



Atlantic States Marine Fisheries Commission

1050 N. Highland Street • Suite 200A-N • Arlington, VA 22201
703.842.0740 • 703.842.0741 (fax) • www.asmf.org

Overview of Atlantic Coast State Spanish Mackerel Fisheries

Prepared by the Spanish Mackerel Technical Committee
April 2024

Background

In August 2023, the Atlantic States Marine Fisheries Commission's (Commission) Coastal Pelagics Management Board (Board) passed the following motion:

Move to direct the Spanish Mackerel Technical Committee to develop a paper that characterizes the recreational and commercial Spanish mackerel fisheries along the Atlantic Coast. The timing and content of the paper are intended to help the Coastal Pelagics Management Board address state waters management issues.

This task emerged from Board discussion about the need to better understand each state's Spanish mackerel fisheries in anticipation of future Board action to address state and federal management differences, as well as recognition of emerging Spanish mackerel fisheries at the northern end of the species' range.

All states from Rhode Island through the east coast of Florida, except for Connecticut and Pennsylvania, have a declared interest in the Commission's Interstate Fishery Management Plan for Spanish Mackerel. Commercial and recreational Spanish mackerel fisheries are managed through size limits, gear restrictions, daily trip limits for the commercial fishery, and daily bag limits for the recreational fishery. State regulations are summarized in Table 1.

The Atlantic coast stock of Spanish mackerel is managed cooperatively between the Commission in state waters and the South Atlantic Fishery Management Council and NOAA Fisheries in federal waters. Differences between the Interstate and Federal Fishery Management Plans exist in terms of commercial management zones, commercial trip limits and closures, allowable gears, recreational season, and recreational accountability measures. A memorandum outlining those differences is available [here](#).

In October 2023, each state completed a fishery profile questionnaire to provide details on its commercial and recreational fisheries to inform this paper. The Appendix includes each state's fishery profile.

The Spanish Mackerel Technical Committee used the fishery profiles to develop this paper summarizing key details about the commercial and recreational fisheries. State-specific details are available in the fishery profiles themselves.

Biology and Seasonal Fish Availability

Spanish mackerel (*Scomberomorus maculatus*) are fast swimming fish known to gather in large schools and travel great distances. Spanish mackerel grow quickly, with females growing larger than males, and mature by age 1 to 2. Spanish mackerel prey primarily on small fishes, including herring, menhaden, and mullet, as well as shrimp, crabs, and squid to a lesser degree. The Atlantic coast stock of Spanish mackerel (distinct from the Gulf of Mexico stock) spend the winter off the east coast of Florida, then move northward to North Carolina in early April and further north in June. As waters cool later in the year, Spanish mackerel return to the east coast of Florida.

Availability of Spanish mackerel to state fisheries is driven by water temperatures and this seasonal migration. As such, peak harvest across both sectors aligns with this migratory pattern. The majority of Florida’s harvest occurs from late fall through early spring when the fish are wintering off the Florida coast. The majority of harvest from Georgia to Virginia occurs from early summer when the fish move northward, through early fall as the fish move back down the coast. The majority of harvest from Maryland northward occurs from late summer when the fish reach the northern end of their migration, through early fall. Figure 1 illustrates the seasonal harvest pattern showing average monthly commercial harvest from 2018-2022 for Florida and North Carolina, the states comprising a majority of coastwide commercial harvest. Florida’s commercial harvest peaks from November through March while the fish are wintering off the Florida coast, which is opposite of North Carolina’s peak commercial harvest from May through October when the fish are moving northward in the spring (May peak) and back southward in the fall (second peak in September). Figures 2-3 also illustrate the seasonal harvest pattern showing recreational harvest by each two-month wave throughout the year. Again, Florida’s recreational harvest peaks in January-February and November-December. South Carolina and North Carolina’s recreational harvest peaks in May-June and in September-October. Recreational harvest from Virginia northward peaks in July-August.

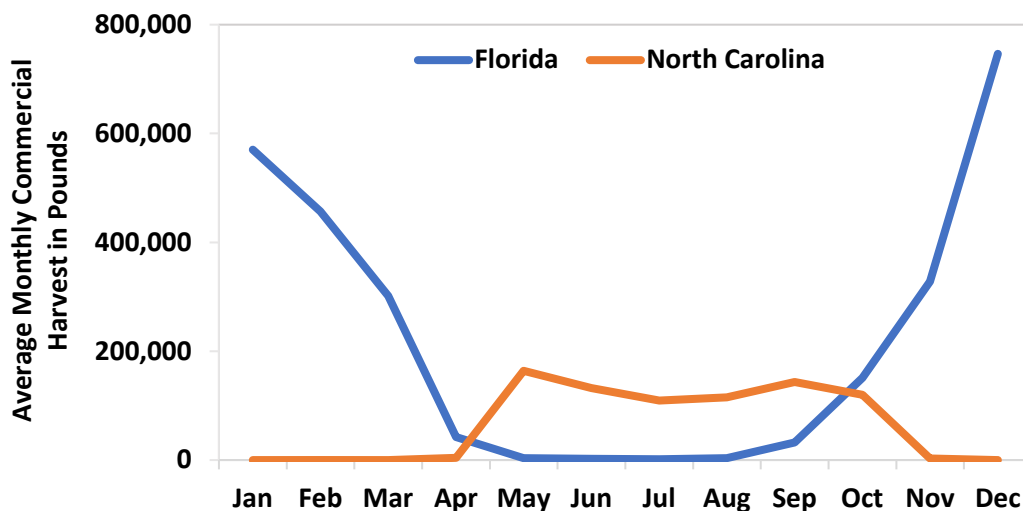


Figure 1. Average monthly commercial Spanish mackerel harvest for 2013-2022 for North Carolina and Florida. Source: State Fishery Profiles.

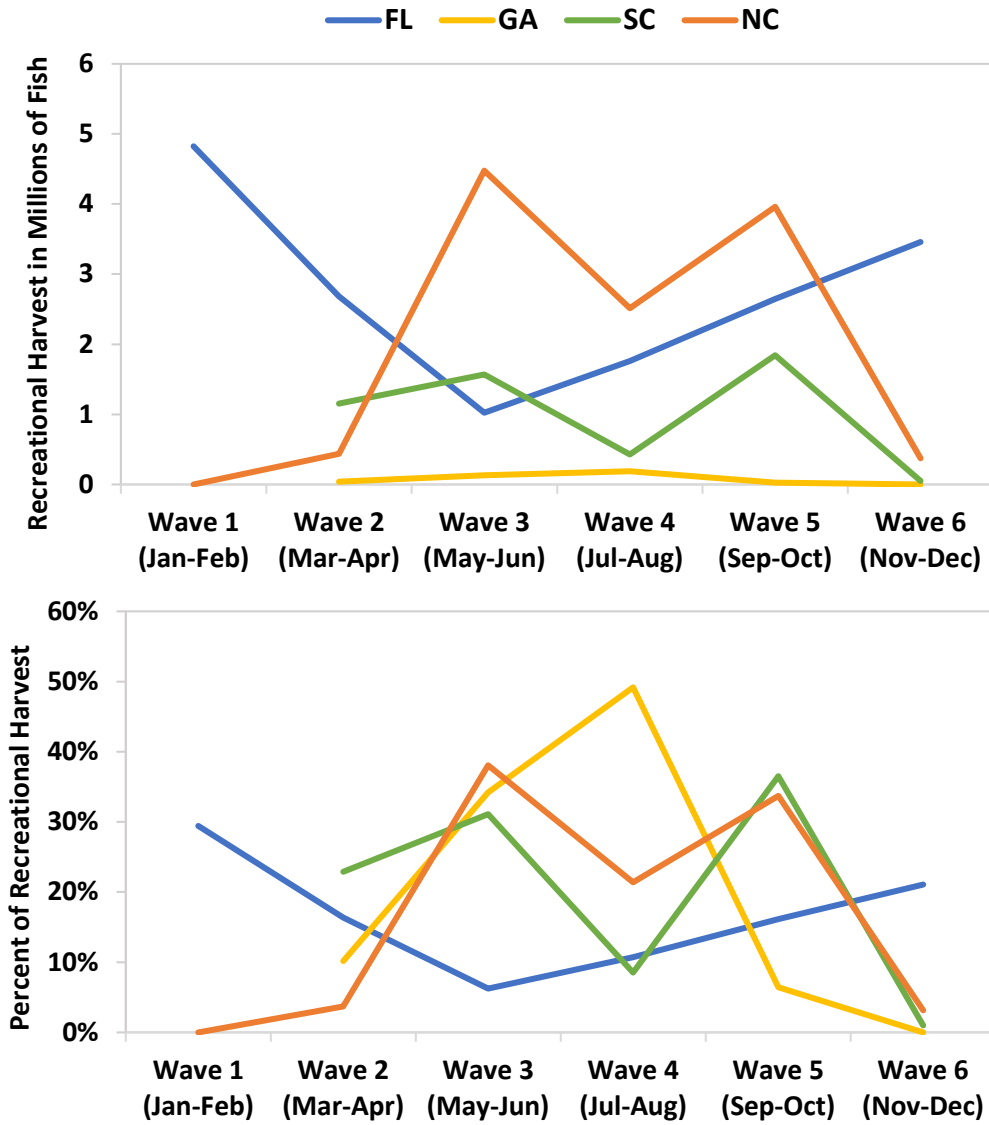


Figure 2. Recreational harvest of Spanish mackerel in numbers (top) and percent of recreational harvest in numbers (bottom) per two-month wave from 2018-2022 for Florida through North Carolina. MRIP sampling during Wave 1 only occurs in Florida and North Carolina. Source: MRIP.

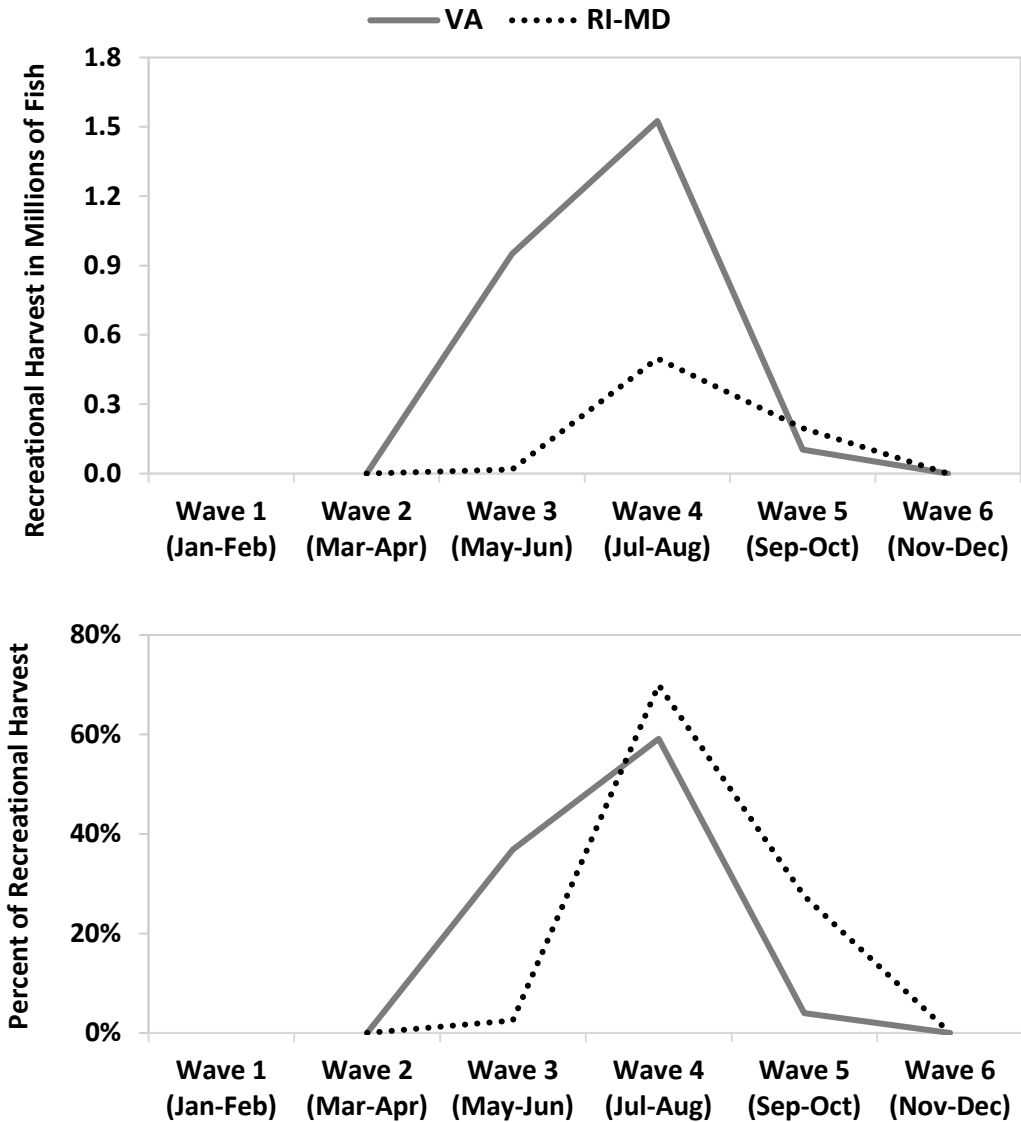


Figure 3. Recreational harvest of Spanish mackerel in numbers (top) and percent of recreational harvest in numbers (bottom) per two-month wave from 2018-2022 for Virginia through Rhode Island. MRIP sampling during Wave 1 does not occur in these states. Source: MRIP.

Total Landings Overview

Since 1981, total combined landings from the commercial and recreational sectors has typically been between about 6 million and 8 million pounds each year, with a time series average of 7.3 million pounds (Figure 4). Only five years in the time series exceeded 10 million pounds, and only five years in the time series dipped below 5 million pounds. Recreational landings, in particular, have fluctuated over time, which has changed each sector’s proportion of total landings from year to year.

Over the last ten years, the recreational fishery has accounted for the majority of Spanish mackerel landings in all states except Florida, where the commercial fishery accounted for about 54% over that time period (Figure 5).

While MRIP estimates of recreational landings in pounds are shown in this section for comparison to commercial landings, the Technical Committee notes additional uncertainty associated with MRIP weight estimates due to imputation of missing weight values. As such, the subsequent sections only use MRIP estimates in numbers of fish.

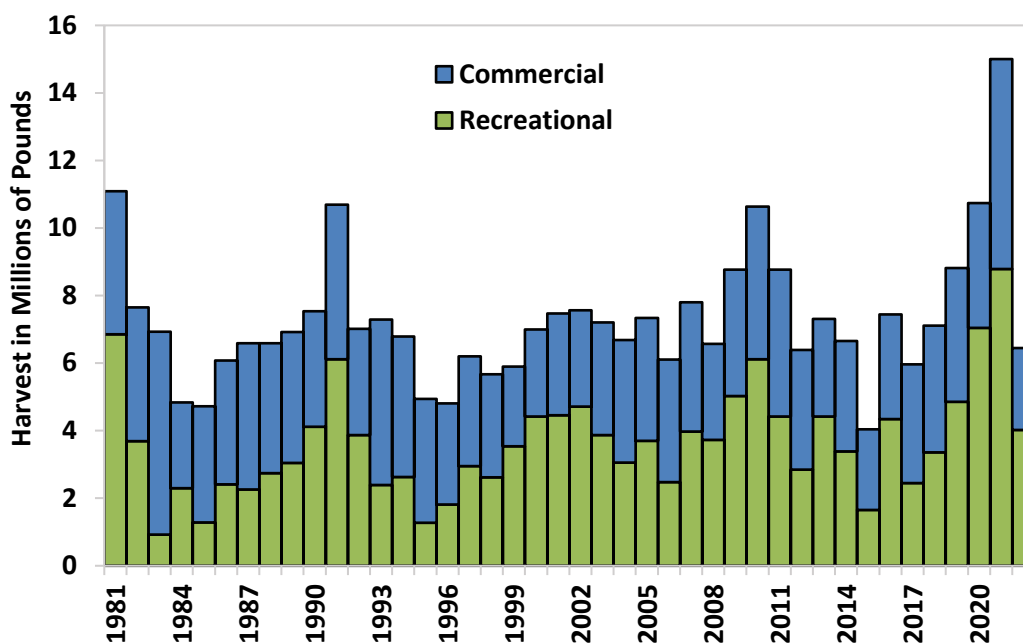


Figure 4. Coastwide commercial and recreational harvest in pounds of Spanish mackerel from 1981-2022. Source: State Fishery Profiles, ACCSP, MRIP.

