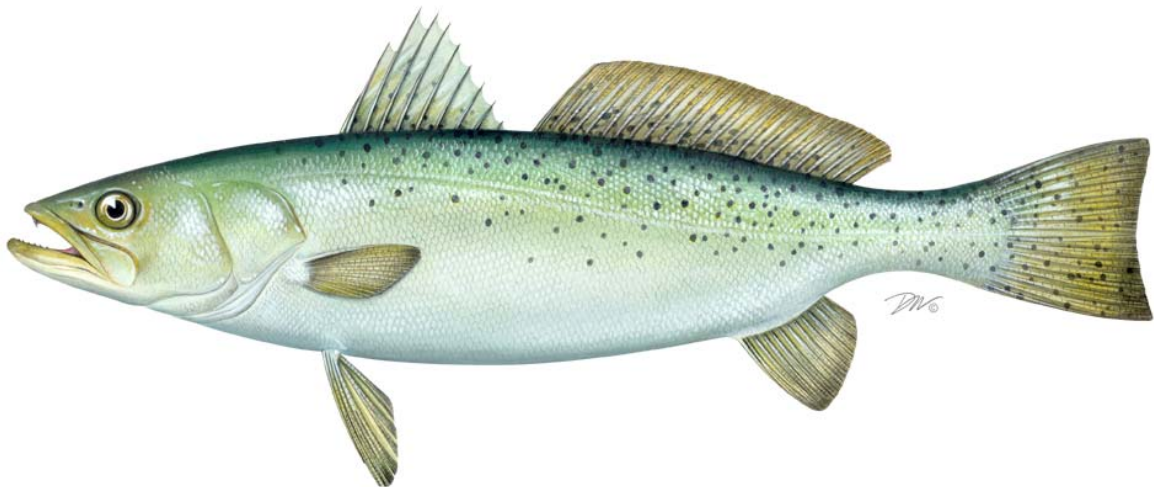


2015 REVIEW OF THE
ATLANTIC STATES MARINE FISHERIES COMMISSION
FISHERY MANAGEMENT PLAN FOR

SPOTTED SEATROUT
(Cynoscion nebulosus)

2014 FISHING YEAR



The Spotted Seatrout Plan Review Team

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2015 Spotted Seatrout FMP Review

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I. Status of the Fishery Management Plan

<u>Date of FMP Approval:</u>	Original FMP – October 1984
<u>Amendments:</u>	Amendment 1 – November 1991 Omnibus Amendment to Spanish Mackerel, Spot, and Spotted Seatrout (Amendment 2)- August 2011
<u>Management Area:</u>	The Atlantic coast distribution of the resource from Maryland through the east coast of Florida
<u>Active Boards/Committees:</u>	South Atlantic State/Federal Fisheries Management Board; Spotted Seatrout Plan Review Team

The Atlantic States Marine Fisheries Commission (ASMFC) adopted the Fishery Management Plan (FMP) for spotted seatrout in 1984. The states of Maryland through Florida have a declared interest in the Commission's FMP for spotted seatrout. The ISFMP Policy Board approved Amendment 1 to this FMP in November 1991. In August of 2011, the South Atlantic State/Federal Management Board approved the Omnibus Amendment to Spanish Mackerel, Spot, and Spotted Seatrout FMPs. The Omnibus Amendment (Amendment 2) brought the Spotted Seatrout FMP under the authority of the Atlantic Coastal Fisheries Cooperative Management Act (1993) and the ASMFC Interstate Fishery Management Plan Charter (1995).

The goal of the management plan is "to perpetuate the spotted seatrout resource in fishable abundance throughout its range and generate the greatest possible economic and social benefits from its harvest and utilization over time." Plan objectives include: 1) attain over time optimum yield; 2) maintain a spawning potential ratio of at least 20% to minimize the possibility of recruitment failure; 3) promote conservation of the stocks in order to reduce the inter-annual variation in availability and increase yield per recruit; 4) promote the collection of economic, social, and biological data required to effectively monitor and assess management efforts relative to the overall goal; 5) promote research that improves understanding of the biology and fisheries of spotted seatrout; 6) promote harmonious use of the resource among various components of the fishery through coordination of management efforts among the various political entities having jurisdiction over the spotted seatrout resource; and 7) promote determination and adoption of standards of environmental quality and provide habitat protection necessary for the maximum natural protection of spotted seatrout. Amendment 2 to the Spotted Seatrout FMP added the following objectives in support of the compliance under the Act: 1) Manage the spotted seatrout fishery restricting catch to mature individuals; 2) manage the spotted seatrout stock to maintain sufficiently-high spawning stock biomass; 3) develop research priorities that will further refine the spotted seatrout management program to maximize the biological, social, and economic benefits derived from the spotted seatrout population.

Management measures include a minimum size limit of 12 inches total length (TL) with comparable mesh size regulations in directed fisheries, and data collection for stock assessments and monitoring the fishery. All states with a declared interest in spotted seatrout have implemented at least the recommended minimum size limit. In addition, each state has either initiated spotted seatrout data collection programs or modified other programs to collect

improved catch and effort data. Table 1 provides the states' recreational and commercial regulations for spotted seatrout through 2014.

II. Status of the Stock

A coastwide stock assessment of spotted seatrout has not been conducted given the largely non-migratory nature of the species and the lack of data on migration where it does occur. Instead, state-specific age-structured analyses of local stocks have been performed by several states. These stock assessments provide estimates of static spawning potential ratio (SPR), which is a measure of the effect of fishing pressure on the relative spawning power of the female stock. The FMP recommends a goal of 20% SPR; North Carolina, South Carolina, and Georgia have adopted this goal, and Florida has established a 35% SPR goal.

