propose any activity, such as increased ballast water discharge from foreign vessels, which is associated with the introduction or spread on non-indigenous species.

None of the beneficial or adverse impacts from the proposed management action (as summarized in **Chapter 2** of this document) have been determined to be significant. See **Chapter 4** for the detailed discussions of the magnitude of the impacts of the preferred alternatives on the human environment. The action in CMP Framework Amendment 9 would not have significant biological, social, or economic effects because even though the action could extend fishing opportunities, accountability measures are also considered, and are in place to ensure overfishing does not occur. Therefore, the cumulative effects of the action proposed in CMP Framework Amendment 9 are not expected to affect bycatch, diversity and ecosystem structure of fish communities, or safety at sea of fishermen targeting CMP species, and other species managed by South Atlantic Council. Based on the cumulative effects analysis presented herein, the proposed action will not have any significant adverse cumulative impacts compared to, or combined with, other past, present, and foreseeable future actions

# Chapter 7. List of Preparers

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| Monica Smit-Brunello | NOAA/GC | General Counsel |
| Erik Williams | SEFSC | Biologist |
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NMFS = National Marine Fisheries Service, SAFMC = South Atlantic Fishery Management Council, SF = Sustainable Fisheries Division, PR = Protected Resources Division, SERO = Southeast Regional Office, HC = Habitat Conservation Division, GC = General Counsel, OLE= Office of Law Enforcement

# Chapter 8. Agencies and Persons Consulted

Responsible Agencies
South Atlantic Fishery Management Council (Administrative Lead)
4055 Faber Place Drive, Suite 201
N. Charleston, South Carolina 29405
843-571-4366/ 866-SAFMC-10 (TEL)
843-769-4520 (FAX)
www.safmc.net

NMFS, Southeast Region
263 13th Avenue South
St. Petersburg, Florida 33701
727- 824-5305 (TEL)
727-824-5320 (FAX)

List of Agencies, Organizations, and Persons Consulted
SAFMC Mackerel Cobia Advisory Panel
North Carolina Coastal Zone Management Program
South Carolina Coastal Zone Management Program
Georgia Coastal Zone Management Program
Florida Coastal Zone Management Program
Florida Fish and Wildlife Conservation Commission
Georgia Department of Natural Resources
South Carolina Department of Natural Resources
North Carolina Division of Marine Fisheries
National Marine Fisheries Service
- Washington Office
- Southeast Regional Office
- Southeast Fisheries Science Center

# Chapter 9. References


Collette, B.B. and J.L. Russo. 1979. An introduction to the Spanish mackerels, genus *Scomberomorus*. p. 3-16. In E.L. Nakumua and H.R. Bullis (eds.) Proceedings of the Mackerel Colloqium. Gulf States Marine Fisheries Commission No. 4.

GMFMC and SAFMC. 2011. Amendment 18 to the fishery management plan for coastal migratory pelagic resources in the Gulf of Mexico and Atlantic regions. Gulf of Mexico Fishery Management Council. Tampa, Florida, and South Atlantic Fishery Management Council. Charleston, South Carolina. http://www.gulfcouncil.org/docs/amendments/Final%20CMP%20Amendment%2018%20092311%20w-o%20appendices.pdf

Haab, T., Hicks, R. L., Schnier, K., Whitehead, J. C. 2012. Angler heterogeneity and the species-specific demand for marine recreational fishing. Working Paper No. 10-02. Appalachian State University, Department of Economics. Available: http://econ.appstate.edu/marfin/. (September 2014).

Holland, S. M., Oh, C., Larkin, S. L., Hodges, A. W. 2012. The operations and economics of the for-hire fishing fleets of the South Atlantic states and the Atlantic coast of Florida. University of Florida. Available: https://fred.ifas.ufl.edu/pdf/Holland.pdf. (December 2018)

NMFS. 2011. A Users Guide to the National and Coastal State I/O Model. 2011. www.st.nmfs.noaa.gov/documents/commercial_seafood_impacts_2007-2009.pdf (accessed February 2016).

NMFS. 2018. Fisheries Economics of the United States, 2016. U.S. Dept. of Commerce, NOAA Tech. Memo. NMFS-F/SPO-187, 243 p.

Powell, D. 1975. Age, growth, and reproduction in Florida stocks of Spanish mackerel, *Scomberomorus maculatus*. Florida Department of Natural Resources. Florida Marine Resources Publication No. 5.

SEDAR. 2012. SEDAR 28 – South Atlantic Spanish mackerel Stock Assessment Report. SEDAR, North Charleston SC. 444 pp. available online at: http://sedarweb.org/docs/sar/S28_SAR_SASpMack_FinalWithPStar_5.16.2013.pdf

# Appendix A. Glossary

**Allowable Biological Catch (ABC):** Maximum amount of fish stock than can be harvested without adversely affecting recruitment of other components of the stock. The ABC level is typically higher than the total allowable catch, leaving a buffer between the two.

**Bycatch:** Fish harvested in a fishery, but not sold or kept for personal use. Bycatch includes economic discards and regulatory discards, but not fish released alive under a recreational catch and release fishery management program.

**Charter Boat:** A fishing boat available for hire by recreational anglers, normally by a group of anglers for a short time period.

**Directed Fishery:** Fishing directed at a certain species or species group.

**Discards:** Fish captured, but released at sea.

**Effort:** The amount of time and fishing power (i.e., gear size, horsepower) used to harvest fish.

**Exclusive Economic Zone (EEZ):** Zone extending from the shoreline out to 200 nautical miles in which the country owning the shoreline has the exclusive right to conduct certain activities such as fishing. In the United States, the EEZ is split into state waters (typically from the shoreline out to 3 nautical miles) and federal waters (typically from 3 to 200 nautical miles).

**Fishery Dependent Data:** Fishery data collected and reported by fishermen and dealers.

**Fishery Independent Data:** Fishery data collected and reported by scientists who catch the fish themselves.

**Fishery Management Plan:** Management plan for fisheries operating in the federal produced by regional fishery management councils and submitted to the Secretary of Commerce for approval.

**Fishing Effort:** Usually refers to the amount of fishing. May refer to the number of fishing vessels, amount of fishing gear (nets, traps, hooks), or total amount of time vessels and gear are actively engaged in fishing.

**Fork Length (FL):** The length of a fish measured from the tip of its snout to the fork in its tail.

**Framework:** An established procedure within a fishery management plan that has been approved and implemented by NMFS, which allows specific management measures to be modified via regulatory amendment.

**Gear restrictions:** Limits placed on the type, amount, number, or techniques allowed for a given type of fishing gear.

**Gulf of Mexico Fishery Management Council (GMFMC):** One of eight regional councils in the Magnuson-Stevens Fishery Conservation and Management Act to develop management plans for fisheries in federal waters. The GMFMC develops fishery management plans for fisheries off the coast of Texas, Louisiana, Mississippi, Alabama, and the west coast of Florida.