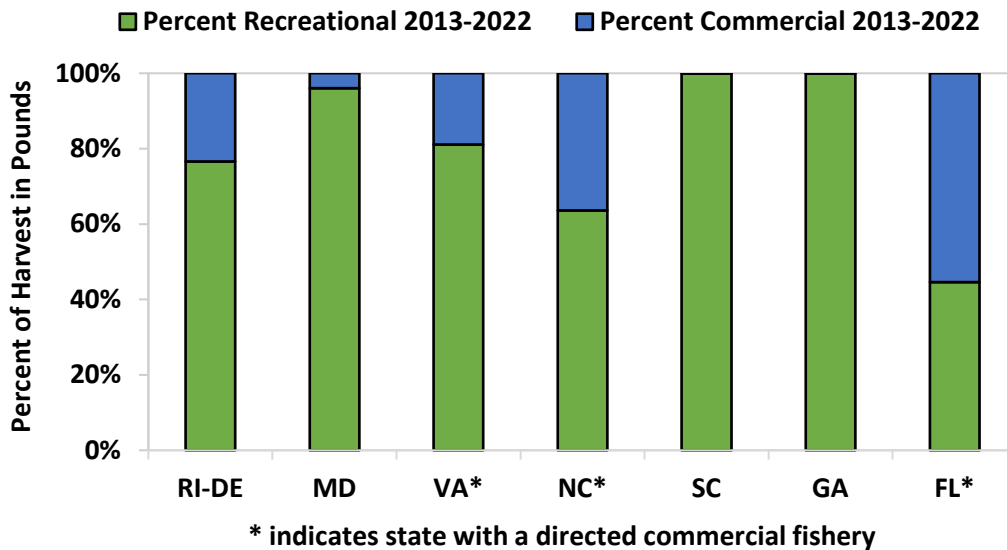


Figure 5. Sector proportion of Spanish mackerel harvest in pounds by state from 2013-2022. Source: State Fishery Profiles, ACCSP, MRIP.

Commercial Fisheries

Only three states, Florida, North Carolina, and Virginia, have targeted, directed commercial fisheries for Spanish mackerel. Over the last ten years, Florida accounted for 75% of coastwide commercial landings, North Carolina for 22%, and Virginia for 2%. The remaining states combined accounted for less than 1% of coastwide commercial landings for that time (Figure 6).

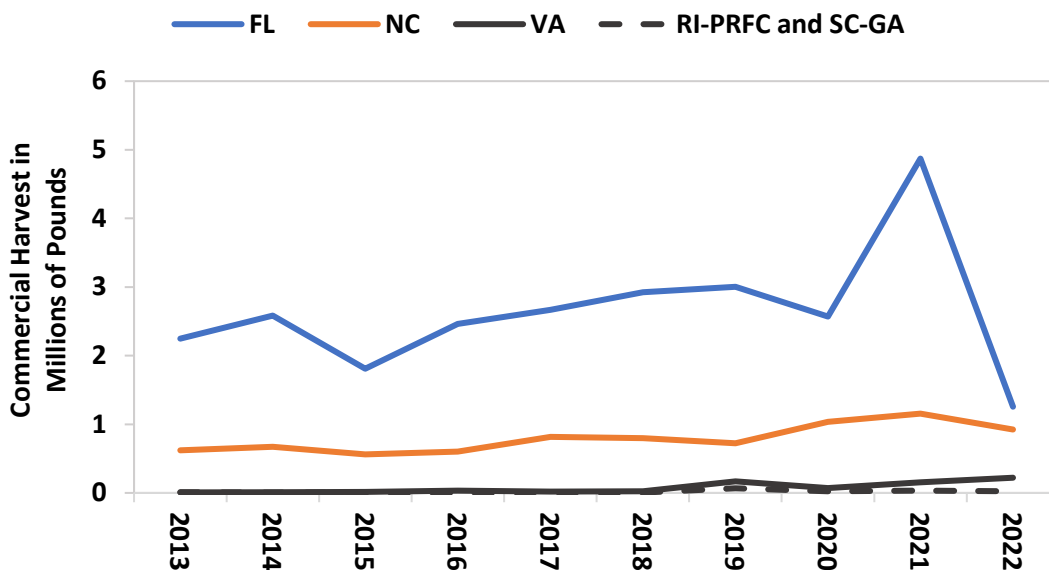


Figure 6. Spanish mackerel commercial harvest in pounds from 2013-2022 noting each state or region's proportion of the total commercial harvest for 2013-2022. Source: State Fishery Profiles, ACCSP.

Florida had 436 participants in its commercial fishery in 2022. Over the past five years, the average pounds landed per trip in Florida ranged from a low of 299 pounds per trip in 2022 to a high of 603 pounds per trip in 2021. The average pounds landed per trip in Florida is considerably lower from April through September (<50 pounds per trip on average) compared to October through March (>500 lbs./trip on average).

In North Carolina, the average number of participants in the commercial fishery over the past ten years was 374 (range of 305 to 474 participants). Over the past ten years, the average pounds landed per trip in North Carolina was 221 pounds per trip. The peak landings per trip is from May through September (about 200-250 pounds per trip on average), while landings are low the rest of the year (<50 pounds per trip on average).

In Virginia, the number of participants in the commercial fishery over the past ten years has ranged from 50-100 participants per year. Over the past ten years, the average pounds landed per trip in Virginia has ranged from 31 to 200 pounds per trip, with higher landings per trip during the summer and early fall months.

Georgia, South Carolina, the Potomac River Fisheries Commission, Maryland, Delaware, New Jersey, New York, and Rhode Island have none, or very limited, directed commercial fisheries for Spanish mackerel. These fisheries are primarily opportunistic bycatch fisheries characterized by variable landings from year to year, average landings of less than 100 pounds per trip, and few participants. When Spanish mackerel are landed as bycatch, harvesters from Maryland northward are targeting species such as bluefish, smooth dogfish, striped bass, Atlantic menhaden, Atlantic croaker, and spot. In South Carolina, Spanish mackerel, along with king mackerel and whiting (kingfish), are landed as bycatch in the penaeid shrimp fishery. Spanish mackerel also sporadically appear as apparent bycatch in South Carolina's snapper-grouper fishery.

The vast majority of commercial fisheries occur in state waters, with most states indicating over 80% of their commercial landings are from state waters. All three states with directed commercial fisheries note over 90% of their landings are from state waters in recent years.

There are a variety of gear types used to harvest Spanish mackerel commercially. From North Carolina northward, gill nets and pound nets are the most common gears. In South Carolina, trawl is the predominant commercial gear. In Florida, hook and line and cast net are most common.

For states at the northern end of the species range, commercial landings from 2019-2022 are generally higher than they were from 2013-2018 (Figure 7). However, landings are variable from year to year and vary among states. There was a significant spike in landings in 2019 in Virginia, the Potomac River, and Maryland, and Virginia's landings peaked again in 2022.

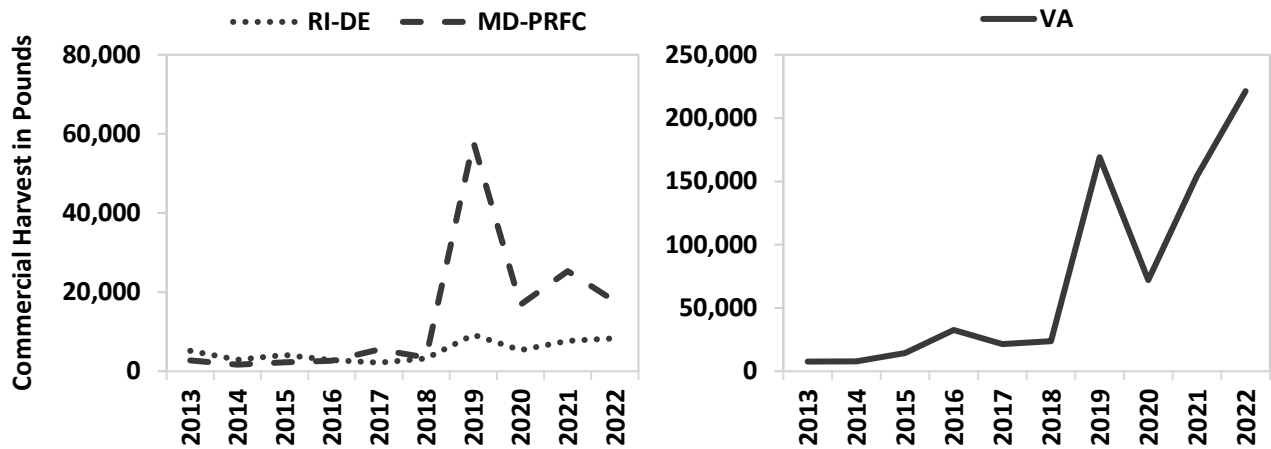


Figure 7. Spanish mackerel commercial harvest in pounds from 2013-2022 for Rhode Island through the Potomac River Fisheries Commission (left) and Virginia (right). Note the different axis scale for each figure. Source: State Fishery Profiles, ACCSP.

Other Interesting Points from Commercial Profiles

The Technical Committee noted the following points of interest from the state commercial fishery profiles.

In Virginia, starting in the 2022 fishing year, four experimental gear permits were distributed to commercial harvesters allowing them to fish up to 6,000 feet of continuous drift gillnet to determine whether this longer single net is more effective at catching Spanish mackerel than several separate shorter gillnets. One additional permit was added in 2023. A stipulation with this experimental gear permit is allowing Virginia Marine Resources Commission observer staff on the boat to note bycatch and evaluate the effectiveness of the new gear. For the 2024 fishing year the number of experimental permits will be increased to approximately 20 commercial harvesters.

South Carolina noted the number of commercial participants has declined over time to usually just one harvester in recent years.

The Florida commercial fishery has three components. Cast netters harvest smaller Spanish mackerel from December through January. Hook-and-line food fishermen harvest larger fish year-round, with increased activity after cast netting ends. Hook-and-line bait fishermen harvest smaller fish with increased activity in March.

Recreational Fisheries

Recreational hook-and-line fisheries for Spanish mackerel occur in all states, although South Carolina and some states at the northern end of the species range note the recreational fishery is opportunistic and not necessarily targeted. These opportunistic fisheries are characterized by variable landings year to year.

Over the past ten years, Florida accounted for 44% of the coastwide recreational harvest in numbers of fish, North Carolina for 32%, South Carolina for 14%, Virginia for 7%, Georgia for 1%, and Maryland through Rhode Island for 2% (Figure 8). This time period includes a large increase in Florida's recreational harvest in 2020 and 2021, to a time series high, followed by a sharp decrease in 2022.

Similar to trends in commercial harvest at the northern end of the species range, recreational harvest from Virginia northward are generally higher from 2019-2022 than they were from 2013-2018 (Figure 9). This trend is also apparent in the recreational harvest data for North Carolina, South Carolina, and Georgia, which saw a peak in 2019 and landings above pre-2019 levels in most subsequent years, including a time series high in 2022 for North Carolina and South Carolina (Figure 8; Table 3).

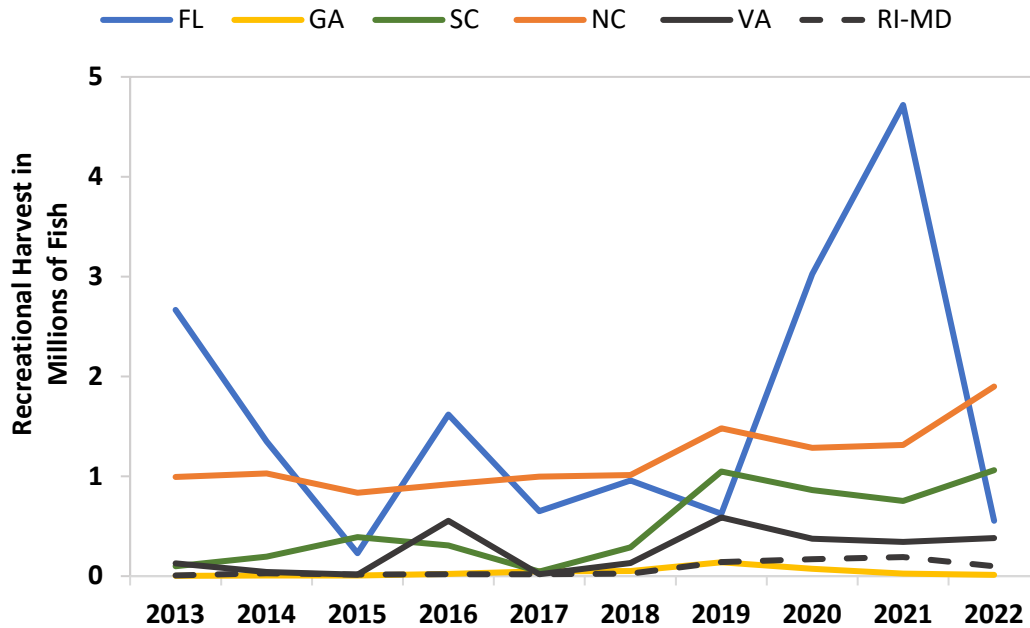


Figure 8. Spanish mackerel recreational harvest by state in numbers of fish from 2013-2022 noting each state or region's proportion of the total recreational harvest for 2013-2022. Source: MRIP.

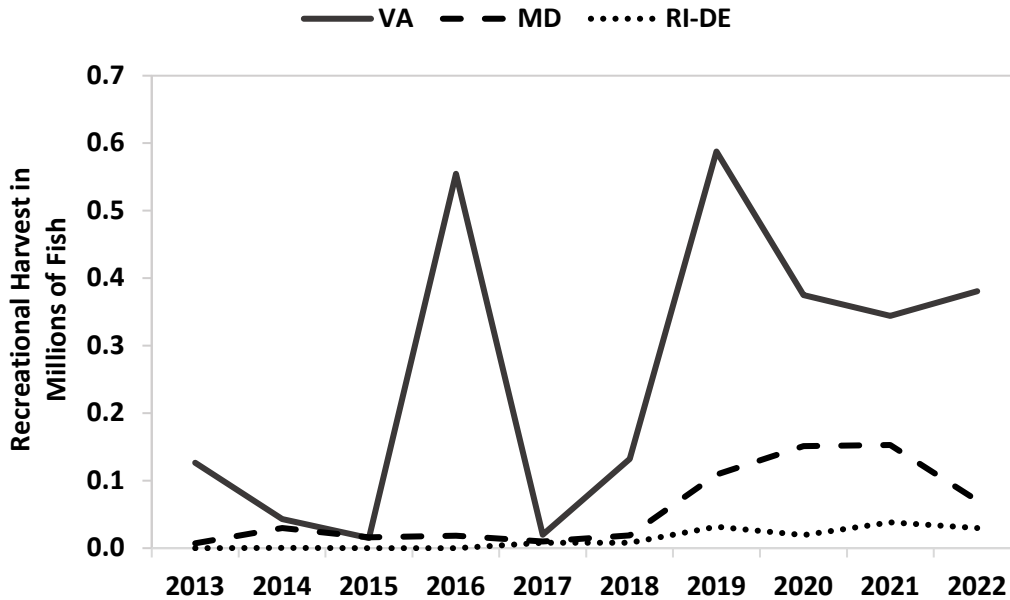


Figure 9. Spanish mackerel recreational harvest in numbers of fish for Virginia, Maryland, and Rhode Island through Delaware from 2013-2022. Source: MRIP.