Florida's stock assessments are for separate northern and southern populations. Average static SPR estimates for Florida's spotted seatrout during 2007-2009 were 0.69 in the northeast region of the state's Atlantic coast and 0.51 in the southeast region (Murphy et al. 2011). This assessment provided the basis for some relaxation in the management of spotted seatrout in Florida (Table 1).

The South Carolina Department of Natural Resources packaged three state-specific assessments into a report in 2001; however, these assessments were not peer reviewed. This initial assessment of South Carolina spotted seatrout covered 1986-1992 and indicated that female SPR was just above the 20% goal in the terminal year (Zhao and Wenner 2001). This assessment led to an increase in the minimum size limit and decrease in the creel limit for spotted seatrout in South Carolina. A more recent assessment of the population of South Carolina spotted seatrout was conducted for the period 1981-2004, but not peer reviewed (de Silva, Draft 2005). Two modeling approaches were used, and both models indicated that the current spawning stock biomass is below what would be required to maintain 20% SPR.

Assessments in North Carolina and Georgia spotted seatrout covered 1981-1997 and 1986-1995, respectively, and both indicated that female SPR was below the 20% goal in the terminal year (Zhao and Burns 2001, Zhao *et al.* 2001). A more recent assessment of spotted seatrout in Georgia has been performed; however, it remains unpublished. This 2002 Georgia assessment is unpublished because the results were highly questionable due to data deficiencies and changing methodologies.

North Carolina completed a peer reviewed stock assessment of spotted seatrout covering 1991-2008, which included all spotted seatrout caught in North Carolina and Virginia (Jensen 2009). The assessment indicated that SPR has been below 20% SPR in recent years. Jensen (2009) recommended the implementation of management measures to account for recent increases of recreational fishing and discard mortality and maintain a sufficiently large spotted seatrout population to act as a buffer against the effects of future cold stun events. Based on the assessment, North Carolina developed a draft state FMP for spotted seatrout, with the final version approved in April 2012.

A peer-reviewed stock assessment of spotted seatrout in Virginia and North Carolina waters was completed in 2014, incorporating data from 1991-2013 (NCDMF 2014). The results of the

assessment suggest that the age structure of the spotted seatrout stock expanded during the last decade; however, there was a sharp decline in recruitment after 2010. Spawning stock biomass peaked in 2007 and then declined. These declines may be attributed to cold stun events. Spawning stock biomass in 2012 was greater than the currently defined threshold which suggests the stock is not overfished. Additionally, fishing mortality is below the threshold suggesting the stock is not experiencing overfishing.

A statewide assessment is scheduled in Florida for 2016.

III. Status of the Fishery

Both commercial and recreational fishermen regularly catch spotted seatrout from Maryland through the east coast of Florida (except in South Carolina where spotted seatrout has been declared a gamefish and can only be taken by recreational means). Landings from states north of Maryland are minimal and/or inconsistent from year to year. All catch estimates in this section include those in the management area only (MD-FL). Total recreational landings have surpassed total commercial landings every year since recreational landings have been recorded in 1981 (Figure 1). In 2009, recreational landings were more than five times the commercial landings. A coastwide (VA, NC, SC) winter mortality event in 2000/2001 likely contributed to the sudden decline in commercial and recreational landings in 2001 and 2002.

Commercial Fishery

The National Marine Fisheries Service (NMFS) compiles commercial spotted seatrout landings. The data are cooperatively collected by the NMFS and state fishery agencies from state mandated trip-tickets, landing weigh-out reports from seafood dealers, federal logbooks, shipboard and portside interviews, and biological sampling of catches. See Table 2.

Atlantic coast commercial landings of spotted seatrout (1960-2014) have ranged from 154,000 pounds to 1.38 million pounds (Figure 1). Historically, commercial landings primarily came from North Carolina and Florida, with Virginia and Georgia accounting for a small portion of the total. From 1960 to 1976, annual commercial landings of spotted seatrout averaged 1.07 million pounds, but then declined due to increased regulation and possible declines in abundance. Significant changes to regulations include the 1987 designation of spotted seatrout as a gamefish in South Carolina, and the 1995 prohibition on the use of entangling nets in Florida's coastal waters. From 2005 to 2014, commercial landings averaged approximately 339,311 pounds. North of Florida, variability in annual harvest was typical and paralleled the climatic conditions of the preceding winter and spring. In 2014 the commercial landings were estimated at 346,587 pounds, representing over a 100,000 lb decrease from 2013. North Carolina accounted for approximately 70% of the total coastwide commercial catch, with Virginia and Florida responsible for approximately 19% and 10% of the 2014 commercial landings, respectively.

Recreational Fishery

Recreational catch statistics are collected by the NMFS recreational fisheries survey. Effort data are collected through telephone interviews. Catch data are collected through access-point angler intercept surveys. Catch per trip estimates are produced for each type of fish encountered, either observed or reported, and these estimates are combined with the effort estimates by sampling stratum to produce the catch and harvest estimates. See Tables 3, 4, and 5.

Over the last 33 years, the recreational catch of spotted seatrout (kept and released) has shown an upward trend, increasing from 1.1 million fish in 1981 to a peak of 8.8 million fish in 2012. In 2014, recreational catch declined to 5.9 million fish (Figure 2). The recreational harvest of spotted seatrout has remained relatively stable throughout the time series with an average of 1.3 million fish. Recreational harvest in 2014 was 1.127 million fish with North Carolina (39%) and Florida (27%) making up the largest shares of this harvest. Due in part to recreational size and creel limits and closed seasons, as well as the encouragement of catch and release practices, the percentage of caught fish being released increased to 75-87 percent of the catch since 2000. In 2014, the release percentage (81.1%) was similar to the previous 10-year average (78.99%). Recreational catches are generally made with rod and reel, but some are taken by recreational nets and by gigging, where these methods are permitted. Most recreational fishing is conducted from private boats and the majority of the catch is taken from nearshore waters.