**Head Boat:** A fishing boat that charges individual fees per recreational angler onboard.

**Highgrading:** Form of selective sorting of fishes in which higher value, more marketable fishes are retained, and less marketable fishes, which could legally be retained are discarded.

**Magnuson-Stevens Fishery Conservation and Management Act:** Federal legislation responsible for establishing the fishery management councils and the mandatory and discretionary guidelines for federal fishery management plans.

**Marine Recreational Information Program (MRIP):** Survey operated by NMFS in cooperation with states that collects marine recreational data.

**Multispecies fishery:** Fishery in which more than one species is caught at the same time and location with a particular gear type.

**National Marine Fisheries Service (NMFS):** Federal agency within NOAA responsible for overseeing fisheries science and regulation.

**National Oceanic and Atmospheric Administration:** Agency within the Department of Commerce responsible for ocean and coastal management.

**Overfished:** A stock or stock complex is considered overfished when stock biomass falls below the minimum stock size threshold (MSST) (e.g., current biomass < MSST = overfished).

**Overfishing:** Overfishing occurs when a stock or stock complex is subjected to a rate of fishing mortality that exceeds the maximum fishing mortality threshold (e.g., current fishing mortality rate > MFMT = overfishing).

**Quota:** % or annual amount of fish that can be harvested.

**Scientific and Statistical Committee (SSC):** Management advisory body composed of federal, state, and academic scientists, which provides scientific advice to a fishery management council.

**South Atlantic Fisheries Management Council (SAFMC):** One of eight regional councils in the Magnuson-Stevens Fishery Conservation and Management Act to develop management plans for fisheries in federal waters. The SAFMC develops fishery management plans for fisheries off North Carolina, South Carolina, Georgia, and the east coast of Florida.

**Total Length (TL):** The length of a fish as measured from the tip of the snout to the tip of the tail.

# Appendix B. Other Applicable Law

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (16 U.S.C. 1801 et seq.) provides the authority for fishery management in federal waters of the Exclusive Economic Zone. However, fishery management decision-making is also affected by a number of other federal statutes designed to protect the biological and human components of U.S. fisheries, as well as the ecosystems that support those fisheries. Major laws affecting federal fishery management decision-making are summarized below.

**Administrative Procedure Act**

All federal rulemaking is governed under the provisions of the Administrative Procedure Act (APA) (5 U.S.C. Subchapter II), which establishes a "notice and comment" procedure to enable public participation in the rulemaking process. Under the APA, National Marine Fisheries Service (NMFS) is required to publish notification of proposed rules in the *Federal Register* and to solicit, consider, and respond to public comment on those rules before they are finalized. The APA also establishes a 30-day waiting period from the time a final rule is published until it takes effect.

The proposed rule associated with this framework amendment will include a request for public comment, and if approved, upon publication of the final rule, there will be a 30-day wait period before the regulations are effective in compliance with the APA.

**Coastal Zone Management Act**

Section 307(c)(1) of the federal Coastal Zone Management Act of 1972 (CZMA), as amended, requires federal activities that directly affect any land or water use or natural resource of a state's coastal zone be conducted in a manner consistent, to the maximum extent practicable, with approved state coastal management programs. The requirements for such a consistency determination are set forth in NOAA regulations at 15 C.F.R. part 930, subpart C. According to these regulations and CZMA Section 307(c)(1), when taking an action that affects any land or water use or natural resource of a state's coastal zone, NMFS is required to provide a consistency determination to the relevant state agency at least 90 days before taking final action.

Upon submission to the Secretary of Commerce, NMFS will determine if this framework amendment is consistent with the Coastal Zone Management programs of the states of Florida, Georgia, South Carolina, and North Carolina to the maximum extent possible. Their determination will then be submitted to the responsible state agencies under Section 307 of the CZMA administering approved Coastal Zone Management programs for these states.

**Information Quality Act**

The Information Quality Act (IQA) (Public Law 106-443) effective October 1, 2002, requires the government to set standards for the quality of scientific information and statistics used and disseminated by federal agencies. Information includes any communication or representation of

knowledge such as facts or data, in any medium or form, including textual, numerical, cartographic, narrative, or audiovisual forms (includes web dissemination, but not hyperlinks to information that others disseminate; does not include clearly stated opinions).

Specifically, the IQA directs the Office of Management and Budget (OMB) to issue government wide guidelines that "provide policy and procedural guidance to federal agencies for ensuring and maximizing the quality, objectivity, utility, and integrity of information disseminated by federal agencies." Such guidelines have been issued, directing all federal agencies to create and disseminate agency-specific standards to: 1) ensure information quality and develop a pre-dissemination review process; 2) establish administrative mechanisms allowing affected persons to seek and obtain correction of information; and 3) report periodically to OMB on the number and nature of complaints received.

Scientific information and data are key components of fishery management plans (FMPs) and amendments and the use of best available information is the second national standard under the Magnuson-Stevens Act. To be consistent with the IQA, FMPs and amendments must be based on the best information available. They should also properly reference all supporting materials and data, and be reviewed by technically competent individuals. With respect to original data generated for FMPs and amendments, it is important to ensure that the data are collected according to documented procedures or in a manner that reflects standard practices accepted by the relevant scientific and technical communities. Data will also undergo quality control prior to being used by the agency and a pre-dissemination review.

This framework amendment uses the best scientific information available (BSIA) and makes a broad presentation thereof. The Southeast Fisheries Science Center has reviewed the document, and has determined the information contained in this document was developed using BSIA. Therefore, this document is in compliance with the IQA.

**Endangered Species Act (ESA)**

The ESA of 1973 (16 U.S.C. Section 1531 et seq.) requires that federal agencies must ensure actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or the habitat designated as critical to their survival and recovery. The ESA requires NMFS to consult with the appropriate administrative agency (itself for most marine species, and the U.S. Fish and Wildlife Service for all remaining species) when proposing an action that may affect threatened or endangered species or adversely modify critical habitat. Consultations are necessary to determine the potential impacts of the proposed action. They conclude informally when proposed actions may affect but are "not likely to adversely affect" threatened or endangered species or designated critical habitat. Formal consultations, resulting in a biological opinion, are required when proposed actions may affect and are "likely to adversely affect" threatened or endangered species or adversely modify designated critical habitat.

NMFS completed a biological opinion on June 18, 2015 (2015 Opinion), evaluating the impacts of the Coastal Migratory Pelagics (CMP) fishery on ESA-listed species. In the biological opinion, NMFS determined that the proposed continued authorization of the CMP

Fishery, is not likely to adversely affect any listed whales (i.e., blue, sei, sperm, fin, humpback, or North Atlantic right whales), Gulf sturgeon, or elkhorn and staghorn corals. NMFS also determined that the CMP Fishery is not likely to adversely affect designated critical habitats for elkhorn and staghorn corals or loggerhead sea turtles, and will have no effect on designated critical habitat for North Atlantic right whale.