Recreational harvest estimates from the Marine Recreational Information Program (MRIP) are associated with high PSEs (>50) for some states, particularly for states at the northern end of the species range and for Georgia in some years (Table 3).

Directed trips coastwide with Spanish mackerel as the primary or secondary target increased steadily from 1.9 million trips in 2018 to 3.5 million trips in 2021 (Table 4). Directed trips coastwide decreased to 2.9 million in 2022, but that level is still higher than the 2018-2020 coastwide levels. Trends vary by state, and directed trips is only one dataset used to describe effort in the Spanish mackerel recreational fishery. For example, Florida will use directed effort but will also use different hierarchical clustering techniques to examine effort. This technique will include any trip that any species within the same cluster as the species of interest to try and include those trips that did not catch the target species, but theoretically could have due to the other species caught.

Although not reflected in every state’s harvest estimates, the Technical Committee noted an increase in effort in several states in 2020-2021 that may be associated with COVID-19. It is important to note that COVID-19 may have impacted recreational modes differently. For-hire trips may have been limited due to restrictions on the number of people permitted on vessels; however, shore and private effort may have increased. Another factor potentially affecting Spanish mackerel fishing effort is management and availability of other species. The Technical Committee noted the potential for regulatory restrictions on other species to redirect angler effort to Spanish mackerel when they are available.

By recreational mode, private/rental vessels and shore anglers (private-shore) account for the majority of recreational harvest, while charter and head boats (for-hire) represent a small percentage of harvest (Table 5). In most states, private-shore comprised over 90% of recreational harvest over the past ten years. In states north of Virginia, private-shore comprised about 81% of recreational harvest over the same time period.

With the exception of a few states, the vast majority of recreational fisheries occur in state waters. The exceptions are as follows. New Jersey notes 55% of recreational landings have been from state waters. Delaware notes the majority of landings are from federal waters. South Carolina notes that MRIP data indicate 97% of catch comes from state waters and 3% from the EEZ outside state waters; however, South Carolina charter logbook data suggests 60% of trips are in federal waters. South Carolina notes this difference may reflect a difference in the approach/focus (e.g., fishing locale) of charter captains and their clients, as compared to the individuals represented by the MRIP data.

MRIP FES Estimates

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

Other Interesting Points from Recreational Profiles

The Technical Committee noted the following points of interest from the state recreational fishery profiles:

- Virginia noted many anglers harvest their daily limit when possible, and typically only release fish when they are under the minimum size limit.
- North Carolina noted Spanish mackerel appear to be showing up earlier and staying later in North Carolina waters in recent years.
- South Carolina noted the continued ability to retain Spanish mackerel for use as bait may be of interest to participants in Highly Migratory fisheries, as many favor them as bait and are known to preserve them for future use.
- Georgia noted that even though Spanish mackerel are a desired target species by Georgia anglers, they are not consistently encountered through fishery-dependent data collection.

Additional Characteristics of the Florida Fisheries

The Technical Committee noted the following additional points from Florida’s fishery profile. Florida’s commercial and recreational Spanish mackerel fisheries have typically contributed a large proportion of coastwide landings, but there has been a recent decline in 2022.

One factor contributing to the reduction in Florida landings and effort is the increase in areas off central east Florida that are closed to vessels by the U.S. Coast Guard to create safety zones associated with space launches. This has prevented fishermen from accessing areas where they would traditionally fish for Spanish mackerel.

Florida noted that Spanish mackerel will concentrate in easily accessible, inshore areas during the winter. Because of this, commercial and recreational fisheries operate simultaneously in the same area and this has resulted in conflicts between the two sectors.

Tables

Table 1. Summary of state regulations for Spanish mackerel in 2022.

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

State	Recreational	Commercial
RI	14" TL, 15 fish	14" TL. 3,500 lb. trip limit.
NY	14" TL, 15 fish	14" TL. 3,500 lb. trip limit.
NJ	14" TL, 10 fish	14" TL. 3,500 lb. trip limit.
DE	14" TL, 15 fish	14" TL. 3,500 lb. trip limit.
MD	14" TL, 15 fish	14" TL. 3,500 lb. trip limit. Public notice 7/9/2022: 500-lb trip limit when harvest in federal waters closed.
PRFC	14" TL, 15 fish	14" TL. Closure if/when both MD and VA fisheries close.
VA	14" TL, 15 fish	12" or 14" TL. 3,500 lb. trip limit. 500 lb. trip limit if/when harvest in federal waters closed.
NC	12" FL, 15 fish	12" FL; 3,500 lb. trip limit for combined Spanish and king mackerel landings. Proclamation 6/21/2022: 500-lb trip limit when harvest in federal waters closed.
SC	12" FL, 15 fish	12" FL. 3500 lbs. until 75% of adjusted Atlantic Southern Zone quota taken, then 1500 lbs. until 100% of adjusted quota is taken, then 500 lbs. until the end of year or commercial quota is met. If quota is met, then commercial sector is closed to harvest. Requires open access permit for Spanish mackerel.
GA	12" FL, 15 fish	12" FL. 3500 lbs. until 75% of adjusted Atlantic Southern Zone quota taken, then 1500 lbs. until 100% of adjusted quota is taken, then 500 lbs. until the end of year or commercial quota is met. If quota is met, then commercial sector is closed to harvest.
FL	12" FL, 15 fish. Cast nets less than 14' and beach or haul seines with no larger than 2" stretched mesh allowed	12" FL or 14" TL. Trip limits: March 1 until Nov. 30 – 3500 lb.; Dec. 1 until 75% of adjusted quota reached – 3500 lb. Monday – Friday & 1500 lb. Saturday – Sunday; >75% adjusted quota until quota filled – 1500 lb.; > 100% of adjusted quota – 500 lb. Restricted Species Endorsement Required Allowed gear: beach or haul seine, cast net, hook and line, or spearing.

Table 2. Commercial landings (pounds, calendar year) of Spanish mackerel by state, 2013-2022. (Source: State Fishery Profiles, ACCSP). Confidential values are shown as “C”. Coastwide totals adhere to the ACCSP rule of 3, i.e., totals are reflective of the true total if 0 or at least 3 states’ data are confidential in a given year. Otherwise, they are sums of non-confidential data.

Year	Other*	RI	NY	NJ	DE	MD	PRFC
2013	C	C	4,467	265		2,397	302
2014	C	43	2,550	292		1,644	12
2015		C	1,357	2,746		2,219	6
2016		C	813	1,997	C	2,105	548
2017	C	652	1,053	462		796	4,704
2018	C	951	1,285	950		3,071	420
2019	C	1,484	5,708	2,010	C	12,571	45,385
2020	C	602	3,033	C	C	6,720	10,092
2021	C	284	5,826	C	C	5,192	20,076
2022	C	C	6,271	1,903		6,367	11,356
Year	VA	NC	SC	GA	FL	Total	
2013	7,602	620,752			2,246,553	2,882,338	
2014	7,859	673,974	C		2,585,199	3,271,572	
2015	14,472	561,407	C		1,807,948	2,390,155	
2016	32,577	601,623	C		2,461,334	3,101,172	
2017	21,483	816,017	C		2,665,560	3,510,727	
2018	23,609	796,855	C		2,926,140	3,753,282	
2019	169,152	722,396	C	C	3,004,860	3,963,759	
2020	71,953	1,033,526	C	C	2,571,019	3,698,783	
2021	143,376	1,155,289	C		4,871,825	6,214,359	
2022	221,269	926,026	C	C	1,256,115	2,429,443	

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

Table 3. Recreational harvest (numbers, calendar year) of Spanish mackerel by state, 2013-2022 with indication of Percent Standard Error (PSE): red is >50, yellow is 30-50, white is <30. (Source: MRIP)

Year	Other*	RI	NY	NJ	DE	MD	VA
2013					41	7,187	126,656
2014	455					29,713	42,937
2015						15,837	14,950
2016					9	18,559	554,813
2017				8,107	28	9,687	20,000
2018	316			6,753	797	19,146	132,390
2019	335		21,031	8,787	1,396	109,007	587,683
2020	6,254	3,016	6,096	3,985	92	151,412	374,892
2021	622		3,143	34,323	129	152,829	344,235
2022		414	1,435	11,865	16,213	70,582	380,446
Year	NC	SC	GA	FL	Coastwide Total (number of fish)		
2013	994,599	100,512	2,701	2,665,958	3,897,654		
2014	1,028,925	194,367	5,365	1,348,735	2,650,952		
2015	835,011	389,923	6,201	229,669	1,491,591		
2016	918,352	306,235	22,637	1,618,529	3,439,134		
2017	995,706	45,644	48,633	650,916	1,778,721		
2018	1,012,889	289,250	49,764	956,741	2,468,362		
2019	1,478,890	1,046,972	138,756	623,415	4,016,272		
2020	1,286,131	861,349	72,308	3,025,466	5,791,001		
2021	1,312,929	752,570	24,666	4,718,809	7,344,255		
2022	1,898,755	1,060,999	12,583	555,443	4,008,735		

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

Table 4. Atlantic coast directed trips with Spanish mackerel as the primary or secondary target by state for 2018-2022. (Source: MRIP)

Year	Other*	RI	NY	NJ	DE	MD	VA
2018					949	27,777	73,974
2019	600		5,145	60,075	1,807	74,659	237,432
2020	27,911		103,673	176,600	2,924	112,339	205,235
2021				50,756	418	67,116	205,791
2022	5,227	118	10,564	22,761	4,053	77,358	273,181
Year	NC	SC	GA	FL	Coastwide Total Directed Trips		
2018	773,434	348,349	29,865	660,061	1,914,409		
2019	983,779	494,920	15,722	526,333	2,400,472		
2020	847,055	282,677	49,526	1,013,440	2,821,380		
2021	1,052,516	411,898	37,417	1,686,163	3,512,075		
2022	1,248,801	634,186	20,181	657,394	2,953,822		

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

Table 5. Percent of recreational harvest in numbers of fish by mode and by state for 2013-2022. (Source: MRIP)

State/Region	Private-Shore Percent of Recreational Harvest	For-Hire Percent of Recreational Harvest
RI – MD	81%	19%
VA	94%	6%
NC	92%	8%
SC	96%	4%
GA	95%	5%
FL	>99%	<1%

Appendix

Individual fishery profiles submitted by each state are enclosed in the following pages. Some states submitted separate data files, which are not included here.



State of Rhode Island Atlantic States Marine Fisheries Commission Compliance Report

Spanish Mackerel – *Scomberomorus maculatus*



Due Date: October 1

Compiled By:

JA Macfarlan, PhD

Principal Marine Fisheries Biologist
Rhode Island Department of Environmental Management

[Division of Marine Fisheries](#)

3 Ft. Wetherill Rd.

Jamestown, RI 02835

Reuben.Macfarlan@dem.ri.gov

2023 ASMFC Fishery Profile Questionnaire for Spanish Mackerel

Rhode Island

COMMERCIAL SPANISH MACKEREL FISHERY- CONFIDENTIAL

How long has the commercial Spanish mackerel fishery been active (e.g., 1970s)?

RI does not have a directed Spanish Mackerel fishery, these landings are highly variable through time and although they show a seasonal tendencies their presence in RI waters is less predictable than other more common species such Chub Mackerel.

How much of the commercial fishery operates in state waters vs. federal waters?

Not known at this time, a mix of state and federal.

Approximately how many participants in the commercial fishery?

Less than 6.

What gears are used in the commercial fishery? Which are the primary gears?

Gillnets and floating fish traps.

How do commercial landings vary throughout the year? Is there a season or time of year when most landings occur (e.g., due to quota closures, fish availability)?

Landings begin in July, and then peak in the late summer and early Fall, around September, and then there are sporadic landings in October and occasionally early November.

What is the average number of pounds landed per trip? Does this vary throughout the year?

15

What other commercial species are commonly targeted/landed with Spanish mackerel?

NA

Is port sampling or commercial fishery-dependent monitoring conducted? If so, please provide a brief summary of what commercial data are collected (e.g., length, effort) and note general observed trends over the past ten years.

No not for Spanish Mackerel.

Are there specific factors you would like to highlight that impact operation of the commercial fishery?

No

RECREATIONAL SPANISH MACKEREL FISHERY

How long has the recreational Spanish mackerel fishery been active (e.g., 1970s)?

As mentioned above there is no real directed commercial or recreational fishery.

How much of the recreational fishery operates in state waters vs. federal waters?

Unknown

What gears are used in the recreational fishery?

Spinning gear. Relatively light spin-casting rods are typical with soft or hard plastic lures and spoons/jigs for terminal tackle.

How do recreational landings vary throughout the year? Is there a season or time of year when most landings occur (e.g., due to fish availability)?

Most recreational landings are in September.

What other recreational species are commonly targeted/landed with Spanish mackerel?

The target species are not Spanish Mackerel but are caught while fishing for bluefish, false albacore, other scombrids, bonito and striped bass.

Is port sampling or recreational fishery-dependent monitoring conducted? If so, please provide a brief summary of what recreational data are collected (e.g., length, effort) and note general observed trends over the past ten years.

Yes, but not targeting Spanish Mackerel in particular. MRIP data are collected via creel counts/intercepts, for length and weights at boat ramps and fishing access points within the state.

Are there specific factors you would like to highlight that impact the recreational fishery?

NA

Are there notable Spanish mackerel tournaments, events, etc. you would like to highlight?
No

GENERAL

When during the year are Spanish mackerel available in your state waters?
Late summer

Is there anything else Board members should know about your state's commercial and recreational Spanish mackerel fisheries?
NA

2023 ASMFC Fishery Profile Questionnaire for Spanish Mackerel

New York

COMMERCIAL SPANISH MACKEREL FISHERY

How long has the commercial Spanish mackerel fishery been active (e.g., 1970s)?

New York does not have a directed Spanish mackerel fishery. Spanish mackerel are incidentally caught by commercial fisherman while targeting other species. Records show the first recorded Spanish mackerel landed commercially occurred in 1975.

How much of the commercial fishery operates in state waters vs. federal waters?

From 2018 through 2022, 86% of commercial harvest took place in state waters and 14% in federal waters.

Approximately how many participants in the commercial fishery?

From 2018 through 2022 there has been an average of 29 participants in the commercial fishery.

What gears are used in the commercial fishery? Which are the primary gears?

Fixed nets, gill nets, hand line, trawls, and pots and traps are used in the commercial fishery. The two primary gears used in order of most frequent are gill nets and fixed nets.

How do commercial landings vary throughout the year? Is there a season or time of year when most landings occur (e.g., due to quota closures, fish availability)?

Spanish mackerel start to be reported in the month of June and typically the last reports are in October. The months of August and September have the highest percent landings.

What is the average number of pounds landed per trip? Does this vary throughout the year?

From 2018 through 2022 the average number of pounds landed was 25.8 per trip. The highest landings per trip occurred in the months of August and September.

What other commercial species are commonly targeted/landed with Spanish mackerel?