IV. Status of Assessment Advice

A coastwide stock assessment of spotted seatrout has not been conducted and the Plan Review Team (PRT) does not recommend that one be completed due to the life history of the fish and the availability of data. Several states have performed age-structured analyses on local stocks of spotted seatrout. Recent stock assessments for spotted seatrout provide divergent trends on the status of the species. The 2005 stock assessment in South Carolina indicated an increasing population trend but a status level that is still below target spawning stock biomass levels (de Silva 2005). The 2014 North Carolina and Virginia stock assessment showed declines in recruitment since 2010. The PRT supports the continuation of state-specific assessments, yet recognizes the difficulty most states face to attain sufficient data of a quality that can be used in the assessment process and personnel who can perform the necessary modeling exercises.

The lack of biological and fisheries data for stock assessment and effective management of the resource was recognized in the 1984 FMP and continues to be a hindrance. Some states are increasing their collection of biological and fisheries data, which should provide insight on stock status over time.

V. Status of Research and Monitoring

In addition to the commercial and recreational fishery-dependent data collected and/or compiled through the National Marine Fisheries Service, Fisheries Statistics Division, some states have implemented fishery-independent or additional fishery-dependent monitoring programs.

The Florida Fish and Wildlife Conservation Commission (FWC) implemented a juvenile finfish monitoring program in the northern Indian River Lagoon in the spring of 1990 and in the estuarine reaches of the St. Johns, St. Marys, and Nassau Rivers in northeast Florida in the spring of 2001 (FWC-FWRI 2013). Florida also initiated a stratified random sampling program in 1997 on the Atlantic coast that utilizes a 183-m haul seine to catch exploitable-sized fishes. This has been conducted in the northern Indian River and southern Indian River since initiation and in northeast Florida since 2001. Trends in the YOY abundance have seen a decline since a strong recruitment evident in 2011. Recent relative abundance of adults (>199 mm SL) have also declined in both the central and north regions since 2011 and 2012, respectively. Samples have not yet been processed for the 2014 sampling program.

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Florida's fishery-dependent sampling includes commercial trip-ticket information and biostatistical sampling of the commercial and recreational catch. A voluntary angler logbook program was implemented in 2002 to collect information on the lengths of spotted seatrout released alive by anglers. Recently (2011) this program changed to 'postcard' program enlisting anglers encountered at sites visited during the MRIP angler intercept survey.

Georgia collects fishery-dependent data through a Marine Sportfish Carcass Recovery Program. Data collected through this survey are used to examine trends in the size and age composition of the recreationally harvested population, valuable information for future stock assessments. For 2014, a total of 3,659 fish carcasses were donated through the program. Approximately 60% (2,212) of the carcasses were seatrout, with an average centerline (CL) length of 365.9 mm CL (minimum: 247 mm CL; maximum: 554 mm CL), were reported from 11 recovery locations.

Georgia also collects fishery-independent data through the Marine Sportfish Population Health Study, was implemented in 2003 to provide age and sex specific estimates of relative abundance in two Georgia estuaries: Wassaw Sound and the Altamaha Sound region. This trammel net survey is conducted monthly, September through November, and utilizes a hybrid random-stratified and fixed station design in which each station is sampled once in a given month. For 2014, the average centerline length in Wassaw was 337.7 mm CL and 349.3 mm CL in Altamaha.

South Carolina has an extensive directed research program on this species. Current project objectives include determining the size and age composition of the recreational catch by sampling independent angler and fishing tournament catches as well as a carcass program, and producing fisheries independent relative abundance estimates from trammel net surveys along the South Carolina coast. The latter is a stratified random sampling design and has been conducted monthly since November 1990. South Carolina also has an electrofishing survey of upper estuarine waters. It uses a stratified random design and has been operating monthly since 2001. In 2014, a total of 87 spotted seatrout were captured by 286 random electrofishing sets, with a mean overall CPUE of 0.3 spotted seatrout per set. CPUE has generally declined in the electrofishing survey since 2009. In contrast to electrofishing, the trammel net survey, catches some YOY as well as older seatrout (S. Arnott, Personal Communication, 2011). During 2014, a total of 2580 spotted seatrout were captured in 857 random trammel net sets, with an overall mean CPUE of 3.0 spotted seatrout per trammel set. Additionally, South Carolina also has ongoing seatrout parasite studies (Moravec et al. 2006). Catch rates, size composition, and sub-samples of the catch on a bi-monthly basis are used for generating age-length keys for cohort specific indices of abundance. Roumillat and Brouwer (2004) have described the reproductive dynamics of female spotted seatrout in South Carolina.

North Carolina has collected age, growth, and maturity data for spotted seatrout caught in fishery-dependent and fishery-independent sampling programs since 1991. A fishery-independent monitoring program was initiated in May 2001, supported by USFWS Sports Fish Restoration funds. The program utilizes a stratified random, multi-mesh size gill net survey along North Carolina's Outer Banks, the bays of western Pamlico Sound, the Neuse, the Pamlico, Pungo, New and Cape Fear Rivers, and the Atlantic Ocean. Project objectives include

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calculating annual indices of abundance for important recreational fish (spotted seatrout included); supplementing samples for age, growth, and reproductive studies; evaluating catch rates and species distribution for identifying and resolving bycatch problems; and characterizing habitat utilization. Additional areas of the Neuse and Pamlico-Pungo Rivers contribute to the Pamlico Sound Area Independent Gill Net Survey, with common objectives and sampling design. Hydrophone work was conducted in North Carolina to characterize critical spawning habitats for spotted seatrout in Pamlico Sound. For the 2013 surveying program, the overall spotted seatrout CPUE was 0.71 (n=209) for Pamlico Sound (second highest in the time series); 0.44 (n=138) for surveys in the Pamlico-Pungo, and Neuse rivers; and 0.60 (n=71) for surveys in the Cape Fear and New Rivers (second highest in time series). Hook-and-line and estuarine gill net discard mortality studies were conducted in North Carolina in 1998-2001, supported by Atlantic Coastal Fisheries Cooperative Management Act funds.