According to the 2015 Opinion, green, hawksbill, Kemp's ridley, leatherback, and loggerhead sea turtles, Atlantic sturgeon, and the smalltooth sawfish are all likely to be adversely affected, but not likely to be jeopardized, by the CMP fishery. Green, hawksbill, Kemp's ridley, leatherback, and loggerhead sea turtles area all highly migratory, travel widely throughout the Gulf of Mexico and South Atlantic, and are known to occur in area of the fishery. The distribution of Atlantic sturgeon and smalltooth sawfish within the action area is more limited, but all of these species do overlap in certain regions of the action area and these species have the potential to be been incidentally captured in CMP fisheries.

An incidental take statement for sea turtles, smalltooth sawfish, and Atlantic sturgeon was issued for incidental take coverage in the federal CMP fisheries throughout the action area. Reasonable and prudent measures to minimize the impact of these incidental takes were specified, along with terms and conditions to implement them.

On March 23, 2015, NMFS published a proposed rule (80 FR 15271) listing 11 distinct population segments (DPSs) for green sea turtles; the proposed North Atlantic DPS for green sea turtles is listed as threatened, and is the only DPS whose individuals can be expected to be encountered in the action area. On June 29, 2016, NMFS published a Final Rule in the Federal Register listing Nassau grouper as a threatened species under the ESA, effective July 29, 2016. Because the range of both the North Atlantic and South Atlantic DPSs of green sea turtles and the Nassau grouper occur within the action area of the CMP fishery, NMFS reinitiated consultation on the CMP fishery in March 2017. NMFS completed an Amendment to the 2015 Opinion on November 13, 2017 (2017 Opinion Amendment). The 2017 Opinion Amendment concluded that the CMP fishery's continued authorization is not likely to adversely affect Nassau grouper and is likely to adversely affect, but is not likely to jeopardize, the North Atlantic and South Atlantic DPSs of green sea turtle. A revised incidental take statement was issued.

Since then, NMFS listed the giant manta ray (*Manta birostris*) as threatened under the ESA, effective February 21, 2018, and on January 30, 2018, NMFS listed the oceanic whitetip shark (*Carcharinus longimanus*) as threatened under the ESA, effective March 1, 2018.

On June 11, 2018, NMFS requested reinitiation of ESA section 7 consultation on the operation of the Atlantic CMP fisheries under the Magnuson-Stevens Act to address the listings of the giant manta ray and oceanic whitetip sharks. In the same consultation request memorandum, NMFS developed ESA section 7(a)(2) and section 7(d) analyses that considered allowing the CMP fishery to continue during the reinitiation period. As a result of those analyses, NMFS has determined that allowing the Atlantic CMP fisheries to continue during the reinitiation period is not likely to jeopardize any protected species, nor does it constitute an irreversible or irretrievable commitment of resources.

The actions contained in Framework Amendment 9 are not anticipated to modify the operation of the CMP fishery in a manner that would cause effects to listed species or critical habitat that were not considered in the 2015 Opinion, the 2017 Opinion Amendment, or in the June 11, 2018, analyses.

**Marine Mammal Protection Act**

The Marine Mammal Protection Act (MMPA) established a moratorium, with certain exceptions, on the taking of marine mammals in U.S. waters and by U.S. citizens on the high seas. It also prohibits the importing of marine mammals and marine mammal products into the United States. Under the MMPA, the Secretary of Commerce (authority delegated to NMFS) is responsible for the conservation and management of cetaceans and pinnipeds (other than walruses). The Secretary of the Interior is responsible for walruses, sea otters, polar bears, manatees, and dugongs.

Part of the responsibility that NMFS has under the MMPA involves monitoring populations of marine mammals to make sure that they stay at optimum levels. If a population falls below its optimum level, it is designated as "depleted." A conservation plan is then developed to guide research and management actions to restore the population to healthy levels.

In 1994, Congress amended the MMPA, to govern the taking of marine mammals incidental to commercial fishing operations. This amendment required the preparation of stock assessments for all marine mammal stocks in waters under U.S. jurisdiction; development and implementation of take-reduction plans for stocks that may be reduced or are being maintained below their optimum sustainable population levels due to interactions with commercial fisheries; and studies of pinniped-fishery interactions. The MMPA requires a commercial fishery to be placed in one of three categories, based on the relative frequency of incidental serious injuries and mortalities of marine mammals. Category I designates fisheries with frequent serious injuries and mortalities incidental to commercial fishing; Category II designates fisheries with occasional serious injuries and mortalities; and Category III designates fisheries with a remote likelihood or no known serious injuries or mortalities.

Under the MMPA, to legally fish in a Category I and/or II fishery, a fisherman must take certain steps. For example, owners of vessels or gear engaging in a Category I or II fishery, are required to obtain a marine mammal authorization by registering with the Marine Mammal Authorization Program (50 CFR 229.4). They are also required to accommodate an observer if requested (50 CFR 229.7(c)) and they must comply with any applicable take reduction plans.

The Gulf of Mexico and South Atlantic CMP hook-and-line sector is classified in the 2018 and 2019 MMPA List of Fisheries as a Category III fishery (February 7, 2018, 83 FR 5349; and May 16, 2019, 84 FR 22051), meaning the annual mortality and serious injury of a marine mammal resulting from the fishery is less than or equal to 1% of the maximum number of animals, not including natural moralities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population. The Gulf of Mexico and South Atlantic CMP gillnet sector is classified as Category II fishery in the 2018 and 2019 MMPA List of Fisheries. This classification indicates an occasional incidental mortality or

serious injury of a marine mammal stock resulting from the fishery (1-50% annually of the potential biological removal). The gillnet sector has no documented interaction with marine mammals; NMFS classifies this sector as Category II based on analogy (i.e., similar risk to marine mammals) with other gillnet fisheries.

Because of the nature of this fishery, the actions in this framework amendment are not expected to negatively impact marine mammals.

**Essential Fish Habitat**

The amended Magnuson-Stevens Act included a new habitat conservation provision known as Essential Fish Habitat (EFH) that requires each existing and any new FMPs to describe and identify EFH for each federally managed species, minimize to the extent practicable impacts from fishing activities on EFH that are more than minimal and not temporary in nature, and identify other actions to encourage the conservation and enhancement of that EFH. To address these requirements, the South Atlantic Fishery Management Council has, under separate action, approved an environmental impact statement (SAFMC 1998) to address the new EFH requirements contained within the Magnuson-Stevens Act. Section 305(b)(2) requires federal agencies to obtain a consultation for any action that may adversely affect EFH.