From 2018 through 2022 species caught with Spanish mackerel have been Atlantic menhaden, bluefish, hickory shad, long-fin squid, scup, smooth dogfish, striped bass, summer flounder, and weakfish. Bluefish had been the highest species caught by weight for 4 of the 5 years.

Is port sampling or commercial fishery-dependent monitoring conducted? If so, please provide a brief summary of what commercial data are collected (e.g., length, effort) and note general observed trends over the past ten years.

No.

Are there specific factors you would like to highlight that impact operation of the commercial fishery?

No.

RECREATIONAL SPANISH MACKEREL FISHERY

How long has the recreational Spanish mackerel fishery been active (e.g., 1970s)?

The first recorded Spanish mackerel landed recreationally occurred in 1987.

How much of the recreational fishery operates in state waters vs. federal waters?

From 2018 through 2022, 93% of Spanish mackerel were caught in state waters and 7% in federal waters.

What gears are used in the recreational fishery?

Rod and reel

How do recreational landings vary throughout the year? Is there a season or time of year when most landings occur (e.g., due to fish availability)?

Recreational anglers reported catching Spanish mackerel in the months of July through September when waters are typically the warmest. During the other months of the year the water temperature falls below the Spanish mackerels preferred temperature range of 21 – 27 °C.

What other recreational species are commonly targeted/landed with Spanish mackerel?

Bluefish, false albacore, green bonito, and striped bass.

Is port sampling or recreational fishery-dependent monitoring conducted? If so, please provide a brief summary of what recreational data are collected (e.g., length, effort) and note general observed trends over the past ten years.

Yes, there is a recreational sampling program via APAIS that does dock interviews. They collect length, weight, area, mode of catch (inshore/offshore, via pier/boat, number of anglers, time spent fishing). Most of the sampling for Spanish mackerel happens on the south shore of Long Island. As per NY's APAIS head, intercepts picking up Spanish mackerel

have increased in the past number of years. They weren't a common occurrence every year in the 2010s, but now every year they're encountering some.

Are there specific factors you would like to highlight that impact the recreational fishery?

No.

Are there notable Spanish mackerel tournaments, events, etc. you would like to highlight?

No.

GENERAL

When during the year are Spanish mackerel available in your state waters?

July through September with highest occurrences in the months of August and September.

Is there anything else Board members should know about your state's commercial and recreational Spanish mackerel fisheries?

Yes. The PSE's for recreational harvest are all over 50 which indicates a highly imprecise estimate. The Board should be cautious when using these harvest numbers for management in NY waters.

2023 ASMFC Fishery Profile Questionnaire for Spanish Mackerel

NEW JERSEY

COMMERCIAL SPANISH MACKEREL FISHERY

How long has the commercial Spanish mackerel fishery been active (e.g., 1970s)?

New Jersey has no historical or current directed fishery but has had an opportunistic bycatch fishery since the 1950s.

How much of the commercial fishery operates in state waters vs. federal waters?

From 1953 – 2022 the number of reported commercial landings was nearly identical in state waters vs. federal waters, with more poundage coming from state waters.

NJ Waters – 280 commercial trips with Spanish mackerel reported – 216,922 lbs. landed.

Federal Waters – 282 commercial trips with Spanish mackerel reported – 71,614 lbs. landed.

Approximately how many participants in the commercial fishery?

Variable from year to year and is not typically a targeted species, with zero participating in a directed fishery.

An average of 10 fisherman have reported Spanish mackerel landings (bycatch) annually from 2006 -2022.

What gears are used in the commercial fishery? Which are the primary gears?

Bycatch landings are reported in dredges, gillnets, trawls, purse seines, long lines, and fixed nets. The primary gears are gill nets and otter trawls.

How do commercial landings vary throughout the year? Is there a season or time of year when most landings occur (e.g., due to quota closures, fish availability)?

The landings are consistent from August – October with the peak in September.

What is the average number of pounds landed per trip? Does this vary throughout the year?

From 1953 - 2022 the average Spanish mackerel landed per trip was 82 lbs. The landings are variable throughout the year with around 70% of the commercial landings happening in September (~50%) and August (~20%).

Average annual landings are 7,334 pounds/year during the entirety of the time series, with annual landings varying greatly.

What other commercial species are commonly targeted/landed with Spanish mackerel?

Recent landings show bycatch landings associated with NJ’s smooth dogfish and Atlantic croaker gillnet fisheries.

Is port sampling or commercial fishery-dependent monitoring conducted? If so, please provide a brief summary of what commercial data are collected (e.g., length, effort) and note general observed trends over the past ten years.

No port sampling or commercial fishery-dependent monitoring is conducted.

Are there specific factors you would like to highlight that impact operation of the commercial fishery?

N/A

RECREATIONAL SPANISH MACKEREL FISHERY

How long has the recreational Spanish mackerel fishery been active (e.g., 1970s)?

According to MRIP there have been reported catch since 1986. All years of catch estimates have high PSE values indicating low confidence in estimates.

How much of the recreational fishery operates in state waters vs. federal waters?

Average over all years available in MRIP 55% of harvest in numbers of fish in state waters vs 45% in Federal Exclusive Economic Zone.

Row Labels	FEEZ	NJ	Grand Total	Percent State	Percent Fed EEZ
1986		211	211	100%	0%
1989	28684	11010	39694	28%	72%
1990	3084	867	3951	22%	78%
1991	6120	5202	11322	46%	54%
1992	9419	8844	18263	48%	52%
1993		3046	3046	100%	0%
1994		13185	13185	100%	0%
1996	2300		2300	0%	100%
1998	6437	1523	7960	19%	81%
1999	4118		4118	0%	100%
2000		330	330	100%	0%
2004		1384	1384	100%	0%
2006	133		133	0%	100%
2008	96	173	269	64%	36%
2009	129		129	0%	100%
2017	3665	4442	8107	55%	45%
2018	5406	1348	6754	20%	80%
2019	4449	4339	8788	49%	51%

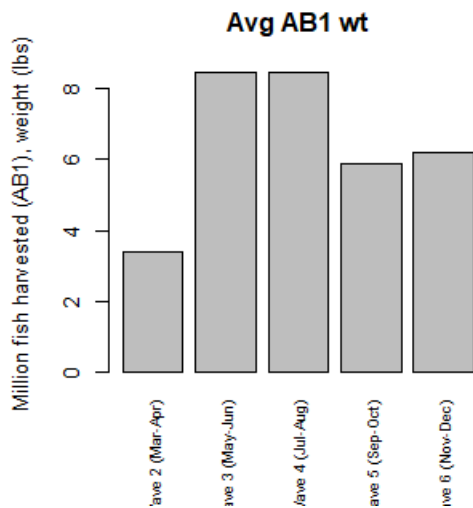
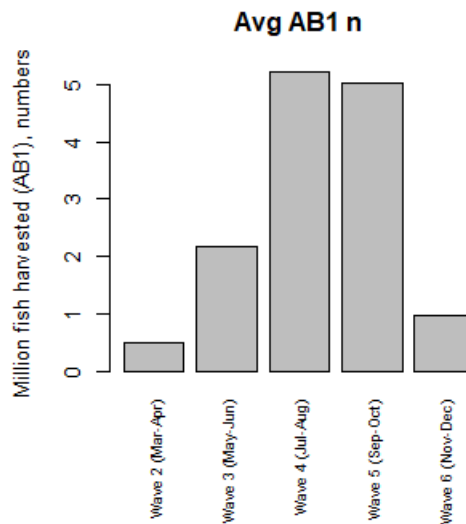
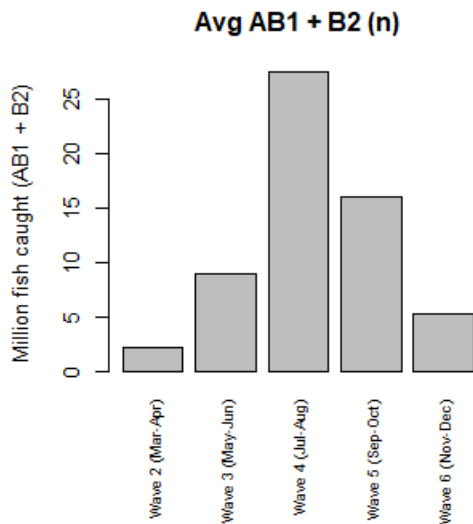
Row Labels	FEEZ	NJ	Grand Total	Percent State	Percent Fed EEZ
2020	3953	33	3986	1%	99%
2021	2234	32089	34323	93%	7%
2022	128	11737	11865	99%	1%
Grand Total	80355	99763	180118	55%	45%

What gears are used in the recreational fishery?

Hook and Line

How do recreational landings vary throughout the year? Is there a season or time of year when most landings occur (e.g., due to fish availability)?

By number, the fish are very available in July-Aug (wave 4); but, by weight, May – December).



What other recreational species are commonly targeted/landed with Spanish mackerel?

Response

Is port sampling or recreational fishery-dependent monitoring conducted? If so, please provide a brief summary of what recreational data are collected (e.g., length, effort) and note general observed trends over the past ten years.

New Jersey only performs APAIS that which can encounter Spanish Mackerel.

Are there specific factors you would like to highlight that impact the recreational fishery?

N/A

Are there notable Spanish mackerel tournaments, events, etc. you would like to highlight?

N/A

GENERAL

When during the year are Spanish mackerel available in your state waters?

Catches are generally infrequent and typically represent an opportunistic fishery with a significant amount of interannual variability in availability, catch, and harvest. See info above.

Is there anything else Board members should know about your state's commercial and recreational Spanish mackerel fisheries?

New Jersey's coast represents a portion of the northernmost extent of Spanish mackerel's range and as a result this species is not encountered with great frequency in the State's recreational or commercial fisheries. Cobia is not typically targeted by New Jersey fishermen but when they are seen by fishermen incidentally when targeting other more popular species. The opportunistic and infrequent nature of the Spanish mackerel fishery in New Jersey is clearly reflected in the available MRIP and commercial estimates of harvest. During the years of available MRIP estimates, harvest vary widely with PSEs rarely less than 50.



STATE OF DELAWARE
**DEPARTMENT OF NATURAL RESOURCES AND
ENVIRONMENTAL CONTROL**

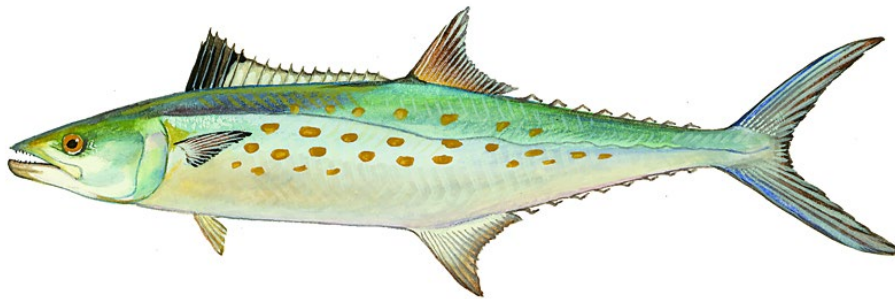
DIVISION OF FISH & WILDLIFE
RICHARDSON & ROBBINS BUILDING
89 KINGS HIGHWAY
DOVER, DELAWARE 19901

FISHERIES
SECTION

PHONE
(302) 739-9914

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**2023 Annual Spanish Mackerel Compliance Report and Fishery
Profile
for the State of Delaware:**



2023 ASMFC Fishery Profile Questionnaire for Spanish Mackerel

Delaware

COMMERCIAL SPANISH MACKEREL FISHERY

How long has the commercial Spanish mackerel fishery been active (e.g., 1970s)?

Delaware does not have a Spanish mackerel commercial fishery. Spanish mackerel may be caught and landed by commercial gill netters and hook and liners on occasion, but no fisherman is targeting Spanish mackerel.

How much of the commercial fishery operates in state waters vs. federal waters?

N/A

Approximately how many participants in the commercial fishery?

Delaware issues 111 commercial gill net permits and approximately 172 commercial hook and line permits annually. Delaware also issues a small number of fish pot permits, with 5 issued to fish potters with black sea bass quota.

What gears are used in the commercial fishery? Which are the primary gears?

Gill nets and fish pots are responsible for the bulk of Delaware's commercial finfish landings. Hook and line is the other primary gear used in Delaware as both trawls and purse seines are illegal for use in Delaware state waters.

How do commercial landings vary throughout the year? Is there a season or time of year when most landings occur (e.g., due to quota closures, fish availability)?

Striped bass, black sea bass, and Atlantic menhaden typically account for 80% - 90% of Delaware's annual finfish landings. Delaware's spring striped bass gill net season opens February 15 and ends on May 31, but ~90% are landed in March and April. Black sea bass are landed throughout the year but most are landed winter and spring. Atlantic menhaden landings vary widely depending on the timing of their availability. If they are abundant during the spring striped bass gill net fishery, some gill netters will set out additional nets to catch Atlantic menhaden to freeze for crab bait.

What is the average number of pounds landed per trip? Does this vary throughout the year?

N/A as no Spanish mackerel were landed.

What other commercial species are commonly targeted/landed with Spanish mackerel?

N/A as no Spanish mackerel were landed.

Is port sampling or commercial fishery-dependent monitoring conducted? If so, please provide a brief summary of what commercial data are collected (e.g., length, effort) and note general observed trends over the past ten years.

No, no commercial Spanish mackerel caught in Delaware.

Are there specific factors you would like to highlight that impact operation of the commercial fishery?

No.

RECREATIONAL SPANISH MACKEREL FISHERY

How long has the recreational Spanish mackerel fishery been active (e.g., 1970s)?

First landings recreationally were reported in 1990.

How much of the recreational fishery operates in state waters vs. federal waters?

Most landings occur in Federal waters (ocean over 3 miles).

What gears are used in the recreational fishery?

Hook & Line is the only gear used.

How do recreational landings vary throughout the year? Is there a season or time of year when most landings occur (e.g., due to fish availability)?

Very low occurrence during earlier years, landings have increased greatly in the past few years.

What other recreational species are commonly targeted/landed with Spanish mackerel?

Don't have data, but likely other pelagic schooling species (bluefish, false albacore)

Is port sampling or recreational fishery-dependent monitoring conducted? If so, please provide a brief summary of what recreational data are collected (e.g., length, effort) and note general observed trends over the past ten years.

AP AIS sampling is done at random sites throughout the area. This is collecting catch data (lengths and weights) if possible.

Are there specific factors you would like to highlight that impact the recreational fishery?

No.

Are there notable Spanish mackerel tournaments, events, etc. you would like to highlight?

No.

GENERAL

When during the year are Spanish mackerel available in your state waters?

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During Wave 4 and Wave 5

Is there anything else Board members should know about your state's commercial and recreational Spanish mackerel fisheries?

No.



Wes Moore, Governor
Aruna Miller, Lt. Governor
Josh Kurtz, Secretary
David Goshorn, Deputy Secretary

2023 ASMFC Fishery Profile Questionnaire for Spanish Mackerel

Please submit your state's response to the following questions by October 1, 2023 to

Chelsea Tuohy, FMP Coordinator, at ctuohy@asmfc.org.

Maryland

COMMERCIAL SPANISH MACKEREL FISHERY

How long has the commercial Spanish mackerel fishery been active (e.g., 1970s)?

MD has records of Spanish mackerel commercial landings back to 1965 (NMFS data), but some years since have no reported landings.

How much of the commercial fishery operates in state waters vs. federal waters?

1965 – 2022 state waters: 84.4% (291,890 lbs), Federal waters: 11.43% (39,512 lbs), unknown: 4.1% (14,277 lbs)
1990 – 2022 state waters: 87.58% (275,538 lbs), Federal waters: 10.87% (34,194 lbs), unknown: 1.55% (4,877 lbs)

Approximately how many participants in the commercial fishery?