The VMRC Biological Sampling Program collects biological data from Virginia's commercial and recreational fisheries. In 2014 there were 885 lengths, 878 weights, and 300 otoliths taken from spotted seatrout sampled from Virginia's commercial fisheries. Of the 885 length samples, 57 were from the commercial hook-and-line gear, 475 from haul seine, 15 from pound nets, 295 from gill nets, and 43 by-hand. Sample lengths ranged from 8 to 33 inches total length (TL), with an average of 19 inches TL. The average weight of spotted seatrout sampled from the commercial landings was 2.7 pounds. The spotted seatrout sampled from the commercial fishery ranged in age from 0 to 8 years.

The VMRC introduced its Marine Sportfish Collection Project in June 2007. There were 62 spotted seatrout donated by recreational fishermen to the project in 2014. A total of 62 lengths, and 62 otoliths were taken from the recreational spotted seatrout donations. The lengths of spotted seatrout sampled from the recreational fishery ranged from 15 to 28 inches TL. The average length of the spotted seatrout recreational fishery samples was 20.0 inches TL. The spotted seatrout sampled from the recreational fishery ranged in age from 1 to 6 years. Virginia also has a Game Fish Tagging Program which tagged and released 5,659 spotted sea trout in 2014. 84 of those fish were recaptured to date.

MD DNR fisheries biologists sampled commercial pound nets weekly in Maryland's portion of the Chesapeake Bay from May 27, 2014 through September 2, 2014. Four spotted seatrout were encountered from the onboard pound net survey in 2014, with a mean length of 499 mm TL. A low number of juvenile spotted seatrout are encountered in the coastal bays seine survey and the Chesapeake Bay blue crab trawl survey as bycatch, indicating the species utilizes these areas as nursery habitat.

VI. Status of Management Measures and Issues

Changes to State Regulations

Maryland

On April 14, 2014 the regulations were modified to a 4 fish creel limit for recreational anglers, and a 14 inch TL minimum size limit and 150 pound per day or trip (whichever is longer) limit for commercial fishermen. The recreational size limit did not change.

Virginia

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The VMRC recreational season was closed from March 1 through July 31. This season was a one-time event requested by the recreational fishing community to protect the stock, in response to an assumed large winter mortality event. The daily possession limits during the open seasons was 5 spotted seatrout per day from 14 to 24 inches total length, with one fish allowed over 24 inches.

North Carolina

Both the commercial and recreational fishery were closed from February 5 through June 14, 2014 as a result of a cold stun event. This was a one-time closure.

De minimis Guidelines

A state qualifies for *de minimis* status if its past 3-years' average of the combined commercial and recreational catch is less than 1% of the past 3-years' average of the coastwide combined commercial and recreational catch. Those states that qualify for *de minimis* are not required to implement any monitoring requirements, none of which are included in the plan.

De Minimis Requests

The states of New Jersey and Delaware requests continuation of *de minimis* status. The PRT notes these states meet the requirements of *de minimis*.

VII. Implementation of FMP Compliance Requirements for 2013

The PRT notes that all states have met the compliance requirements.

VIII. Recommendations of Plan Review Team

Management and Regulatory Recommendations

- Increase observer coverage in states that have a commercial fishery for spotted seatrout.

Prioritized Research Recommendations

High Priority

- Conduct state-specific stock assessments to determine the status of stocks relative to the plan objective of maintaining a spawning potential of at least 20%.
- Collect data on the size or age of spotted seatrout released alive by anglers and the size and age of commercial discards.
- Research release mortality and how this changes with season and depth.
- Continue work to examine the stock structure of spotted seatrout on a regional basis, with particular emphasis on advanced tagging techniques.
- Research effects of winter on the population.
- Utilize telemetry technology to better understand life history characteristics.
- More research is needed on the significance of age-specific fecundity changes (ie: environment impacts on spawning output of population)
- Develop state-specific juvenile abundance indices.
- Increase observer coverage in states that have a commercial fishery for spotted seatrout.

Medium Priority

- Identify essential habitat requirements.
- Initiate collection of social and economic aspects of the spotted seatrout fishery.

IX. References

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X. Figures

Figure 1. Commercial landings (1960-2014) and recreational landings (1981-2014), in pounds, from Maryland to Florida (See Tables 2 and 4 for values and sources)