**Executive Orders**

**E.O. 12630: Takings**

The Executive Order on Government Actions and Interference with Constitutionally Protected Property Rights that became effective March 18, 1988, requires each federal agency prepare a Takings Implication Assessment for any of its administrative, regulatory, and legislative policies and actions that affect, or may affect, the use of any real or personal property. Clearance of a regulatory action must include a takings statement and, if appropriate, a Takings Implication Assessment. The NOAA Office of General Counsel will determine whether a Taking Implication Assessment is necessary for this amendment.

**E.O. 12866: Regulatory Planning and Review**

Executive Order 12866: Regulatory Planning and Review, signed in 1993, requires federal agencies to assess the costs and benefits of their proposed regulations, including distributional impacts, and to select alternatives that maximize net benefits to society. To comply with E.O. 12866, NMFS prepares a Regulatory Impact Review (RIR) for all fishery regulatory actions that either implement a new fishery management plan or significantly amend an existing plan. RIRs provide a comprehensive analysis of the costs and benefits to society of proposed regulatory actions, the problems and policy objectives prompting the regulatory proposals, and the major alternatives that could be used to solve the problems. The reviews also serve as the basis for the agency's determinations as to whether proposed regulations are a "significant regulatory action" under the criteria provided in E.O. 12866 and whether proposed regulations would have a significant economic impact on a substantial number of small entities in compliance with the Regulatory Flexibility Act.

On July 1, 2016, the Small Business Administration final rule revising the small business size standards for several industries became effective (79 FR 33647). The rule increased the size standard for Finfish Fishing from $19.0 to $20.5 million, Shellfish Fishing from $5.0 to $5.5 million, and Other Marine Fishing from $7.0 to $7.5 million.

In light of these standards, NMFS has preliminarily determined that the proposed actions would not have a significant economic impact on a substantial number of small entities.

**E.O. 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations**

This Executive Order mandates that each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories and possessions. Federal agency responsibilities under this Executive Order include conducting their programs, policies, and activities that substantially affect human health or the environment, in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons from participation in, denying persons the benefit of, or subjecting persons to discrimination under, such, programs policies, and activities, because of their race, color, or national origin. Furthermore, each federal agency responsibility set forth under this Executive Order shall apply equally to Native American programs. Environmental justice considerations are discussed in detail in **Section 3.4**.

The actions in this framework amendment are not expected to negatively impact minority or low-income populations.

**E.O. 12962: Recreational Fisheries**

This Executive Order requires federal agencies, in cooperation with states and tribes, to improve the quantity, function, sustainable productivity, and distribution of U.S. aquatic resources for increased recreational fishing opportunities through a variety of methods including, but not limited to, developing joint partnerships; promoting the restoration of recreational fishing areas that are limited by water quality and habitat degradation; fostering sound aquatic conservation and restoration endeavors; and evaluating the effects of federally-funded, permitted, or authorized actions on aquatic systems and recreational fisheries, and documenting those effects. Additionally, it establishes a seven-member National Recreational Fisheries Coordination Council (Council) responsible for, among other things, ensuring that social and economic values of healthy aquatic systems that support recreational fisheries are considered by federal agencies in the course of their actions, sharing the latest resource information and management technologies, and reducing duplicative and cost-inefficient programs among federal agencies involved in conserving or managing recreational fisheries. The Council also is responsible for developing, in cooperation with federal agencies, states and tribes, a Recreational Fishery Resource Conservation Plan - to include a five-year agenda. Finally, the Order requires NMFS and the U.S. Fish and Wildlife Service to develop a joint agency policy for administering the ESA.

The actions in this framework are intended to improve recreational fishing opportunities in the CMP Fishery and are consistent with the provisions of E.O. 12962.

**E.O. 13132: Federalism**

The Executive Order on Federalism requires agencies in formulating and implementing policies, to be guided by the fundamental federalism principles. The Order serves to guarantee the division of governmental responsibilities between the national government and the states that was intended by the framers of the Constitution. Federalism is rooted in the belief that issues not national in scope or significance are most appropriately addressed by the level of government closest to the people. This Order is relevant to FMPs and amendments given the overlapping authorities of NMFS, the states, and local authorities in managing coastal resources, including fisheries, and the need for a clear definition of responsibilities. It is important to recognize those components of the ecosystem over which fishery managers have no direct control and to develop strategies to address them in conjunction with appropriate state, tribes and local entities (international too).

No federalism issues have been identified relative to the actions proposed in this framework amendment.

**References**

National Marine Fisheries Service (NMFS). 2015. Biological Opinion, ESA Section 7 Consultation for the Continued Authorization of Fishing under the Fishery Management Plan (FMP) for Coastal Migratory Pelagic Resources in the Atlantic and Gulf of Mexico (CMPR FMP). NMFS Southeast Regional Office Protected Resources Division: St. Petersburg, FL.

South Atlantic Fishery Management Council (SAFMC). 1998. Comprehensive Amendment Addressing Essential Fish Habitat in Fishery Management Plans in the South Atlantic Region, including environmental assessment, regulatory impact review, and fishery impact statement. South Atlantic Fishery Management Council, Charleston, South Carolina. Available at: http://ocean.floridamarine.org/efh_coral/pdfs/Comp_Amend/EFHAmendCovTOC.pdf

# Appendix C. History of Management

The Fishery Management Plan for Coastal Migratory Pelagic Resources in the Gulf of Mexico and South Atlantic Region (CMP FMP; GMFMC/SAFMC 1982), with an environmental impact statement (EIS), was approved in 1982 and implemented by regulations effective in February 1983. Managed species included king mackerel, Spanish mackerel, and cobia. The CMP FMP treated king and Spanish mackerel as unit stocks in the Atlantic and Gulf (Gulf) of Mexico. The CMP FMP established allocations for the recreational and commercial sectors harvesting these stocks, and the commercial allocations were divided between net and hook-and-line fishermen.

CMP FMP Amendments

**Amendment 1,** with EIS, implemented in September 1985, provided a framework procedure for pre-season adjustment of total allowable catch (TAC), revised the estimate of king mackerel MSY downward, recognized separate Atlantic and Gulf migratory groups of king mackerel, and established fishing permits and bag limits for king mackerel. Commercial allocations among gear users, except purse seines, which were allowed 6% of the commercial allocation of TAC, were eliminated. The Gulf commercial allocation for king mackerel was divided into Eastern and Western Zones for the purpose of regional allocation, with 69% of the remaining allocation provided to the Eastern Zone and 31% to the Western Zone. Amendment 1 also established minimum size limits for Spanish mackerel at 12 inches fork length (FL) or 14 inches total length (TL), and for cobia at 33 inches FL or 37 inches TL.