Our fisherman counts started in 1990. From 1990 to 2022 we averaged 18 fisherman a year but in 2006 we had a drop in number of fishermen. From 2006 to 2022 we averaged 10 fisherman a year. Our commercial fisherman do not target Spanish mackerel so this number may have shifted due to the number of Spanish mackerel moving up the bay and becoming available to our fisherman.

What gears are used in the commercial fishery? Which are the primary gears?

Primary gear used is pound nets and gill nets. Spanish mackerel are not targeted, and these are the primary fishing methods that encounter them. Maryland has consistent gear data starting in 1990.

1990 – 2022 Pound nets: 61.05% (192,075 lbs), Gill nets: 33.86% (106,525 lbs), Hook & Line: 2.72% (8,566 lbs),
Trawl: 1.05% (3,293 lbs), and Other 1.32% (4,150 lbs)

How do commercial landings vary throughout the year? Is there a season or time of year when most landings occur (e.g., due to quota closures, fish availability)?

Spanish mackerel are landed in Maryland from June to October. These months make up 92.2% of the fish landed. The majority of fish are landed in August (31.84%) and September (35.3%) due to Spanish mackerel availability.

What is the average number of pounds landed per trip? Does this vary throughout the year?

Maryland started recording number of trips in 2006. From 2006 to 2022 there was an average of 45.27 lbs of Spanish mackerel per trip. Due to this being a seasonal, and primarily bycatch, fishery we did not calculate pounds per trip by month. (This includes tips catching only.)

What other commercial species are commonly targeted/landed with Spanish mackerel?

Our fishermen are mostly targeting Atlantic menhaden, Stripped bass, Atlantic croaker, and Spot. Spanish mackerel, bluefish, weakfish, red drum and black drum are caught in addition to the targeted species when available in Maryland.

Is port sampling or commercial fishery-dependent monitoring conducted? If so, please provide a brief summary of what commercial data are collected (e.g., length, effort) and note general observed trends over the past ten years.

MD DNR does not have a specific monitoring program for Spanish mackerel; however, they typically are encountered in the onboard commercial pound net survey, which was conducted from May to September since 1993. Data was collected for date, GPS location, site number, net soak time in hours, water temperature in °C, and salinity ppt. Fish data was gathered on Spanish mackerel including fork length and count. Maryland has been recording FL since 2001, previous years were a combination or both total and fork length.

Spanish Mackerel fork length from the onboard sampling ranged from 123 – 751 millimeters. The survey encountered 261 Spanish mackerel in 2022 with a mean length of 407 millimeters FL. In 2013, and 2019-2022 there were larger sample numbers. When Spanish mackerel migrate into Maryland waters our fisherman encounter them in their nets and higher sample numbers are observed. Collection data has similar trends to our commercial data.

Are there specific factors you would like to highlight that impact operation of the commercial fishery?

RECREATIONAL SPANISH MACKEREL FISHERY

How long has the recreational Spanish mackerel fishery been active (e.g., 1970s)?

Likely well before MRIP survey began in 1981, but no state data available to document.

How much of the recreational fishery operates in state waters vs. federal waters?

96% State waters vs. 4% federal waters

What gears are used in the recreational fishery?

Hook and Line

How do recreational landings vary throughout the year? Is there a season or time of year when most landings occur (e.g., due to fish availability)?

June to October with the Majority in August, and September (anecdotal not data driven)

What other recreational species are commonly targeted/landed with Spanish mackerel?

Bluefish and Striped Bass (anecdotal not data driven)

Is port sampling or recreational fishery-dependent monitoring conducted? If so, please provide a brief summary of what recreational data are collected (e.g., length, effort) and note general observed trends over the past ten years.

All sampling has been done by MRIP angler intercept survey. There is no state port sampling for Spanish mackerel in Maryland.

Are there specific factors you would like to highlight that impact the recreational fishery?

Annual climate variability impacts Spanish mackerel availability in Maryland waters, particularly in Maryland's portion of Chesapeake Bay.

Are there notable Spanish mackerel tournaments, events, etc. you would like to highlight?

No

GENERAL

When during the year are Spanish mackerel available in your state waters?

June through October (95% of commercial harvest), rare to unavailable January – April, November and December.

Is there anything else Board members should know about your state's commercial and recreational Spanish mackerel fisheries?

No

2023 ASMFC Fishery Profile Questionnaire for Spanish Mackerel

Potomac River Fisheries Commission

COMMERCIAL SPANISH MACKEREL FISHERY

How long has the commercial Spanish mackerel fishery been active (e.g., 1970s)?
1960's

How much of the commercial fishery operates in state waters vs. federal waters?
PRFC jurisdiction does not operate near federal waters.

Approximately how many participants in the commercial fishery?
15-20 participants

What gears are used in the commercial fishery? Which are the primary gears?
Pound net primarily, but there have been a few reports of Hook & Line and Haul Seine since 2010.

How do commercial landings vary throughout the year? Is there a season or time of year when most landings occur (e.g., due to quota closures, fish availability)?
We usually see them harvested from the Potomac River in early June then drop off around late-September each year. Harvest in the Potomac is highly variable from year to year. In the last 5 years PRFC reported harvest varying from 420 lbs to 45,385lbs.

What is the average number of pounds landed per trip? Does this vary throughout the year?
Average per trip = 55.94 lbs in 2022. Peak months were June and August. In July we saw a decrease to ~33 lbs per trip compared to 64lb in June and 62lb in August.

What other commercial species are commonly targeted/landed with Spanish mackerel?
Menhaden, Bluefish, Butterfish

Is port sampling or commercial fishery-dependent monitoring conducted? If so, please provide a brief summary of what commercial data are collected (e.g., length, effort) and note general observed trends over the past ten years.
No fishery dependent commercial sampling or monitoring is being completed in PRFC.

Are there specific factors you would like to highlight that impact operation of the commercial fishery?

Spanish mackerel have daily catch limits (landing limits) imposed subject to ASMFC notification and may be closed immediately by Order of the Commission upon notification by both Maryland and Virginia that the ASMFC/MAFMC established commercial harvest quota for such species has been landed and the state waters are closed for the harvest of such species.

RECREATIONAL SPANISH MACKEREL FISHERY

How long has the recreational Spanish mackerel fishery been active (e.g., 1970s)?

Reference MD & VA responses.

How much of the recreational fishery operates in state waters vs. federal waters?

Reference MD & VA responses.

What gears are used in the recreational fishery?

Reference MD & VA responses.

How do recreational landings vary throughout the year? Is there a season or time of year when most landings occur (e.g., due to fish availability)?

Reference MD & VA responses.

What other recreational species are commonly targeted/landed with Spanish mackerel?

Reference MD & VA responses.

Is port sampling or recreational fishery-dependent monitoring conducted? If so, please provide a brief summary of what recreational data are collected (e.g., length, effort) and note general observed trends over the past ten years.

Reference MD & VA responses.

Are there specific factors you would like to highlight that impact the recreational fishery?

N/A

Are there notable Spanish mackerel tournaments, events, etc. you would like to highlight?

N/A

GENERAL

When during the year are Spanish mackerel available in your state waters?

June-September

Is there anything else Board members should know about your state's commercial and recreational Spanish mackerel fisheries?

N/A

2023 ASMFC Fishery Profile Questionnaire for Spanish Mackerel

Virginia

COMMERCIAL SPANISH MACKEREL FISHERY

How long has the commercial Spanish mackerel fishery been active (e.g., 1970s)?

Commercial Spanish mackerel landings have been reported yearly since 1939 when pulling data using the Spanish mackerel species code. Other mackerel species may have been incorrectly coded and the landings from 1939 till the early 1990's may be a mixture of multiple different mackerel species and are likely unreliable. Commercial data is more reliable after 1993 due to commercial mandatory reporting coming into effect in Virginia.

How much of the commercial fishery operates in state waters vs. federal waters?

Most of the commercial Spanish mackerel landings are harvested from state waters. Some years, there may be a small number of landings from trawl boats that are fishing outside 3 miles, but no Spanish mackerel has landed in federal waters since 2018 and all landings from 2018 till 2022 have come from state waters.

Approximately how many participants in the commercial fishery?

The number of harvesters has varied from year to year but in the past decade, there have been 50 to over 100 harvesters per year.

What gears are used in the commercial fishery? Which are the primary gears?

In the past decade, Spanish mackerel have been harvested with gillnet, haul seine, pound net, hook and line, trawls, long line, and a mixture of other gears that account for a very small amount of landings some years. The primary gears used for Spanish mackerel are gillnet, haul seine, and pound net.

How do commercial landings vary throughout the year? Is there a season or time of year when most landings occur (e.g., due to quota closures, fish availability)?

Most of the landings do take place between May and September when Spanish mackerel are in larger schools and more available within the Virginia portion of the Chesapeake Bay and along the oceanfront. Once the federal fishery closes, a daily quota of 500 pounds per vessel per day goes into effect limiting harvesters' daily landings. Depending on when this closure goes into effect it may cause some harvesters to decrease their fishing effort, so they do not exceed the 500-pound daily quota. Minimal landings also take place outside of the summer and early fall months while harvesters target other species.

What is the average number of pounds landed per trip? Does this vary throughout the year?

In the past decade, the average number of pounds landed per trip ranged from 31.2 to 199.5 pounds. The landings do vary during the year depending on availability with the highest landings per trip coming during the summer and early fall months.

What other commercial species are commonly targeted/landed with Spanish mackerel?

The main bycatch species seen in the Spanish mackerel fishery are bluefish, cobia, and Atlantic menhaden. A large portion of the commercial Spanish mackerel fishery is done using gillnets so other species can become entangled, but the three listed species are the main bycatch species seen.

Is port sampling or commercial fishery-dependent monitoring conducted? If so, please provide a brief summary of what commercial data are collected (e.g., length, effort) and note general observed trends over the past ten years.

The VMRC Biological Sampling Program collects biological data from Virginia's commercial fisheries. Currently, there are 3 biological sampling staff that cover the entire state purchasing Spanish mackerel from harvesters and fish houses, the fish are purchased, and data is collected at the VMRC aging lab. This program collects weights, lengths, and ages of Spanish mackerel caught by commercial anglers.

The only trend noticed in the biological data is a slight trend to larger older fish in more recent years. The trends in increased age and size are likely antidotal and only represent a 20 to 30 mm increase in length and less than a year increase in age.

Are there specific factors you would like to highlight that impact operation of the commercial fishery?

Starting the 2022 fishing year, 4 experimental gear permits were distributed to commercial harvesters allowing them to fish up to 6000 feet of continuous drift gillnet to see if this longer single net is more effective to catch Spanish mackerel than several separate shorter gillnets. The gear permit allows harvesters to use this extended net from April 1 to October 15th. This drift net has a highflyer at one end and the boat is attached to the opposite end and fishes for an hour or two at a time. Some of the harvesters fishing these longer nets are fishing in the middle of the night due to the summer heat and not wanting fish to go bad in the sun. This experimental gear type was given to 1 more Spanish mackerel harvester in 2023. A stipulation with this experimental gear permit is allowing VMRC observer staff on the boat to look at the bycatch and see the effectiveness of the new gear. For the 2024 fishing year the number of experimental permits is going to be increased to approximately 20 commercial harvesters.

RECREATIONAL SPANISH MACKEREL FISHERY

How long has the recreational Spanish mackerel fishery been active (e.g., 1970s)?

The recreational fishery for Spanish mackerel increased in effort in the early 1990s when they became more available to anglers. Before the early 90s, people would catch them as bycatch while targeting other species but not normally a targeted species.

How much of the recreational fishery operates in state waters vs. federal waters?

Almost all the recreational Spanish mackerel landings are coming from state waters but some anglers fishing in federal waters may land Spanish mackerel as bycatch.

What gears are used in the recreational fishery?

Spanish mackerel are recreationally caught using hook and line, cast net, and spear gun. Most of the recreational harvest is caught using some sort of hook-and-line method.

How do recreational landings vary throughout the year? Is there a season or time of year when most landings occur (e.g., due to fish availability)?

Most of the recreational harvest takes place between June and September when they are available in larger quantities to anglers. Many Virginia charter businesses run trips throughout the summer targeting Spanish mackerel within the Chesapeake Bay and along the oceanfront. Outside of the summer and early fall months, people will still catch them while fishing for other species but not normally in large quantities.

What other recreational species are commonly targeted/landed with Spanish mackerel?

While targeting Spanish mackerel the main bycatch species seen are bluefish and Atlantic cutlass fish, weakfish and speckled trout can also be a common bycatch species in certain areas of the Bay and during the earlier and later parts of the season.

Is port sampling or recreational fishery-dependent monitoring conducted? If so, please provide a brief summary of what recreational data are collected (e.g., length, effort) and note general observed trends over the past ten years.

The VMRC established its Marine Sportfish Collection Project in 2007. The project allows anglers to donate carcasses by dropping them off in freezers at high-traffic recreational fishing areas. Fish are processed for length, age, and sex. The number of fish donated per year can vary depending on where anglers dock their boat or where they are shore fishing. The number of recreational samples collected in total are not large enough to see noticeable trends from year to year.

Are there specific factors you would like to highlight that impact the recreational fishery?

Spanish mackerel have become a heavily targeted species during the summer months and with people coming to the Bay and oceanfront areas for vacations. Many anglers do harvest their daily limit when possible and normally only release fish when they are under the minimum size limit.

Are there notable Spanish mackerel tournaments, events, etc. you would like to highlight?

Some years there are local Spanish mackerel-specific tournaments in Virginia but there are often separate portions of larger tournaments where anglers can buy in for the heaviest Spanish mackerel. These side bets usually take place during a tournament for a different larger species being the main target during the tournament.

GENERAL

When during the year are Spanish mackerel available in your state waters?

They are most available during the months of May to September with some being caught in the recreational and commercial fishery before and after these warmer months.

Is there anything else Board members should know about your state's commercial and recreational Spanish mackerel fisheries?

The Spanish mackerel fishery is a heavily targeted species during the summer months when tourists are vacationing. Anglers will target them on charter boats, the beach, and from the ocean and bayside piers. Most anglers do like to keep up to their daily limit (15 fish per day with a 14-inch minimum) when possible, most anglers do find Spanish mackerel being good table fare. A lot of anglers do not take part in catch and release with this species unless the fish does not meet the minimum size requirement.

2023 ASMFC Fishery Profile Questionnaire for Spanish Mackerel

North Carolina

COMMERCIAL SPANISH MACKEREL FISHERY

How long has the commercial Spanish mackerel fishery been active (e.g., 1970s)?

North Carolina commercial landings data is available from 1950; however, it is likely there was a fishery operating before this. Trip-level reporting of commercial fisheries landings for all state-licensed fish dealers began in 1994.

How much of the commercial fishery operates in state waters vs. federal waters?

From 2013-2022, 96 percent of Spanish mackerel trips made, and 98 percent of landings came from state waters.

Approximately how many participants in the commercial fishery?

From 2013 to 2022, the average number of participants in the Spanish mackerel fishery was 374 and has ranged from a low of 305 in 2015 to a high of 474 in 2020.

What gears are used in the commercial fishery? Which are the primary gears?

Gill nets and estuarine pound nets are predominantly used to commercial harvest Spanish mackerel in NC.

North Carolina's 2022 commercial Spanish mackerel harvest (pounds and percent by gear) and the number of individual fish measured by the North Carolina Division of Marine Fisheries.