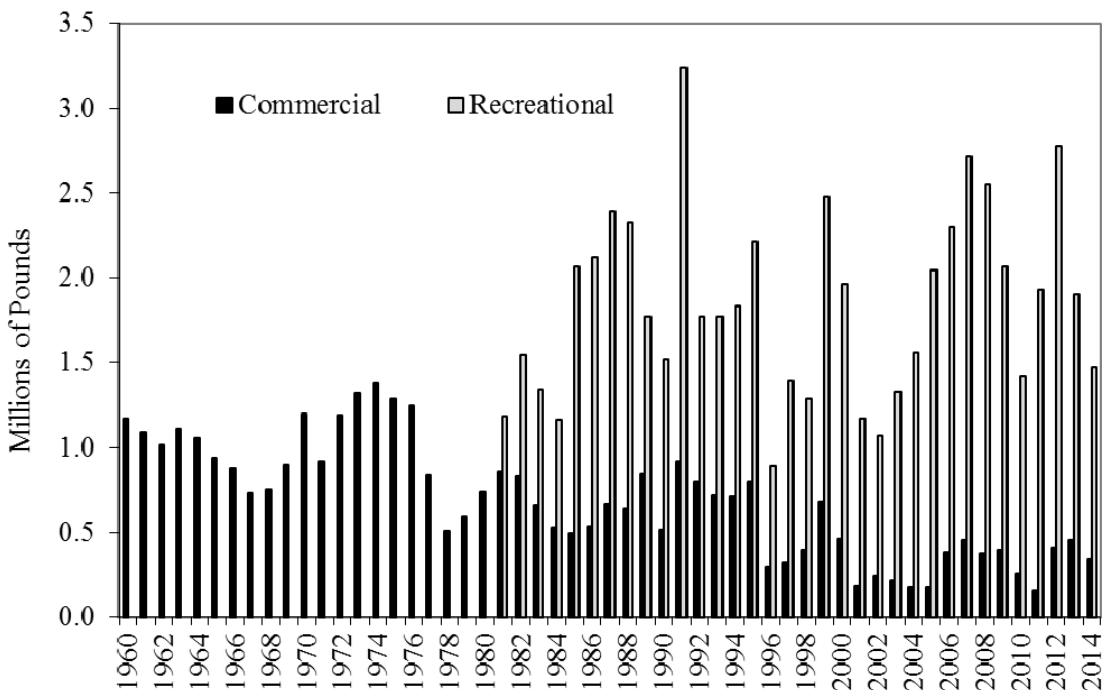
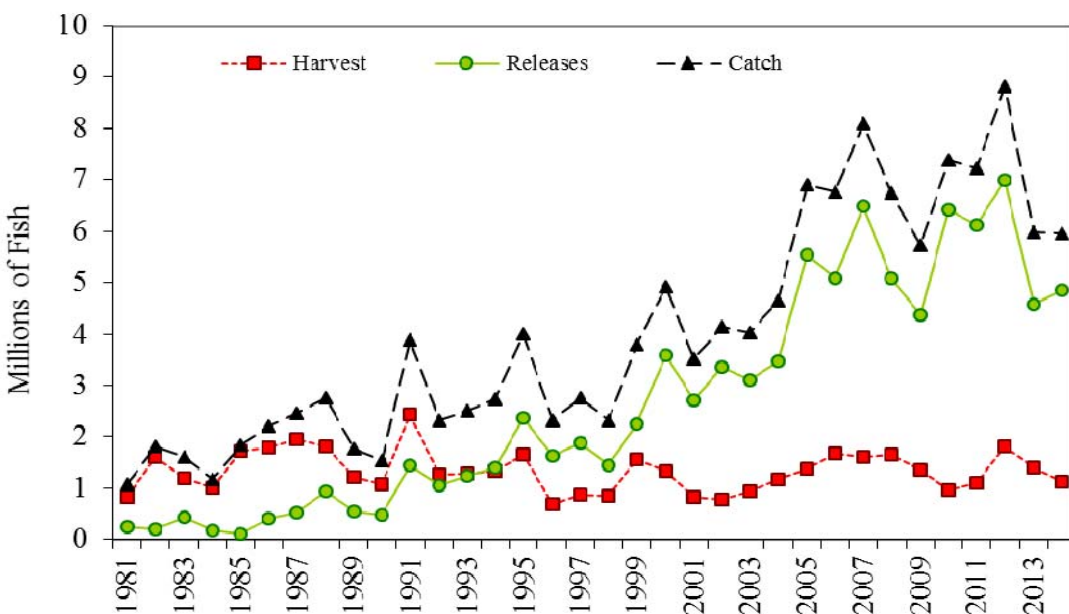


Figure 2. Recreational catch (numbers), 1981-2014, from Maryland to Florida (See Tables 3 and 5 for values and sources)



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XI. Tables

Table 1. Summary of state regulations for spotted seatrout in 2014

State	Recreational	Commercial
New Jersey	13" TL; 1 fish	Gill net: 13"; open 1/1-5/20 & 9/3-10/19 & 10/27-12/31; 100 lb possession limit; 100 lb bycatch limit; mesh ≥ 3.25 " stretched except 2.75 - 3.25" stretched allowed within 2nm for permitted fishermen doing monthly reporting. Trawl: 13"; open 1/1-7/31 & 10/13-12/31; mesh ≥ 3.75 " diamond or 3.375 square; 100 lb possession limit' 100 lb bycatch limit. Pound net: 13"; open 1/1/-6/6 & 7/1-12/31; 100 lb bycatch limit.
Delaware	12" TL	12" TL
Maryland	14" TL; 4 fish	14" TL. 150 pound limit per day or trip (whichever is longer)
PRFC	14" TL; 10 fish	14" TL
Virginia	5 fish per day between 14-24" TL; 1 fish per day over 24"	14" TL except pound nets and haul seines allowed 5% by weight less than 14". Hook & line - 5 fish limit between April 1- November 30. Quota: 51,104 lbs (Sept. 1-Aug. 31).
North Carolina	14" TL; 4 fish	14" TL; hook & line - 75 fish limit. Unlawful to possess or sell from midnight on Friday to midnight on Sunday
South Carolina	14" TL; 10 fish. May be taken by rod & reel year-round or gigging March-November.	Gamefish status since 1987: native caught fish may not be sold.
Georgia	13" TL; 15 fish	13" TL; 15 fish. Commercial fishing license to sell. BRD requirement for trawl; gear mesh regulations.
Florida	Slot limit: 15-20" TL with 1 fish >20" allowed; north region: 6 fish limit; south region: 4 fish limit; hook & line or cast net only	15-24" TL; May 1-September 30 season in south and June 1-November 30 in the north; 75 fish per day but 150 fish limit with two or more licensed fishermen on board

Note: A commercial fishing license is required to possess spotted seatrout for sale in all states with a fishery.