**Amendment 2**, with an environmental assessment (EA), implemented in July 1987, revised MSY for Spanish mackerel downward, recognized two migratory groups, established allocations of TAC for the commercial and recreational sectors, and set commercial quotas and bag limits. Charter boat permits were established, and it was clarified that TAC must be set below the upper range of the acceptable biological catch. The use of purse seines on overfished stocks was prohibited, and their allocation of TAC was redistributed under the 69%:31% split.

**Amendment 3,** with EA, was partially approved in August 1989, revised, resubmitted, and approved in April 1990. It prohibited drift gillnets for coastal pelagic species and purse seines for the overfished migratory groups of mackerels.

**Amendment 4**, with EA, implemented in October 1989, reallocated Atlantic migratory group Spanish mackerel equally between recreational and commercial fishermen.

**Amendment 5,** with EA, implemented in August 1990, made the following changes in the management regime:

- Extended the management area for Atlantic migratory groups of mackerels through the Mid-Atlantic Council's area of jurisdiction;
- Revised problems in the fishery and plan objectives;
- Revised the fishing year for Gulf Spanish mackerel from July-June to April-March;
- Revised the definition of "overfishing";
- Added cobia to the annual stock assessment procedure;

- Provided that the South Atlantic Council will be responsible for pre-season adjustments of TACs and bag limits for the Atlantic migratory groups of mackerels while the Gulf Council will be responsible for Gulf migratory groups;
- Continued to manage the two recognized Gulf migratory groups of king mackerel as one until management measures appropriate to the eastern and western migratory groups can be determined;
- Re-defined recreational bag limits as daily limits;
- Deleted a provision specifying that bag limit catch of mackerel may be sold;
- Provided guidelines for corporate commercial vessel permits;
- Specified that Gulf migratory group king mackerel may be taken only by hook-and-line and run-around gillnets;
- Imposed a bag and possession limit of two cobia per person per day;
- Established a minimum size of 12 inches FL or 14 inches TL for king mackerel and included a definition of "conflict" to provide guidance to the Secretary.

**Amendment 6,** with EA, implemented in November of 1992, made the following changes:

- Identified additional problems and an objective in the fishery;
- Provided for rebuilding overfished stocks of mackerels within specific periods;
- Provided for biennial assessments and adjustments;
- Provided for more seasonal adjustment actions;
- Allowed for Gulf migratory group king mackerel stock identification and allocation when appropriate;
- Provided for commercial Atlantic migratory group Spanish mackerel possession limits;
- Changed commercial permit requirements to allow qualification in one of three preceding years;
- Discontinued the reversion of the bag limit to zero when the recreational quota is filled;
- Modified the recreational fishing year to the calendar year; and
- Changed the minimum size limit for king mackerel to 20 inches FL, and changed all size limit measures to FL only.

**Amendment 7,** with EA, implemented in November 1994, equally divided the Gulf commercial allocation in the Eastern Zone at the Dade-Monroe County line in Florida. The sub-allocation for the area from Monroe County through Western Florida is equally divided between commercial hook-and-line and net gear users.

**Amendment 8,** with EA, implemented in March 1998, made the following changes to the management regime:

- Clarified ambiguity about allowable gear specifications for the Gulf migratory group king mackerel fishery by allowing only hook-and-line and run-around gillnets. However, catch by permitted, multi-species vessels and bycatch allowances for purse seines were maintained;
- Established allowable gear in the South Atlantic and Mid-Atlantic areas as well as providing for the Regional Administrator to authorize the use of experimental gear;
- Established the Gulf and South Atlantic Councils' intent to evaluate the impacts of permanent jurisdictional boundaries between the Gulf and South Atlantic Councils and

development of separate fishery management plans for coastal pelagic species in these areas;

- Established a moratorium on commercial king mackerel permits until no later than October 15, 2000, with a qualification date for initial participation of October 16, 1995;
- Increased the income requirement for a king or Spanish mackerel permit to 25% of earned income or $10,000 from commercial sale of catch or charter or head boat fishing in one of the three previous calendar years, but allowed for a one-year grace period to qualify under permits that are transferred;
- Legalized retention of up to five cut-off (damaged) king mackerel on vessels with commercial trip limits;
- Set an optimum yield target at 30% static spawning potential ratio (SPR) for the Gulf and 40% static SPR for the Atlantic;
- Provided the South Atlantic Council with authority to set vessel trip limits, closed seasons or areas, and gear restrictions for Gulf migratory group king mackerel in the North Area of the Eastern Zone (Dade/Monroe to Volusia/Flagler County lines);
- Established various data consideration and reporting requirements under the framework procedure;
- Modified the seasonal framework adjustment measures and specifications (see Appendix A);
- Expanded the management area for cobia through the Mid-Atlantic Council's area of jurisdiction (to New York).

**Amendment 9,** with EA, implemented in April 2000, made the following changes to the management regime:

- Reallocated the percentage of the commercial allocation of TAC for the North Area (Florida east coast) and South/West Area (Florida west coast) of the Eastern Zone to 46.15% North and 53.85% South/West and retained the recreational and commercial allocations of TAC at 68% recreational and 32% commercial;
- Subdivided the commercial hook-and-line king mackerel allocation for the Gulf migratory group, Eastern Zone, South/West Area (Florida west coast) by establishing two subzones with a dividing line between the two subzones at the Collier/Lee County line;
- Established regional allocations for the west coast of Florida based on the two subzones with 7.5% of the Eastern Zone allocation of TAC being allowed from Subzone 2 and the remaining 92.5% being allocated as follows:
- 50% - Florida east coast
- 50% - Florida west coast that is further subdivided:
    - 50% - Net Fishery
    - 50% - Hook-and-Line Fishery
- Established a trip limit of 3,000 pounds per vessel per trip for the Western Zone;
- Established a moratorium on the issuance of commercial king mackerel gillnet endorsements and allow re-issuance of gillnet endorsements to only those vessels that: 1) had a commercial mackerel permit with a gillnet endorsement on or before the moratorium control date of October 16, 1995 (Amendment 8), and 2) had landings of king mackerel using a gillnet in one of the two fishing years, 1995-1996 or 1996-1997, as verified by the NMFS or trip tickets from Florida; allowed transfer of gillnet endorsements to immediate family members (son, daughter, father, mother, or spouse)

only; and prohibited the use of gillnets or any other net gear for the harvest of Gulf migratory group king mackerel north of an east/west line at the Collier/Lee County line;
- Increased the minimum size limit for Gulf migratory group king mackerel from 20 in to 24 inches FL;
- Allowed the retention and sale of cut-off (damaged), legal-sized king and Spanish mackerel within established trip limits.

**Amendment 10**, with Supplemental Environmental Impact Statement (SEIS), approved June 1999, incorporated essential fish habitat provisions for the South Atlantic.