Gear	Landings (lbs.)	% Total Landings	Number Measured
Gill Net	890,181	96	2,434
Pound Net	29,953	3	256
Other Gears*	5,893	1	177
Total	926,027	100	2,867

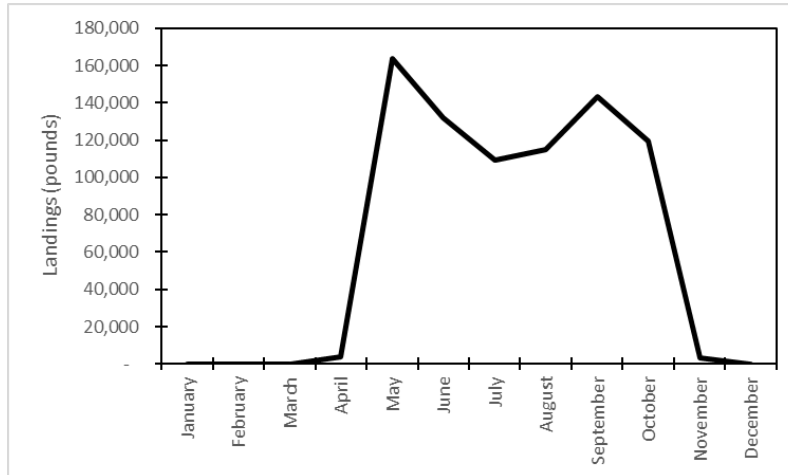
**Other gears include beach seine, long haul seine, swipe net, and trolling gear.*

How do commercial landings vary throughout the year? Is there a season or time of year when most landings occur (e.g., due to quota closures, fish availability)?

In North Carolina, Spanish mackerel are harvested year round (when the season is open), but harvest mainly occurs from May through October. Following the opening of the fishery in March, landings tend to peak in May and again in September. Since 2019, North Carolina has allowed commercial harvest of Spanish mackerel in state waters following the closure in federal waters once the commercial ACL has been reached. In North Carolina's Coastal and Joint Fishing

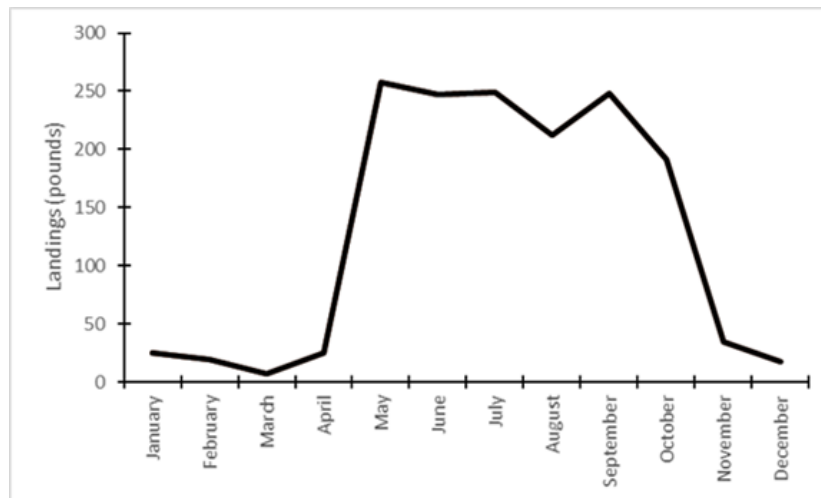
Waters, the commercial fishery closes once the ACL is reached, or on the second Friday in November (e.g., November 10, 2023).

Average monthly commercial landings of Spanish mackerel in North Carolina (2013-2022).



What is the average number of pounds landed per trip? Does this vary throughout the year?
From 2013-2022, commercial fishermen landed an average of 221 pounds of Spanish mackerel per trip. Landings per trip follow a similar pattern to the average landings per month.

Average monthly commercial landings per trip of Spanish mackerel in North Carolina (2013-2022).



What other commercial species are commonly targeted/landed with Spanish mackerel?
Bluefish, harvestfish, Atlantic sharpnose shark, false albacore, blacktip shark, spinner shark, spot, houndfish, and butterfish are incidentally landed with Spanish mackerel.

Is port sampling or commercial fishery-dependent monitoring conducted? If so, please provide a brief summary of what commercial data are collected (e.g., length, effort) and note general observed trends over the past ten years.

Length-frequency and effort information for the commercial Spanish mackerel fishery in North Carolina is collected through NCDMF’s Program 431 (sciaenid pound net), Program 434 (ocean gill net), Program 461 (estuarine gill net), and Program 466 (Onboard Observer Program). Ageing structures, otoliths, are collected from fishery-dependent sampling programs and are sent to the Southeast Fisheries Science Center in Panama City, Florida for processing and ageing.

Spanish mackerel length (fork length, inches) data from commercial fish house samples, 2013–2022.

Year	Mean Length	Minimum Length	Maximum Length	Total Number Measured
2013	16.6	7.9	28.5	3,902
2014	16.3	8.6	27.7	4,462
2015	16.1	10.0	26.8	5,402
2016	16.3	5.8	28.8	6,888
2017	16.4	10.7	28.0	4,522
2018	16.5	10.8	28.0	3,772
2019	16.5	9.6	28.4	4,427
2020	16.1	8.6	27.9	4,947
2021	16.6	9.9	28.8	5,077
2022	16.7	10.4	26.8	2,778

Are there specific factors you would like to highlight that impact operation of the commercial fishery?

Availability of Spanish mackerel to the commercial fishery is dependent on inshore/nearshore water temperature. Another factor impacting the commercial Spanish mackerel fishery in North Carolina is the Northern Zone commercial quota. Once the ACL is met, North Carolina implements a 500-pound trip limit through the second Friday in November. During the closure in federal waters, commercial fishermen are limited to 800 yards of gill net (drift) per vessel in the Pamlico Sound.

RECREATIONAL SPANISH MACKEREL FISHERY

How long has the recreational Spanish mackerel fishery been active (e.g., 1970s)?

MRIP recreational landings data from is available since 1981 but the fishery has been active since before the survey was initiated.

How much of the recreational fishery operates in state waters vs. federal waters?

In 2022, 95 percent of recreational trips targeting Spanish mackerel were made in North Carolina State Coastal and Joint Waters and five percent were made in Federal waters.

What gears are used in the recreational fishery?

Recreational anglers mainly target Spanish mackerel with hook and line gear by trolling and casting small spoons and plugs.

How do recreational landings vary throughout the year? Is there a season or time of year when most landings occur (e.g., due to fish availability)?

Anglers catch most Spanish mackerel between May and September once the water temperature has warmed up to 70 degrees Fahrenheit. Fish appear to be showing up earlier and staying later in North Carolina waters in recent years.

What other recreational species are commonly targeted/landed with Spanish mackerel?

Bluefish, Atlantic bonito, king mackerel and false albacore are commonly caught alongside Spanish mackerel.

Is port sampling or recreational fishery-dependent monitoring conducted? If so, please provide a brief summary of what recreational data are collected (e.g., length, effort) and note general observed trends over the past ten years.

Recreational fishing activity is monitored through the Marine Recreational Information Program (MRIP). MRIP port samplers measured 1,070 Spanish mackerel in 2022. Recreational estimates across all years were calibrated using estimates from the mail-based Fishing Effort Survey (FES). Using the FES methodology, 1,841,527 pounds of Spanish mackerel were landed by the recreational fishery in 2022. North Carolina recreational fishermen harvested 1,898,755 and released 2,268,283 (numbers of fish) Spanish mackerel using FES methodology in 2022.

Mean, minimum, and maximum lengths (fork length, inches) of Spanish mackerel collected from the recreational fishery for the period 2013-2022.

Year	Mean Length	Minimum Length	Maximum Length	Total Number Measured
2013	15.1	10.1	27.1	454
2014	14.8	9.0	29.9	754
2015	14.8	9.2	27.4	644
2016	14.3	11.0	26.3	1,030
2017	14.8	10.3	26.4	1,023
2018	15.0	9.9	27.2	1,691
2019	15.0	9.3	28.2	1,486
2020	15.6	9.0	27.5	1,914
2021	15.8	9.6	32.3	1,313
2022	14.1	9.7	26.6	1,070

Are there specific factors you would like to highlight that impact the recreational fishery?

Availability of Spanish mackerel to the recreational fishery is dependent on inshore/nearshore water temperature. Water clarity and forage are also factors that can impact the fishery.

Are there notable Spanish mackerel tournaments, events, etc. you would like to highlight?

There are two Spanish mackerel tournaments held in North Carolina that are worth noting. The Fisherman's Post Spanish Mackerel Open is held in Wrightsville Beach in June and the Carteret Community College Spanish Mackerel and Dolphin Tournament held in Morehead City in July.

GENERAL

When during the year are Spanish mackerel available in your state waters?

Spanish mackerel are typically available from April through October.

Is there anything else Board members should know about your state's commercial and recreational Spanish mackerel fisheries?

N/A

- **Annual Commercial landings (by gear type if available)**

North Carolina commercial harvest of Spanish mackerel with landings in pounds by gear type, 1994–2022.

Year	Gear				Total
	Ocean Gill Net	Estuarine Gill Net	Pound Net	Other	
1994	327,155	138,452	29,708	36,057	531,371
1995	233,296	104,827	49,077	15,192	402,392
1996	215,536	124,013	45,221	17,060	401,830
1997	502,463	174,141	60,898	29,457	766,958
1998	234,547	97,472	26,962	13,435	372,415
1999	297,435	98,855	49,485	13,326	459,100
2000	462,459	162,291	21,792	12,884	659,426
2001	411,974	186,628	33,163	21,909	653,673
2002	463,430	205,865	24,118	5,035	698,448
2003	368,171	80,219	5,218	3,176	456,784
2004	359,467	90,317	3,524	2,934	456,242
2005	257,074	180,874	2,184	5,869	446,001
2006	358,614	100,114	2,783	9,152	470,662
2007	420,680	57,144	3,440	6,615	487,879
2008	268,435	93,579	49,534	3,857	415,405
2009	454,081	266,621	228,201	12,908	961,811
2010	177,091	631,218	96,490	7,068	911,866
2011	287,908	524,967	53,704	4,638	871,217
2012	501,369	372,759	38,644	3,667	916,439
2013	346,810	250,524	18,764	4,654	620,752
2014	422,528	221,799	25,772	3,875	673,974
2015	289,489	229,114	40,032	3,080	561,714
2016	328,635	242,291	27,806	2,891	601,623
2017	507,905	287,434	17,314	3,436	816,089
2018	486,707	280,689	19,931	9,563	796,890
2019	354,891	322,101	39,118	6,288	722,398
2020	601,095	369,436	53,384	9,611	1,033,526
2021	711,685	404,168	31,767	7,669	1,155,289
2022	457,503	432,678	29,953	5,893	926,026

- **Seasonal Commercial landings (e.g., month, wave, or other time step monitored by your state if available)**

Average monthly commercial landings of Spanish mackerel in North Carolina (2013-2022).

January	64
February	43
March	91
April	3,967
May	163,980
June	132,188
July	109,057
August	115,083
September	143,370
October	119,752
November	3,152
December	118

- **Annual Recreational landings and releases**

Recreational harvest (number of fish landed and weight in pounds) and releases (number of fish) of Spanish mackerel from North Carolina, 1994– 2022.

Year	Number Landed	Number Released	Weight Landed (lb)
1994	641,980	292,919	724,589
1995	397,190	239,972	492,096
1996	533,333	184,518	709,589
1997	956,589	304,629	1,444,907
1998	374,804	145,746	488,951
1999	891,001	253,317	1,035,943
2000	1,102,777	451,910	1,175,351
2001	942,500	338,918	1,155,788
2002	787,125	309,546	987,238
2003	540,399	266,887	641,024
2004	534,720	317,189	819,978
2005	561,073	303,641	526,054
2006	439,736	165,098	624,488
2007	604,518	340,027	799,263
2008	1,013,980	806,280	1,234,030
2009	1,480,931	752,806	2,155,692
2010	927,116	701,634	1,116,099
2011	854,554	479,586	1,100,110
2012	995,852	591,792	1,327,350
2013	994,599	685,692	1,242,029
2014	1,028,925	814,064	1,193,442
2015	835,011	514,714	981,867
2016	918,352	546,950	907,400

2017	995,706	688,062	1,094,778
2018	1,012,889	1,019,418	1,156,702
2019	1,478,890	1,340,366	1,694,247
2020	1,286,131	1,267,210	1,843,314
2021	1,312,929	1,294,525	1,894,535
2022	1,898,755	2,268,283	1,841,527
Mean	908,357	609,852	1,117,530

- **Annual Directed Recreational Trips for Spanish mackerel (MRIP primary and secondary target)**

Number of directed recreational trips (MRIP primary and secondary target) in North Carolina, 2013-2022.

Year	Directed Trips
2013	663,759
2014	845,589
2015	743,180
2016	831,169
2017	830,139
2018	773,434
2019	983,779
2020	847,055
2021	1,052,516
2022	1,248,801

2023 ASMFC Fishery Profile Questionnaire for Spanish Mackerel

South Carolina

COMMERCIAL SPANISH MACKEREL FISHERY

How long has the commercial Spanish mackerel fishery been active (e.g., 1970s)?

If one can even consider SC's commercial fishery for Spanish Mackerel to be "active," it has probably been active since at least the 1960's; possibly much earlier. However, landings of Spanish Mackerel have always been relatively limited, extremely variable, typically generated by a very small number of harvesters or vessels and have generally declined over time.

How much of the commercial fishery operates in state waters vs. federal waters?

While there is substantial annual variability with such an opportunistic fishery, trip counts and landings over the period 1972-2022 suggest that almost 77% of trips and 86% of landings are linked to state waters. (Pers. comm. Eric Hiltz, SCDNR, August 22, 2023).

Approximately how many participants in the commercial fishery?

Usually just one harvester, occasionally two to four harvesters, and usually one to three, but as high as eleven, dealers. (Pers. comm. Eric Hiltz, SCDNR, August 21, 2023).

What gears are used in the commercial fishery? Which are the primary gears?

Over the last decade or so, predominantly trawl and, to a lesser degree, rod and reel. Prior to the mid 1990's, gill nets and haul seines were also employed. (Pers. comm. Eric Hiltz, SCDNR, August 21, 2023).

How do commercial landings vary throughout the year? Is there a season or time of year when most landings occur (e.g., due to quota closures, fish availability)?

Trips reporting landings are rare in winter (December-March) and most common during summer through early fall (June-October), based on trip count by month for years 1972-2022. Landings (in pounds) from May through November account for 98% of total landings across the same years and the period June through November accounts for 91%. However, landings are so variable that this may not accurately represent any given year. (Pers. comm. Eric Hiltz, SCDNR, August 22, 2023). Landings are predominantly driven by presence of fish where SC fishermen are operating, and possibly also driven to a lesser degree by availability overlapping with a lull for the target species.

What is the average number of pounds landed per trip? Does this vary throughout the year?

Annual average for 1972-2022 is 176.2 lbs. Annual average for 2013 -2022 is 17.8 lbs., but with a StDev of 29.27 (min 1, max 127, n 37). (Pers. comm. Eric Hiltz, SCDNR, August 21, 2023). Over the period 1972 – 2022, for months with more than one trip, average landings ranged from 36 – 317 lbs.; with November yielding the highest value, December yielding the lowest, and January – March excluded due to low trip count. As with annual averages, the values drop substantially (7-47 lbs.) when only the last ten years (2013-2022) are considered, and fish are either absent or rare December through March. (Pers. comm. Eric Hiltz, SCDNR, August 22, 2023). So, there is some seasonality to landings.

What other commercial species are commonly targeted/landed with Spanish mackerel?