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Table 2. Commercial landings (pounds) of spotted seatrout by state, 1981-2014
(Source: State Compliance Reports, 2015). Starred boxes represent confidential data.

Year	MD	VA	NC	SC	GA	FL	Total
1981	0	4,000	113,304		629	736,026	853,959
1982	0	3,400	83,847	1,944	4,994	732,278	826,463
1983	0	4,400	165,360	4,479	5,795	481,535	661,569
1984	0	3,000	152,934	2,374	4,348	367,541	530,197
1985	0	8,302	109,048	1,770	7,149	369,756	496,025
1986	0	18,500	191,514	12,214	8,691	307,261	538,180
1987	0	13,300	315,380	11,941	10,739	317,044	668,404
1988	0	15,500	296,538	486	9,110	315,947	637,581
1989	0	18,500	451,909	33	10,565	361,973	842,980
1990	0	21,435	250,634	1,095	5,942	236,453	515,559
1991	98	21,200	660,662	0	7,380	225,812	915,152
1992	0	10,395	526,271	0	11,310	247,189	795,165
1993	868	38,033	449,886	0	8,550	223,931	721,268
1994	690	44,636	412,458	0	5,112	247,666	710,562
1995	668	28,722	574,410	0	8,482	184,269	796,551
1996	12,742	3,897	226,668	0	7,501	48,254	299,062
1997	15,199	11,639	232,583	0	7,621	57,316	324,358
1998	16,993	21,235	307,777	0	2,845	41,556	390,346
1999	29,419	35,055	546,775	0	3,244	61,802	676,295
2000	18,419	15,463	376,657	0	1,997	45,392	457,928
2001	25,161	19,039	105,797	0		30,234	180,231
2002	*	8,792	175,643	*	*	44,640	240,357
2003	816	5,299	181,529	0		27,075	214,719
2004	*	10,705	130,961	*	*	29,605	172,487
2005	*	7,341	129,601	*	*	36,762	176,043
2006	*	30,218	312,620	*	*	36,687	379,820
2007	*	34,166	374,722	*	*	46,838	455,740
2008	*	44,275	304,430	*	*	20,887	369,861
2009	*	23,880	320,247	*	*	46,297	390,600
2010	*	17,271	200,822	*	*	39,374	258,492
2011	*	14,728	75,239	*	*	63,592	154,144
2012	*	76,963	265,017	*	*	61,664	405,534
2013	*	28,223	367,412	*	*	58,221	456,284
2014	*	66,504	241,995	*	*	37,710	346,587

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Table 3. Recreational harvest (numbers of fish) of spotted seatrout by state, 1981-2014
(Source: NMFS Fisheries Statistics Division)

Year	MD	VA	NC	SC	GA	FL	Total
1981			30,037	20,934	189,080	576,847	816,898
1982			112,023	849,634	226,758	426,378	1,614,793
1983			91,956	121,940	325,655	645,120	1,184,671
1984			90,262	95,281	114,403	700,876	1,000,822
1985			263,878	347,851	251,764	866,162	1,729,655
1986	7,507	82,671	270,867	477,136	401,490	550,591	1,790,262
1987	29,295	17,415	320,977	392,329	439,782	744,330	1,944,128
1988	20,769	288,705	420,115	355,547	389,276	331,709	1,806,121
1989	151,986	66,033	181,149	174,011	448,767	198,617	1,220,563
1990	20,416	67,939	251,088	113,160	368,787	249,824	1,071,214
1991	17,995	69,032	316,895	438,502	1,204,116	385,817	2,432,357
1992	3,235	30,091	333,990	200,030	338,175	363,238	1,268,759
1993	7,038	103,131	206,523	222,144	463,702	274,118	1,276,656
1994	33,511	115,025	457,636	139,551	337,965	255,216	1,338,904
1995	19,198	90,838	325,927	223,751	607,095	381,884	1,648,693
1996	35,765	46,098	151,380	137,530	171,676	148,571	691,020
1997	19,951	92,725	256,719	111,576	167,287	228,096	876,354
1998	13,620	34,623	294,501	125,038	197,293	189,621	854,696
1999	2,112	138,492	410,321	101,260	655,407	241,096	1,548,688
2000	1,634	90,135	250,450	219,740	486,673	288,443	1,337,075
2001	0	13,447	182,124	63,452	309,487	250,987	819,497
2002	0	16,303	197,484	84,777	271,357	206,310	776,231
2003	2,091	102,484	106,415	123,027	425,993	169,587	929,597
2004	0	68,409	316,894	247,156	336,254	199,523	1,168,236
2005	1,954	22,062	512,262	268,467	231,429	337,744	1,373,918
2006	4,860	43,530	577,537	294,096	453,394	299,337	1,672,754
2007	0	159,244	525,156	122,419	499,709	302,625	1,609,153
2008		103,880	584,024	175,975	623,619	160,455	1,647,953
2009	7,933	22,635	509,416	147,266	478,895	182,752	1,348,897
2010	3,146	17,417	195,065	101,053	384,077	251,455	952,213
2011	3,058	247,736	215,922	66,207	289,950	286,501	1,109,374
2012	6,032	125,627	500,522	234,921	526,604	427,469	1,821,175
2013	0	55,151	649,158	126,351	237,551	335,547	1,403,758
2014	4,755	46,524	433,978	77,669	256,068	308,133	1,127,127

2015 Spotted Seatrout FMP Review

Table 4. Recreational harvest (pounds of fish) of spotted seatrout by state, 1981-2014
(Source: NMFS Fisheries Statistics Division)