**Amendment 11**, with SEIS, partially approved in December 1999, included proposals for mackerel in the South Atlantic Council's Comprehensive Amendment Addressing Sustainable Fishery Act Definitions and other Provisions in FMPs of the South Atlantic Region.

**Amendment 12**, with EA, implemented October 2000, extended the commercial king mackerel permit moratorium from its current expiration date of October 15, 2000, to October 15, 2005, or until replaced with a license limitation, limited access, and/or individual fishing quota or individual transferable quota system, whichever occurs earlier.

**Amendment 13**, with SEIS, implemented August 2002, established two marine reserves in the EEZ of the Gulf in the vicinity of the Dry Tortugas, Florida known as Tortugas North and Tortugas South in which fishing for coastal migratory pelagic species is prohibited. This action complements previous actions taken under the National Marine Sanctuaries Act.

**Amendment 14**, with EA, implemented July 2002, established a three-year moratorium on the issuance of charter vessel and head boat Gulf migratory group king mackerel permits in the Gulf unless sooner replaced by a comprehensive effort limitation system. The control date for eligibility was established as March 29, 2001. Also includes provisions for eligibility, application, appeals, and transferability.

**Amendment 15**, with EA, implemented August 2005, established an indefinite limited access program for the commercial king mackerel fishery in the EEZ under the jurisdiction of the Gulf, South Atlantic Council, and Mid-Atlantic Council. It also changed the fishing season to March 1 through February 28/29 for the Atlantic migratory groups of king and Spanish mackerel.

**Amendment 16** was not developed.

**Amendment 17**, with SEIS, implemented June 2006, established a limited access system on for-hire reef fish and coastal migratory pelagic permits. Permits are renewable and transferable in the same manner as currently prescribed for such permits. There will be a periodic review at least every 10 years on the effectiveness of the limited access system.

**Amendment 18**, with EA, implemented in January 2012 established ACLs, ACTs, and AMs for king mackerel, Spanish mackerel, and cobia. The amendment also established both Atlantic and Gulf migratory groups for cobia; modified the framework procedures; and removed the following species from the FMU: cero, little tunny, dolphin and bluefish. The South Atlantic and

Gulf Councils approved the amendment for formal review in August 2011. The amendment was approved by the Secretary of Commerce in December 2011.

**Amendment 20A**, with EA, implemented July 2014 prohibits the sale of king and Spanish mackerel caught under the bag limit in each region except under limited circumstances. For the Gulf of Mexico, the amendment prohibits the sale of king and Spanish mackerel caught under the bag limit unless those fish are either caught on a for-hire trip and the vessel has both a for-hire and commercial vessel permit, or the fish are caught as part of a state-permitted tournament and the proceeds from the sale are donated to charity. For the Atlantic region, the amendment prohibits the sale of king and Spanish mackerel caught under the bag limit unless the fish are caught as part of a state-permitted tournament and the proceeds from the sale are donated to charity. In addition, the amendment removes the income qualification requirement for king and Spanish mackerel commercial permits.

**Amendment 20B**, with EA, implemented in March 2015 created a transit provision for areas closed to king mackerel and established Northern and Southern zones with separate commercial quotas for Atlantic king and Spanish mackerel.

**Amendment 21**, with EA, implemented in January 2012 addressed recreational fishing measures in South Carolina Special Management Zones (SMZs).

**Amendment 22**, with EA, implemented in January 2014 required weekly electronic reporting for headboats in the South Atlantic.

**Amendment 23**, with EA, implemented in August 2014 required Atlantic king mackerel and Spanish mackerel permit holders to sell to a federal dealer and required weekly electronic reporting for federal dealers.

**Amendment 26**, with EA, implemented in May 2017 updated the Gulf and Atlantic king mackerel ACLs based on SEDAR 30; modified the stock boundary between the Gulf and Atlantic migratory groups of king mackerel to be at the Dade/Monroe County Line in southeastern Florida, with the Gulf Council managing king mackerel to that line year-round; allowed bag limit sales on Atlantic king mackerel in the small coastal shark gillnet fishery; increased the recreational bag limit from 2-fish per person per day to 3-fish per person per day, other than off Florida and revised the commercial trip limits for Atlantic king mackerel.

**Framework Adjustments relevant to the proposed action:**

**September 1996**, with EA, modified the trip limits for Florida set up in Amendment 6. From April 1-October 31, the trip limit would be 1,500 lbs. Starting November 1, trips would be unlimited on Monday, Wednesday, and Friday, and there would be a trip limit of 1,500 lbs all other days. When 75% of the adjusted quota was met, the trip limit would be 1,500 lbs every day. When 100% of the adjusted quota was met, the trip limit would be 500 lbs.

**January 2000**, with EA, modified the trip limits for Florida. From April 1- November 30, the trip limit would be 1,500 lbs. Starting December 1, trips would be unlimited on weekdays and

there would be a trip limit of 1,500 lbs on weekends. When 75% of the adjusted quota was met, the trip limit would be 1,500 lbs every day. When 100% of the adjusted quota was met, the trip limit would be 500 lbs.

**August 2007,** with EA, changed the first time period in the trip limit system for Florida to be March 1-November 30. This framework adjustment was necessary because the fishing year had been changed in Amendment 15 to start on March 1, but the trip limit system for Florida was set up to start on April 1.

**Framework Amendment 1**, with EA, implemented in December 2014. Updated the ACLs for Gulf and Atlantic Spanish mackerel.

**Framework Amendment 2**, with EA, implemented in August 2015. Modified the quota and trip limit system for commercial harvest of Atlantic migratory group Spanish mackerel in the Southern Zone (3,500 pounds for the Southern Zone. When 75% of adjusted Southern Zone quota is met or projected to be met, the trip limit would be reduced to 1,500 pounds. When 100% of adjusted Southern Zone quota is met or projected to be met, the trip limit is reduced to 500 pounds until the end of the fishing year or until the Southern Zone commercial quota is met or projected to be met, at which time the commercial sector in the Southern Zone would be closed to harvest of Spanish mackerel).

**Framework Amendment 5**, with EA, implemented in August 2017. Removed the restriction on fishing for or retaining the recreational bag and possession limits of king and Spanish mackerel on a vessel with a Federal commercial permit for king or Spanish mackerel when commercial harvest of king or Spanish mackerel in a zone or region is closed.

# Appendix D. Analysis of Trip Limit Scenarios

**Analysis of Changes to Atlantic Spanish Mackerel Commercial Trip Limits**

*Introduction and Background*

In March 2015, Amendment 20B to the Fishery Management Plan (FMP) for Coastal Migratory Pelagic Resources (CMP) in the Gulf of Mexico and South Atlantic Region established Northern and Southern Zones for commercial Atlantic Spanish mackerel. The Northern Zone includes waters from the New York/Connecticut/Rhode Island state line to the North Carolina/South Carolina state line. The Southern Zone includes waters from the North Carolina/South Carolina state line to the Miami-Dade/Monroe County boundary, Florida. Amendment 20B to the CMP FMP also set the Northern Zone commercial quota at 662,670 pounds (lbs) and the Southern Zone commercial quota at 2,667,330 lbs.