Penaeid shrimp, White Shrimp in particular, for a single species, appear to co-occur in the highest number of trips, followed by King Mackerel, and Whiting (Kingfish), over the period 2013-2022. However, Spanish Mackerel and various members of the snapper-grouper complex also co-occur in landings. (Pers. comm. Eric Hiltz, SCDNR, August 22, 2023). Though it seems likely that Spanish Mackerel are a potential by-catch of the snapper-grouper fishery, just as they may be from the shrimp fishery, rather than the other way around.

Is port sampling or commercial fishery-dependent monitoring conducted? If so, please provide a brief summary of what commercial data are collected (e.g., length, effort) and note general observed trends over the past ten years.

SCDNR does conduct port sampling efforts. Samples are collected at random from vessels, at the time of offloads, at federal dealer locations throughout the state. It should be noted that species landed are primarily snapper/grouper, with very limited Coastal Migratory Species. That data is entered into the NMFS Trip Intercept Program (TIP) online portal and samples are sent to the Beaufort Aging Lab for processing and analysis. SCDNR began collecting TIP length frequencies in 1983 and expanded sampling efforts to include age structures (otoliths) in 2005. NMFS houses the data, contacts are Lawrence Beerkircher (lawrence.r.beerkircher@noaa.gov) or Sarah Beggerly (sarah.beggerly@noaa.gov). SCDNR does not have a commercial observer program, or any other commercial fishery-dependent monitoring in place, other than monitoring of commercial landings data. (Pers. comm. Amy Dukes, SCDNR, September 26, 2023).

Are there specific factors you would like to highlight that impact operation of the commercial fishery?

It is almost entirely an opportunistic fishery.

RECREATIONAL SPANISH MACKEREL FISHERY

How long has the recreational Spanish mackerel fishery been active (e.g., 1970s)?

Insufficient data may exist to properly make this characterization. But, it is likely that they have been a component of the recreational fishery, at least since vessels ventured a mile or two offshore fishing recreationally.

How much of the recreational fishery operates in state waters vs. federal waters?

Based on comparison of total catch data (A+B1+B2) from state waters vs. federal EEZ from MRIP Catch Time Series query for the last 10 years (2003-2022), 97% of catch comes from state waters and 3% from the EEZ outside state waters. Just over 97% of effort is reported to focus on state waters as well. (Pers. comm. National Marine Fisheries Service, Fisheries Statistics Division. September 19, 2023 and September 25, 2023). However, SC charter logbook data suggests a bit different balance; with 60% of trips targeting federal waters. (Pers. comm. Eric Hiltz, SCDNR, August 22, 2023). This difference may very well reflect a difference in approach/focus (e.g., fishing locale) of charter captains and their clients, vs the individuals represented by the MRIP data.

What gears are used in the recreational fishery?

Rod and reel.

How do recreational landings vary throughout the year? Is there a season or time of year when most landings occur (e.g., due to fish availability)?

SC charter fishery effort and landings are highest in June-August. There appear to be no trips reported in January or February, very few from December and relatively few from March. (Pers. comm. Eric Hiltz, SCDNR, August 22, 2023). This pattern fits well with expected temporal availability of Spanish Mackerel off SC.

What other recreational species are commonly targeted/landed with Spanish mackerel?

The most commonly co-occurring single species when Spanish Mackerel are reported in SC charter logbook data is the Atlantic Sharpnose Shark. In descending order, the remaining nine species of the top ten are: Bluefish, Black Sea Bass, Black Tip Shark, King Mackerel, flounder, Ladyfish, Bonnethead Shark, Jack Crevalle, and Red Drum. (Pers. comm. Eric Hiltz, SCDNR, August 22, 2023). However, keep in mind that this is the picture from charter logbook data, and we have already established that it may paint a somewhat different picture of the fishery than MRIP might, given the apparent disparity of focus on distance from shore.

Is port sampling or recreational fishery-dependent monitoring conducted? If so, please provide a brief summary of what recreational data are collected (e.g., length, effort) and note general observed trends over the past ten years.

Yes. SC operates an MRIP survey, which follows standard MRIP protocols. (Brad Floyd, SCDNR, September 21, 2023). The SCDNR took over the MRIP Survey beginning in 2013. Prior to this, the SCDNR operated the State Finfish Survey (SCDNR-SFS) that operated in addition to the MRIP survey (and its predecessor the MRFSS survey). Currently, the SCDNR-SFS samples only in January-February (MRIP Wave 1) when the MRIP survey does not sample. (Chris McDonough, SCDNR, September 28, 2023).

Both landings and discards have substantially increased in the second half of this last decade. (Pers. comm. National Marine Fisheries Service, Fisheries Statistics Division. September 19, 2023). A similar trend, though on a different scale, is evident in SC Charter Logbook data. (Pers. comm. Eric Hiltz, SCDNR, August 22, 2023).

Are there specific factors you would like to highlight that impact the recreational fishery?

The continued ability to retain Spanish Mackerel, adhering to size and creel limits, to be used as bait may be of interest to participants in other Highly Migratory fisheries, as many favor them as bait, and are known to brine, vacuum seal, and freeze them for future use. (Pers. comm. Amy Dukes, SCDNR, September 26, 2023)

Are there notable Spanish mackerel tournaments, events, etc. you would like to highlight?

There is a Spanish Mackerel Derby out of Murrells Inlet, SC. No other notable tournaments in SC are known to focus on Spanish Mackerel.

GENERAL

When during the year are Spanish mackerel available in your state waters?

Based on available landings data, it would appear that Spanish Mackerel are likely available to some degree off SC from March through December, but predominantly from April through October. (Pers. comm. Eric Hiltz, SCDNR, August 22, 2023).

Is there anything else Board members should know about your state's commercial and recreational Spanish mackerel fisheries?

In case it has not become clear from the information above, while SC does have commercial landings of Spanish Mackerel, it would be a stretch to consider those to constitute a targeted fishery. The recreational fishery for Spanish Mackerel is vastly more substantial, and yet still largely an opportunistic target for most fishers and likely truly targeted by only a small segment of our recreational fishers.

- Annual Commercial landings (by gear type if available)

The following is based upon SC commercial dealer report data. (Pers. comm. Eric Hiltz, SCDNR, August 21, 2023).

Due to limited participation the vast majority of years, a table of commercial landings by year would largely be comprised of confidential information. However, it is hoped that the following summaries provide adequate insight into the nature of South Carolina’s commercial landings of Spanish Mackerel.

Over the time series 1972-2022, there were no commercial landings reported for nine of the fifty-one years (1999, 2001, 2004, 2005, 2008, 2009, 2011, 2012, and 2013). Across years with reported landings, landed lbs. ranged from 1 to 7,849, with a mean of 668. However, over the last 20 years, that range has been greatly reduced, to 1 to 151 lbs., with a mean of 38 lbs. Based upon relative contribution to lbs. landed by gear for the full 51 yrs. vs the last 20 yrs. it can be seen that several gears have been discontinued.

Gear	Landings contribution 1972-2022	Landings contribution 2003-2022
Trawl	59.4%	62.9%
Gill Nets, unspecified	17.3%	
Handlines (Rod and Reel)	15.2%	36.7%
Haul Seine	7.0%	
Fixed Net	1.2%	
Pots and Traps, Crab, Other	0.0%	0.4%

- Seasonal Commercial landings (e.g., month, wave, or other time step monitored by your state if available)

Seasonal commercial landings are so limited and sporadic that there have only been three months since the start of 1990 where landings data are not classified as confidential. Over the last 20 years, no, or virtually no, Spanish Mackerel have been landed commercially during the months of December through March. May, June, and September, respectively yielded the highest landings, ranging from 214 down to 141 lbs. August, October, and November fall into the range of 40-66 lbs. June yielded slightly lower landings, and July substantially lower. Neither value is reported due to confidentiality, due to limited involvement. (Pers. comm. Eric Hiltz, SCDNR, August 21, 2023).

- Annual Recreational landings and releases

The following table reports MRIP Catch Time Series, for Spanish Mackerel taken off SC over the last 20 years (Pers. comm. National Marine Fisheries Service, Fisheries Statistics Division. September 19, 2023). Red highlights are flagging high PSE values, not confidential data.

Year	Total Harvest (A+B1)	PSE	Harvest (A+B1) Total Weight (lb)	PSE	Released Alive (B2)	PSE
2003	33,555	50.5	45,366	48.0	775,050	79.8
2004	136,976	46.3	137,024	38.7	184,383	51.9
2005	160,691	42.6	160,730	37.6	358,107	59.9
2006	52,180	45.1	95,551	55.0	52,411	49.1
2007	217,949	28.0	273,962	29.2	183,709	35.7
2008	94,603	32.8	109,142	27.8	150,102	31.2
2009	137,119	40.2	145,636	35.7	84,446	38.5
2010	171,442	30.4	279,816	31.9	138,549	64.5
2011	471,779	76.4	329,557	68.6	389,004	45.3
2012	258,281	41.5	262,932	37.3	313,339	42.1
2013	100,512	12.6	88,783	17.3	129,909	9.5
2014	194,367	31.7	213,864	35.8	136,783	43.0
2015	389,923	47.8	253,620	45.8	321,930	33.0
2016	306,235	72.9	192,865	63.8	333,635	55.4
2017	45,644	31.3	75,779	32.4	300,244	37.9
2018	289,250	45.0	513,271	49.0	322,330	50.6
2019	1,046,972	15.8	847,163	16.2	1,588,754	23.8
2020	861,349	32.3	556,882	29.9	1,060,185	29.0
2021	752,570	26.0	503,374	24.3	647,701	34.2
2022	1,060,999	29.9	773,139	29.7	1,401,659	30.0

- Annual Directed Recreational Trips for Spanish mackerel (MRIP primary and secondary target)

MRIP annual effort, directed trip, for Spanish Mackerel taken off SC over the last 10 years (Pers. comm. National Marine Fisheries Service, Fisheries Statistics Division. September 19, 2023).

Year	PSE	Directed trips
2013	22.0	127,584
2014	19.0	290,832
2015	11.5	444,305
2016	20.9	286,807
2017	18.9	219,514
2018	21.3	348,349
2019	12.2	494,920
2020	25.5	282,677
2021	14.8	411,898
2022	18.7	634,186

2023 ASMFC Fishery Profile Questionnaire for Spanish Mackerel

GEORGIA

COMMERCIAL SPANISH MACKEREL FISHERY

How long has the commercial Spanish mackerel fishery been active (e.g., 1970s)?

N/A

How much of the commercial fishery operates in state waters vs. federal waters?

N/A

Approximately how many participants in the commercial fishery?

N/A

What gears are used in the commercial fishery? Which are the primary gears?

N/A

How do commercial landings vary throughout the year? Is there a season or time of year when most landings occur (e.g., due to quota closures, fish availability)?

N/A

What is the average number of pounds landed per trip? Does this vary throughout the year?

N/A

What other commercial species are commonly targeted/landed with Spanish mackerel?

N/A

Is port sampling or commercial fishery-dependent monitoring conducted? If so, please provide a brief summary of what commercial data are collected (e.g., length, effort) and note general observed trends over the past ten years.

N/A

Are there specific factors you would like to highlight that impact operation of the commercial fishery?

N/A

RECREATIONAL SPANISH MACKEREL FISHERY

How long has the recreational Spanish mackerel fishery been active (e.g., 1970s)?

We have data from MRIP beginning in 1981 through 2022. We have no information about recreational fishing prior to MRIP.

How much of the recreational fishery operates in state waters vs. federal waters?

From MRIP data 1981 to 2022, 78% of Spanish mackerel were encountered in state waters and 22% federal waters. See Table 1.

What gears are used in the recreational fishery?

Our assumption is that this is primarily a hook and line fishery.

How do recreational landings vary throughout the year? Is there a season or time of year when most landings occur (e.g., due to fish availability)?

Our fishing regulations allow harvesting of Spanish Mackerel year-round. According to MRIP data, 80% of Spanish Mackerel are caught in Waves 3 and 4. See Figure 1.

What other recreational species are commonly targeted/landed with Spanish mackerel?

The only query tool currently available for analyzing targeted species is directed trips, for selected species, by year. The number of directed trips targeting Spanish mackerel in Georgia is very low, less than 1% of total angler trips. Given that Spanish mackerel have been recorded in all areas and all modes, essentially any species available in Georgia could be landed or targeted along with Spanish mackerel. See Figure 2.

Is port sampling or recreational fishery-dependent monitoring conducted? If so, please provide a brief summary of what recreational data are collected (e.g., length, effort) and note general observed trends over the past ten years.

Recreational data have been collected through MRIP from 1981 to present. Please see MRIP website for survey details. Trends in catch are highly variable and have low levels of precision (averaging over 50% for full time series). Please see attached spreadsheet for specific information.

Are there specific factors you would like to highlight that impact the recreational fishery?

N/A

Are there notable Spanish mackerel tournaments, events, etc. you would like to highlight?

N/A

GENERAL

When during the year are Spanish mackerel available in your state waters?

We can only reliably indicate when we encounter Spanish Mackerel while conducting APAIS. As stated earlier, we typically encounter Spanish Mackerel from Waves 3 to 4. This aligns with anecdotal information from talking with colleagues and fishermen that Spanish Mackerel are typically observed in GA from spring to summer.

Is there anything else Board members should know about your state's commercial and recreational Spanish mackerel fisheries?

Georgia qualified for *de minimis* status eight out of the last 10 years. Our landings were only slightly above the requirement of 1% of the previous 3 years combined landings in 2020 (2.36%) and 2021 (1.78%). Even though a desired target species by our anglers, they are not consistently encountered through fishery dependent data collection (i.e., MRIP). Historically Spanish mackerel have catch estimates with high percent standard error (> 50%). Error for harvest improved some in 2020 and 2021, 36.9% and 39.2% respectively, compared to the 10-year average of 58.17%.

Table 1. Numbers of Harvested or Total Catch of Spanish Mackerel by area in Georgia from 1981 to 2022.

Area	Harvest (A+B1)	%	Total Catch (A+B1+B2)	%
Inland	147,967	14%	223,511	15%
Ocean under 3 mi	660,324	65%	917,135	63%
Ocean over 3 mi	214,627	21%	319,696	22%
Total	1,022,918		1,460,342	

Figure 1. Annual Recreational landings and Releases by Wave in Georgia from 1981-2022. All modes and areas are combined.