Year	MD	VA	NC	SC	GA	FL	Total
1981			63,036	14,808	138,720	967,921	1,184,485
1982			120,045	588,999	177,847	660,295	1,547,186
1983			96,359	138,442	323,889	784,531	1,343,221
1984			39,861	116,118	141,306	866,077	1,163,362
1985			288,088	509,551	234,704	1,032,344	2,064,687
1986	4,960	64,394	328,439	587,570	440,774	695,168	2,121,305
1987	22,511	38,495	366,442	592,612	491,317	883,707	2,395,084
1988	36,629	460,378	390,836	448,473	536,959	453,063	2,326,338
1989	184,318	112,344	259,726	277,489	608,009	328,338	1,770,224
1990	39,059	121,136	282,872	174,845	423,815	475,045	1,516,772
1991	34,753	121,604	472,397	628,011	1,449,853	534,371	3,240,989
1992	7,802	56,685	508,760	227,210	430,946	543,491	1,774,894
1993	12,800	201,562	307,151	268,055	586,426	392,827	1,768,821
1994	26,764	175,184	679,996	183,343	412,392	357,441	1,835,120
1995	31,464	148,544	478,674	247,987	667,379	642,670	2,216,718
1996		77,269	197,261	171,727	196,487	249,898	892,642
1997	32,963	261,911	311,891	163,771	242,506	380,276	1,393,318
1998	37,189	61,888	444,441	151,718	262,896	329,793	1,287,925
1999		290,694	690,606	146,277	916,860	428,061	2,472,498
2000	2,972	195,544	385,190	267,297	565,903	545,202	1,962,108
2001		26,733	213,438	58,885	369,083	502,254	1,170,393
2002		28,882	274,100	111,954	302,559	353,693	1,071,188
2003	3,494	218,061	145,936	140,276	502,278	316,279	1,326,324
2004		138,841	386,918	168,468	383,237	482,853	1,560,317
2005	5,491	55,901	721,914	326,501	273,204	665,467	2,048,478
2006	10,674	107,770	794,372	369,165	444,228	574,081	2,300,290
2007	0	380,281	927,942	278,529	615,694	512,885	2,715,331
2008	0	239,743	936,652	242,405	777,690	354,409	2,550,899
2009	9,006	44,761	940,769	172,848	596,182	303,281	2,066,847
2010	6,724	30,176	404,438	138,514	425,854	411,495	1,417,201
2011	4,664	550,157	435,954	116,979	353,472	464,863	1,926,089
2012	10,257	226,556	810,589	388,105	518,189	819,009	2,772,705
2013		126,291	626,628	228,014	282,362	637,881	1,901,176
2014	10,633	84,838	433,978	111,194	283,282	546,335	1,470,260

2015 Spotted Seatrout FMP Review

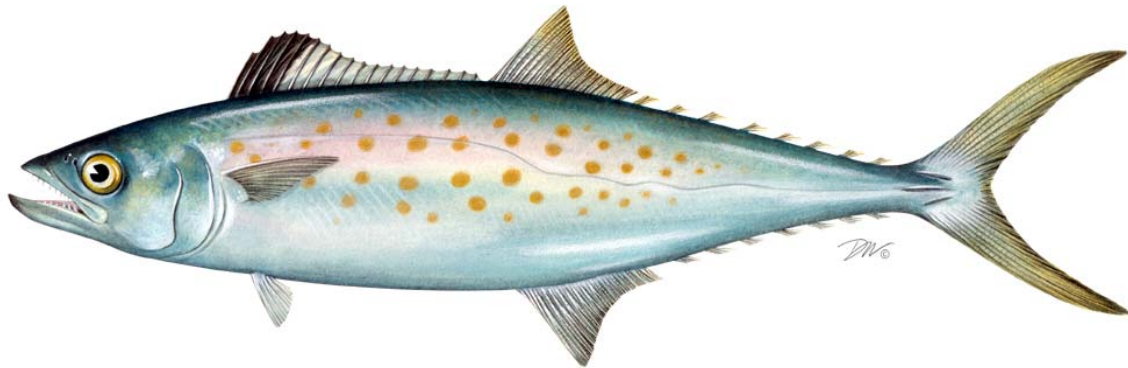
Table 5. Recreational releases (number of fish) of spotted seatrout by state, 1981-2014
(Source: NMFS Fisheries Statistics Division)