In 1992, Amendment 6 to the CMP FMP implemented a 3,500-pound trip limit in the Northern Zone, which at the time included waters north of the Florida/Georgia line. Amendment 6 to the CMP FMP also established an adjusted quota trip limit system in the Southern Zone (Florida). In August 2015, Framework Amendment 2 to the CMP FMP modified Atlantic Spanish mackerel trip limits in the Southern Zone (now SC, GA, FL). The Southern Zone trip limit is 3,500-pounds until 75% of the adjusted Southern Zone quota is met or projected to be met, then 1,500 lbs. When 100% of adjusted Southern Zone quota is met or projected to be met, the trip limit is reduced to 500 lbs until the end of the fishing year or until the Southern Zone commercial quota is met or projected to be met.

The South Atlantic Fishery Management Council (South Atlantic Council) is currently drafting Framework Amendment 9 to the CMP FMP to modify Atlantic Spanish mackerel commercial trip limits in the Northern Zone.

**Predicting Future Landings**

*Commercial Landings: Northern Zone (New York through North Carolina)*

The first step in evaluating the impact of a trip limit change is predicting future landings. Framework Amendment 9 is considering a trip limit change in the Northern Zone. Updated Atlantic Spanish mackerel commercial landings were provided by the Southeast Fisheries Science Center (SEFSC) on August 9, 2019. Since the Atlantic Spanish mackerel season is from March 1 to February 28 the predicted landings were also organized in this order.

The most recent years of landings were used as a proxy for future landings. However, in recent years there were trip limit reductions and closures in some months, and both of these actions can significantly alter the landings. Therefore, if monthly landings in recent years had trip limit reductions or closures then monthly landings further back in time were used instead. Average three-year landings from 2016, 2017, and 2018 from March to October were used as a proxy for future March to October landings since there were no trip limit changes or closures

during this time period. There were closures in November and December in the Northern Zone in 2017 and 2018. Average three-year commercial landings from November to December 2014, 2015, and 2016 were used as a proxy for predicted November to December landings since there were no trip limit changes or closures during this time. Three-year average landings from January 2015, 2016, and 2017 were used a proxy for predicted January landings since the Northern Zone Spanish mackerel commercial sector was open without a trip limit reduction or closure at this time period. February predicted landings came from average three-year landings from 2014, 2015, and 2016 since there were no trip limit reductions or closures at this time. Details of the predicted Northern Zone commercial landings are provided in **Tables D.1** and **D.2** and are shown in **Figure D.1**.

**Table D.1.** Details of the predicted Northern Zone annual commercial landings for each month.

| | **March through October** | **November through December** | **January** | **February** |
|---|---|---|---|---|
| 3 Year Average Landings | 2016, 2017, and 2018 | 2014, 2015, and 2016 | 2015, 2016, and 2017 | 2014, 2015, and 2016 |

**Table D.2.** Predicted Northern Zone Spanish mackerel commercial landings by month.

| | **Predicted Landings (lbs)** |
|---|---|
| March | 665 |
| April | 366 |
| May | 141,063 |
| June | 110,971 |
| July | 99,744 |
| August | 139,886 |
| September | 135,415 |
| October | 140,026 |
| November | 2,365 |
| December | 126 |
| January | 221 |
| February | 75 |
| **Total** | 770,923 |

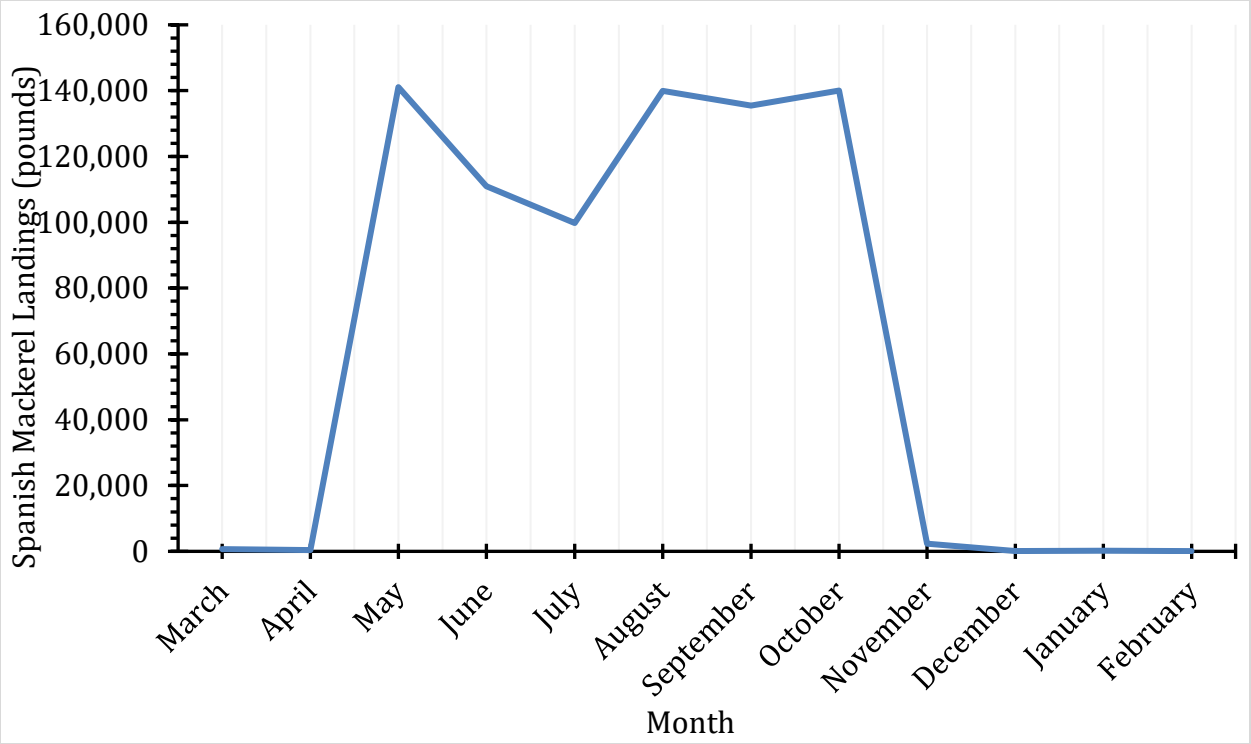


**Figure D.1.** Predicted Northern Zone Spanish mackerel commercial landings by month.

*Action 1: Modify the commercial trip limits for Atlantic migratory group Spanish mackerel in the northern zone.*