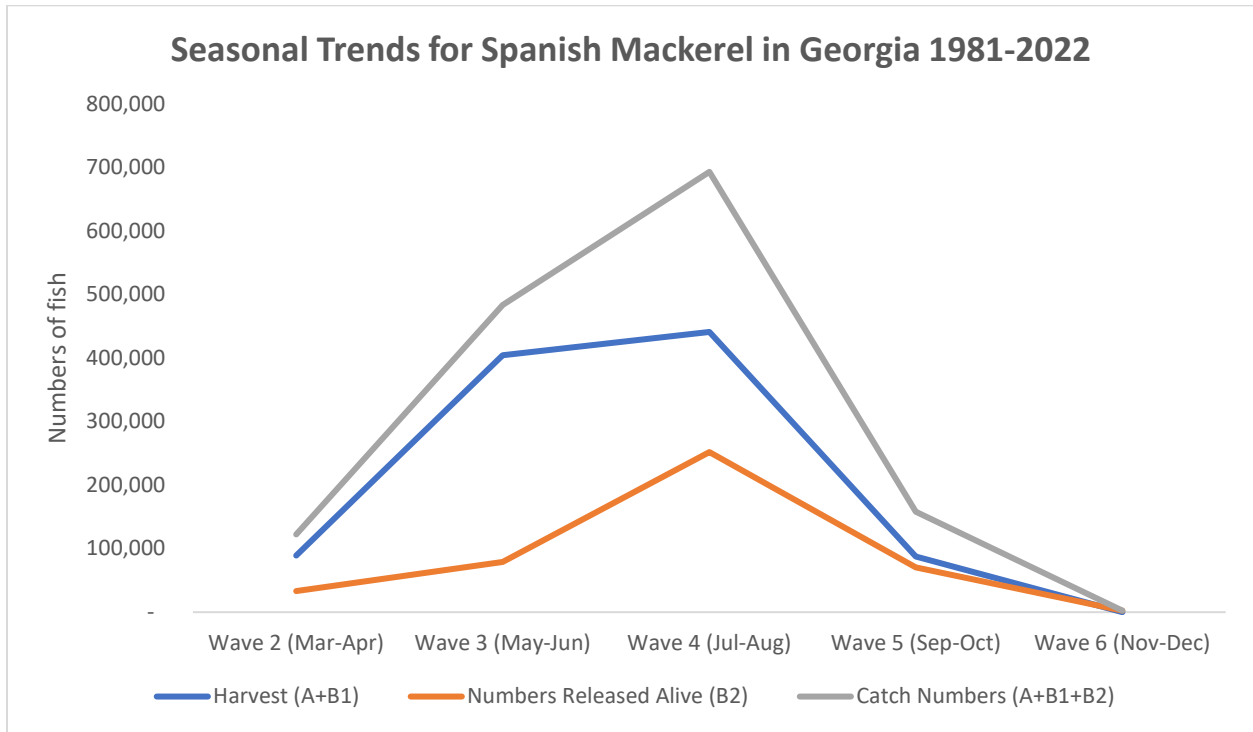


Figure 2. Number of directed trips for Spanish Mackerel in Georgia versus total effort.

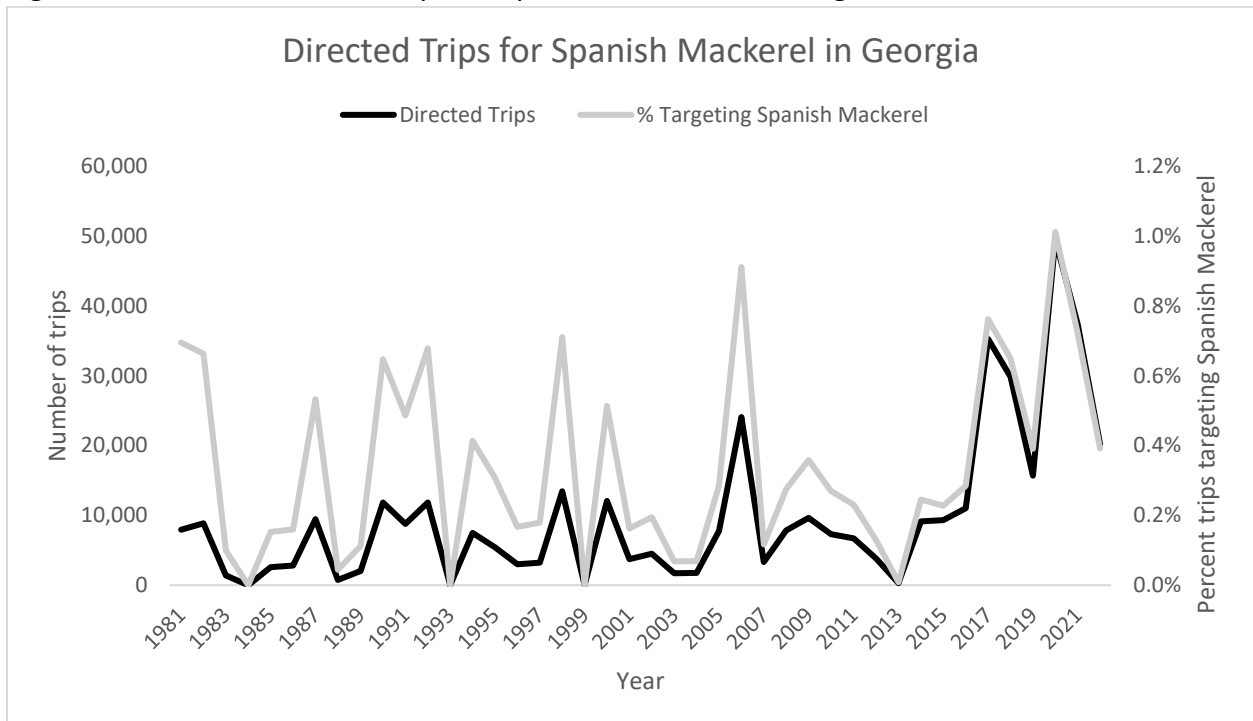
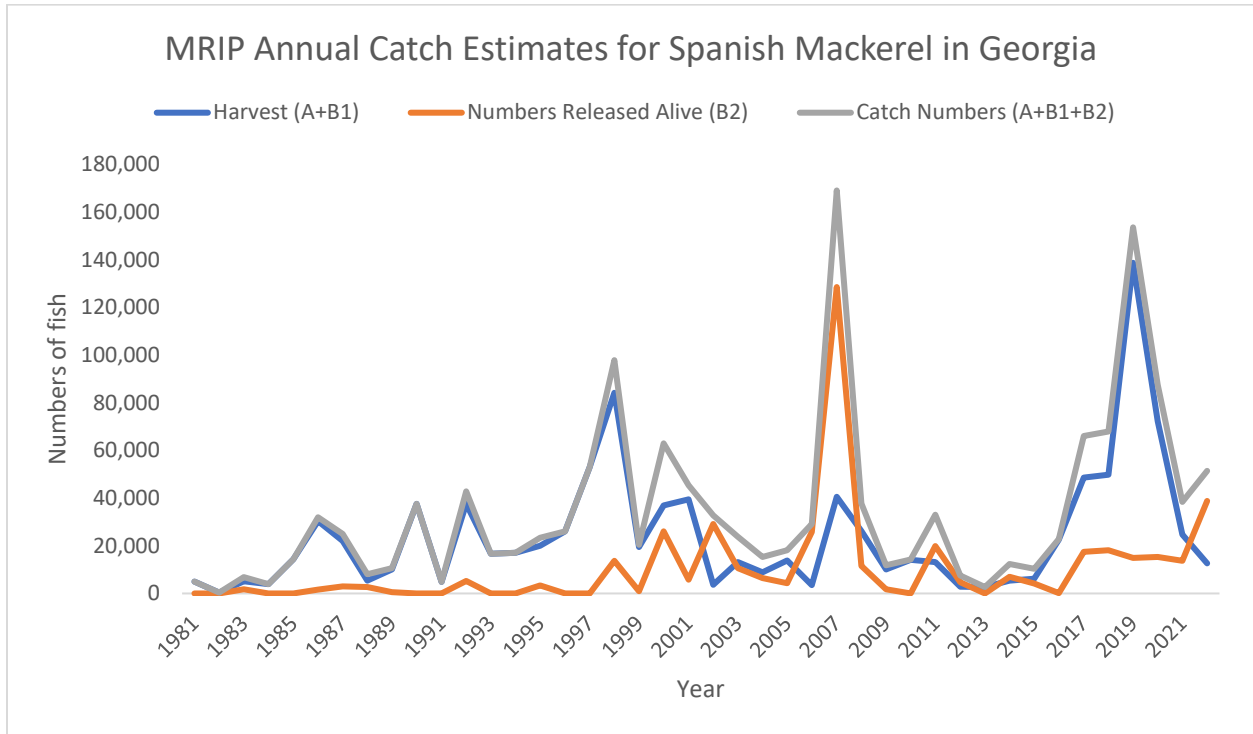
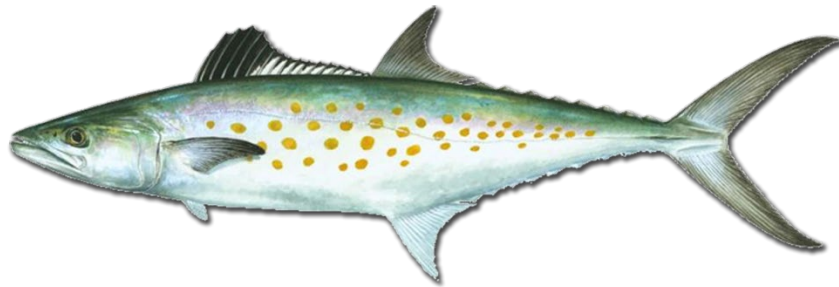


Figure 3. Annual catch estimates for Spanish Mackerel in Georgia from 1981 to 2022. All modes and areas are combined. Percent Standard Error for estimates range from 21.4 to 106.6 with averages about 50 in all categories.





**The 2023 Atlantic States Marine Fisheries Commission
Spanish Mackerel, *Scomberomorus maculatus*, fishery profile
on Florida's Atlantic Coast**

*Prepared by:
Jeff Renchen, Biological Administrator II
Division of Marine Fisheries Management
Florida Fish and Wildlife Conservation Commission
1875 Orange Avenue East
Tallahassee, Florida 32311*

October 2023

2023 ASMFC Fishery Profile Questionnaire for Spanish Mackerel

FLORIDA

COMMERCIAL SPANISH MACKEREL FISHERY

How long has the commercial Spanish mackerel fishery been active (e.g., 1970s)?

Commercial landings have been collected by Florida as far back as 1978, but commercial harvest extends further back than the 1970s. However, records earlier than the 1970s were kept by the U.S. Fish and Wildlife Service and are not readily available. Anecdotal accounts from commercial harvesters in Florida suggest that the commercial Spanish mackerel fishery was active at least as far back as the 1940s.

How much of the commercial fishery operates in state waters vs. federal waters?

There are different components of the commercial fishery, but the majority of the commercial harvesters operate in state waters. In the past 5 years (2018-2022), Spanish mackerel landings from state waters accounts for >90% of the total landings of this species along the Atlantic coast of Florida.

Approximately how many participants in the commercial fishery?

In the most recent season (2022), commercial landings of Spanish mackerel were associated with 436 unique Saltwater Product Licenses (SPLs). The SPL is required for commercial harvest of marine finfish, invertebrates, and plants from Florida waters. SPLs may be associated with a vessel or an individual, additionally, an individual may hold one or more SPLs. Note, this number does not account for individuals who work as crew members on vessels harvesting Spanish mackerel.

What gears are used in the commercial fishery? Which are the primary gears?

In the previous 5 years (2018-2022), commercial landings were reported from harvesters using cast net, gill net, hook and line, and trawls. The two primary gears used to land Spanish mackerel are hook-and-line (averaged 45.7% of landings from 2018-2022) and cast net (averaged 35.6% of landings from 2018-2022). Note: Gill nets may only be used to harvest Spanish mackerel in federal waters.

How do commercial landings vary throughout the year? Is there a season or time of year when most landings occur (e.g., due to quota closures, fish availability)?

Commercial landings are seasonal and take place primarily from late autumn (October) through the early spring (March). Spanish mackerel will migrate north during the summer months and then return in the fall to overwinter in Florida, which is when harvest is greatest.

There are three components to the state waters commercial fishery: cast net, hook-and-line food fish, and hook-and-line bait fish. The cast netters harvest fish between 12-14 inches and are most active when Spanish mackerel migrate to south Florida for the winter in December and January. The hook-and-line food fishermen target larger Spanish mackerel and this harvest picks up after cast netting wanes but operates year-round. Hook-and-line bait fishermen harvest smaller Spanish mackerel, and this component typically picks up in March. There is a lot of overlap between these different components of the commercial fishery, and some commercial harvesters will use all these gear types based on the bite and water conditions.

The federal waters commercial fishery utilizes gill nets and occasionally hook-and-line gear, with their peak harvest occurring in the spring (March – April) and again in the winter (November – February). These commercial harvesters typically fish 3-9 miles offshore from Cape Canaveral through southeast Florida.

What is the average number of pounds landed per trip? Does this vary throughout the year?

Through the previous 5 years (2018-2022), the average number of pounds landed per trip has ranged from a low of 299 lbs./trip in 2022 to a high of 603 lbs./trip in 2021. The average pounds landed per trip is not consistent throughout the year and is considerably lower from April through September (<50 lbs./trip on average) compared to October through March (>500 lbs./trip on average).

What other commercial species are commonly targeted/landed with Spanish mackerel?

Made a data request for this information.

Is port sampling or commercial fishery-dependent monitoring conducted? If so, please provide a brief summary of what commercial data are collected (e.g., length, effort) and note general observed trends over the past ten years.

Fishery-dependent monitoring of Spanish mackerel in Florida includes the collection of trip-specific, commercial landings records made through the Florida Marine Fisheries Information System (MFIS) or “Trip Ticket” program. Commercial fishers can also be interviewed at docks and fish houses through the Trip Interview Program (TIP). The information collected through this program includes catch, effort, biostatistical data, and biological samples.

Are there specific factors you would like to highlight that impact operation of the commercial fishery?

Increasingly, areas off central east Florida are closed to vessels by the U.S. Coast Guard to create safety zones associated with space launches. This has prevented fishermen from accessing areas where they would traditionally fish for Spanish mackerel, which has contributed to the relatively low amount of landings and effort reported in 2022.

RECREATIONAL SPANISH MACKEREL FISHERY

How long has the recreational Spanish mackerel fishery been active (e.g., 1970s)?

There is recreational catch data available through the 1980s but the recreational fishery has been active for much longer. Conversations with anglers along the Atlantic coast of Florida relayed that the recreational fishery extends at least as far back as the 1940s.

How much of the recreational fishery operates in state waters vs. federal waters?

The majority of the recreational fishery operates in state waters, with over 95% of the recreational catch and harvest in the past 5 years (2018-2022) occurring in state waters.

What gears are used in the recreational fishery?

Recreational fishermen can use a beach or haul seine, cast net, spear, and hook-and-line gear. The majority of recreational anglers utilize hook-and-line gear to catch Spanish mackerel.

How do recreational landings vary throughout the year? Is there a season or time of year when most landings occur (e.g., due to fish availability)?

Recreational harvest occurs throughout the entire year, but primarily occurs during the winter/spring from December through April. These five months accounted for around 68% of the recreational harvest from 2018-2022.

What other recreational species are commonly targeted/landed with Spanish mackerel?

Other species targeted and landed with Spanish mackerel on a recreational trip are bluefish, crevalle jack, sheephead, southern kingfish, and red drum.

Is port sampling or recreational fishery-dependent monitoring conducted? If so, please provide a brief summary of what recreational data are collected (e.g., length, effort) and note general observed trends over the past ten years.

The recreational fishery is monitored using the National Marine Fisheries Service Marine Recreational Information Program's (MRIP) angler intercept survey and special for-hire surveys. This program provides estimates for effort, catch, and harvest using mailed surveys and dockside sampling. In addition, the Access Point Angler Intercept Survey (APAIS) provides some length information if they survey anglers that caught a Spanish mackerel on their trip.

Within the past ten years, recreational catch and effort (directed trips) have been variable with peaks in 2020 and 2021 and a large dip in 2022. Overall, recreational landings and releases have increased and decreased with effort.

Are there specific factors you would like to highlight that impact the recreational fishery?

None.

Are there notable Spanish mackerel tournaments, events, etc. you would like to highlight?

There are not any notable Spanish mackerel tournaments, but it should be noted that Spanish mackerel will concentrate in easily accessible, inshore areas during the winter. Because of this, commercial and recreational fisheries operate simultaneously in the same area and this has resulted in conflicts between the two sectors.

GENERAL

When during the year are Spanish mackerel available in your state waters?

Spanish mackerel are available year-round in state waters but are more abundant and targeted more following their migration south to overwinter in Florida waters.

Is there anything else Board members should know about your state's commercial and recreational Spanish mackerel fisheries?

The answers provided are a good overview of Florida's commercial and recreational Spanish mackerel fisheries.