**Action 1** of Framework Amendment 9 considers changes to commercial trip limits for Atlantic Spanish mackerel in the Northern Zone. Changes to the trip limits were analyzed with Spanish mackerel trip level commercial data provided from Atlantic Coastal Cooperative Statistics Program on November 25, 2019. Since both the Northern Zone had experienced trip limit reductions and closures in recent years the data time periods used for the predicted landings described above (**Table D.1** and **Figure D.1**) were the same time periods used for the commercial trip limit analysis. The commercial trip limit analysis was done for each individual month. **Alternative 2** explores reducing the Northern Zone current trip limit of 3,500 lbs down to 2,500, 2,000, or 1,500 lbs. The impact on landings from a reduction in the trip limit was analyzed by looking at recent trip level data and isolating the pounds from the trips that exceeded the trip limit being considered. Then comparing these isolated pounds to the total pounds harvested to generate a percent reduction in landings. For example, when analyzing the 2,500 lbs trip limit any trips that harvested between 2,500 lbs and the current trip limit (3,500 lbs) were isolated. These isolated landings were summed for each trip and compared to the total landings to calculate the percent reduction in landings from the reduced trip limit.

Using data from the same time period used for the Northern Zone predicted landings (**Table D.1**) a trip frequency figure was created (**Figure D.2**). Majority of the trips harvested 500 lbs or less per trip (87.0%) and 98.5% of the trips harvested 1,500 pounds or less per trip. **Table D.3** presents the results of the monthly percent reduction in landings analysis. The calculated percent

reduction in landings for each month is low with an estimated trip limit reduction of less than 10% for the majority of the trip limits (**Table D.3**).

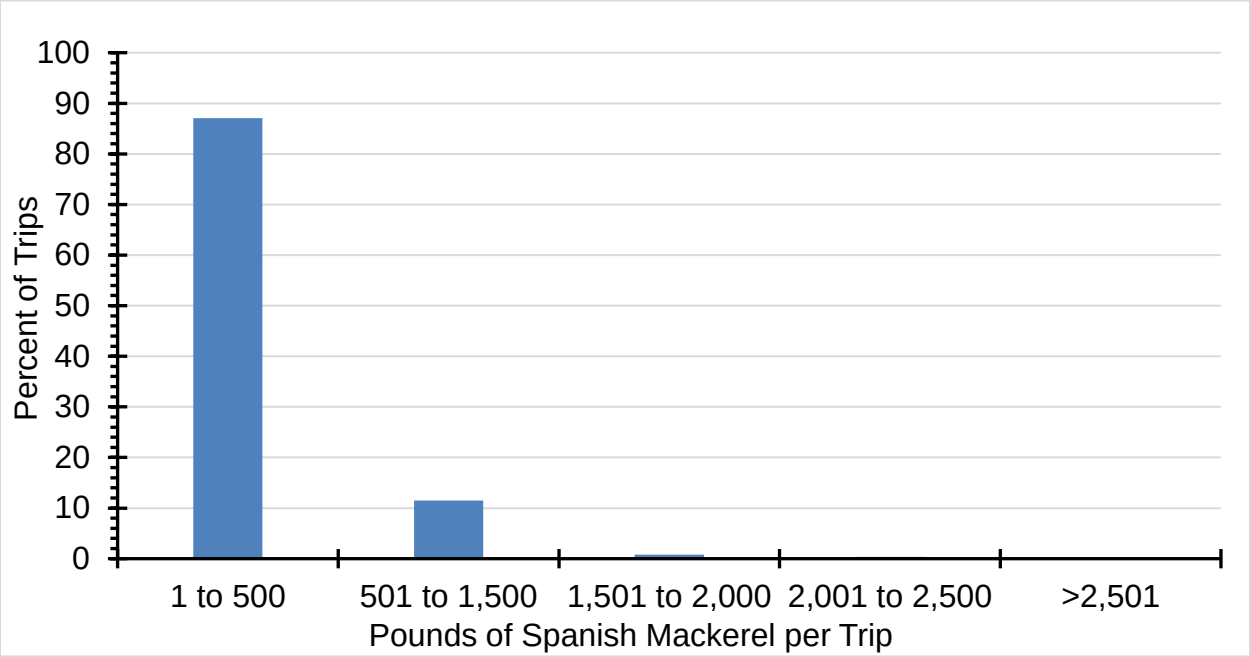


**Figure D.2.** Percent of Northern Zone trips that commercially harvested Spanish mackerel. The data used for this figure are from the same time period used for the predicted Northern Zone landings, and this time period is defined in Table D-1. The figure was generated from 11,568 trips.

**Table D.3.** Percent reduction calculation results for the Northern Zone. The data used for this analysis are from the same time period used for the predicted Northern Zone landings and are defined in Table D.1.

| Trip Limit | 3,500 | 2,500 | 2,000 | 1,500 |
|---|---|---|---|---|
| March | 0 | 0 | 0 | 0 |
| April | 0 | 0 | 0 | 0 |
| May | 0 | 0.2 | 0.8 | 2.6 |
| June | 0 | 0.3 | 0.7 | 1.6 |
| July | 0 | 0 | 0.1 | 0.8 |
| August | 0 | 0.1 | 0.6 | 2.0 |
| September | 0 | 0.9 | 2.6 | 5.7 |
| October | 0 | 2.4 | 5.4 | 11.9 |
| November | 0 | 0 | 0 | 0.3 |
| December | 0 | 0 | 3.5 | 10.4 |
| January | 0 | 0 | 0 | 0 |
| February | 0 | 0 | 0 | 0 |

The October 8th closure date was calculated with a trip limit of 3,500 lbs. The predicted Northern Zone landings (**Figure D.1**) were modified with the results from the percent reduction analysis from the **Alternative 2** trip limits (**Table D.3**) to generate new predicted closure dates.

**Table D.4** has the results of the predicted closure dates for the Northern Zone ACL of 662,670 lbs.

**Table D.4.** Predicted closures dates for Northern Zone Spanish mackerel following the trip limits proposed in Action 1. The closure dates were determined from the date when the ACL of 662,670 lbs was met.

| | **Action 1** | | | |
|---|---|---|---|---|
| | **Alternative 1** | **Alternative 2** | | |
| | 3,500 lbs Trip Limit | 2,500 lbs Trip Limit | 2,000 lbs Trip Limit | 1,500 lbs Trip Limit |
| **Closure Date** | 8-Oct | 9-Oct | 10-Oct | 13-Oct |

## References

FSSI 2019. Fish Stock Sustainability Index. https://www.fisheries.noaa.gov/national/population-assessments/fishery-stock-status-updates.

# Appendix E. Regulatory Impact Review

To be completed.

# Appendix F. Regulatory Flexibility Analysis

To be completed.