Year	MD	VA	NC	SC	GA	FL	Total
1981				5,522	36,853	209,059	251,434
1982				8,007	17,645	171,093	196,745
1983			16,579	32,860	12,038	367,881	429,358
1984			30,173	44,436	16,174	76,346	167,129
1985			16,578	6,409	22,917	66,960	112,864
1986	13,639	28,606	19,792	115,315	189,798	35,646	402,796
1987		30,070	136,104	130,253	176,415	41,391	514,233
1988	26,999	148,934	74,818	78,568	182,628	431,665	943,612
1989	52,859	11,977	82,909	54,279	167,025	187,406	556,455
1990	4,874	23,435	84,235	35,223	114,624	203,439	465,830
1991	21,811	40,550	169,921	51,415	369,972	789,779	1,443,448
1992	701	19,855	139,616	97,813	192,261	597,254	1,047,500
1993		65,605	149,744	92,101	146,665	780,573	1,234,688
1994	32,466	243,463	207,262	220,941	125,421	574,629	1,404,182
1995	157,530	327,643	277,896	194,996	327,835	1,074,703	2,360,603
1996	51,594	165,169	153,051	107,691	63,585	1,081,893	1,622,983
1997	4,826	168,964	98,377	89,147	61,148	1,449,278	1,871,740
1998	49,460	74,569	73,024	151,935	100,059	1,005,443	1,454,490
1999	7,082	152,120	253,442	92,792	160,801	1,577,378	2,243,615
2000	4,805	264,550	90,070	368,332	547,765	2,310,491	3,586,013
2001		110,308	194,982	38,709	365,140	1,995,635	2,704,774
2002		136,265	385,162	147,962	357,953	2,326,420	3,353,762
2003		207,270	131,619	314,642	737,730	1,707,957	3,099,218
2004	9,430	257,996	300,025	333,537	608,193	1,969,884	3,479,065
2005	4,612	192,091	817,036	395,483	678,057	3,446,336	5,533,615
2006	9,721	82,935	559,786	666,865	872,395	2,889,495	5,081,197
2007	2,231	362,809	973,516	560,272	957,682	3,623,247	6,479,757
2008		366,566	1,005,298	850,006	719,622	2,140,752	5,082,244
2009	30,381	171,028	1,213,526	398,971	915,301	1,641,702	4,370,909
2010	107,017	550,118	1,684,872	407,228	742,215	2,937,411	6,428,861
2011	7,685	1,214,620	1,916,249	279,969	552,123	2,141,212	6,111,858
2012	55,183	428,540	1,646,512	817,017	1,029,479	3,025,556	7,002,287
2013	0	291,070	1,427,410	600,607	321,461	1,939,475	4,580,023
2014	26,438	291,070	960,570	389,153	773,940	2,399,792	4,840,963

2015 REVIEW OF THE
ATLANTIC STATES MARINE FISHERIES COMMISSION
FISHERY MANAGEMENT PLAN FOR

SPANISH MACKEREL
(Scomberomorus maculatus)

2014 FISHING YEAR



Prepared by the
Spanish Mackerel Plan Review Team
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I. Status of the Plan

<u>Date of FMP Approval:</u>	Original FMP – October 1990
<u>Amendments:</u>	Omnibus Amendment to Spanish Mackerel, Spot, and Spotted Seatrout (Amendment 2)- August 2011 Addendum I- August 2013
<u>Management Area:</u>	The Atlantic coast distribution of the resource from New York through the east coast of Florida
<u>Active Boards/Committees:</u>	South Atlantic State/Federal Fisheries Management Board; Spanish Mackerel Plan Review Team

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

The SAFMC manages Atlantic group Spanish Mackerel based on guidance from its Scientific and Statistical Committee (SSC). The SAFMC determines needed adjustments to regulatory measures, including allowable catch, bag limits, size limits, and trip limits. The SAFMC deliberations are assisted by a Mackerel Committee that includes representatives from the Mid-Atlantic Fishery Management Council, and an Advisory Panel with South Atlantic and Mid-Atlantic industry representation. Since the Coastal Migratory Pelagic Resources FMP is a joint plan with the Gulf of Mexico Fishery Management Council (GMFMC), any amendments to this FMP must be approved by both Councils.

The SAFMC and GMFMC approved Amendment 18 to the Coastal Migratory Pelagic Resources FMP in December 2011 which established a new Allowable Biological Catch (ABC) based on the SSC recommendation of using median landings of the last 10 years (2001-2011). With this change, the ABC was set equal to the Annual Catch Limit (ACL) and Optimum Yield (OY) [ABC=ACL=OY] at approximately 5.29 million lbs. With this the commercial ACL was 3.13 million lbs and the recreational ACL was 2.56 million lbs.

Under the federal FMP, the 2013-2014 fishing year ran from March 1, 2013 to February 28, 2014. The 2014-2015 fishing year began on March 1st, 2014. The federal FMP divides the commercial fishery into a quota system between the Atlantic and Gulf migratory groups. Within the Atlantic migratory group, there are two zones- the Northern (consisting of the states from New York through North Carolina) and the Southern (South Carolina to Florida). For the Atlantic migratory group, the 2013/2014 year, the full quota was 3.13 million pounds and the adjusted quota was 2.88 million pounds. The adjusted quota is used to determine trip limit reductions. For the 2014/2015 fishing season, the full quota was increased to 3.33 million pounds following CMP Framework Amendment 1 (See *Section VI*).

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

The goals of the interstate FMP are to complement federal management in state waters, to conserve the Atlantic group Spanish Mackerel resource throughout its range, and to achieve compatible management among the states that harvest Spanish Mackerel. In accordance with the 2011 Omnibus Amendment, the updated FMP's objectives are to: (1.) Manage the Spanish Mackerel fishery by restricting fishing mortality to rates below the threshold fishing mortality rates to provide adequate spawning potential to sustain long-term abundance of the Spanish Mackerel populations. (2.) Manage the Spanish Mackerel stock to maintain the spawning stock biomass above the target biomass levels. (3.) Minimize endangered species bycatch in the Spanish Mackerel fishery. (4.) Provide a flexible management system that coordinates management activities between state and federal waters to promote complementary regulations throughout Spanish Mackerel's range which minimizes regulatory delay while retaining substantial ASMFC, Council, and public input into management decisions; and which can adapt to changes in resource abundance, new scientific information and changes in fishing patterns among user groups or by area. (5.) Develop research priorities that will further refine the Spanish Mackerel management program to maximize the biological, social, and economic benefits derived from the Spanish Mackerel population. See Table 1 for state Spanish Mackerel regulations in 2014.

II. Status of the Stocks

The Atlantic coast Spanish Mackerel resource is not experiencing overfishing and the stock is not overfished (SEDAR. 2012). As updated in the SEDAR 28 Stock Assessment Report, the current stock biomass is estimated to be $SSB_{2011}/MSST=2.29$. The current level of fishing (exploitation rate) was $F_{2009-2011}/F_{MSY}=0.526$, with $F_{2011}/F_{MSY}=0.521$. The overfished ratio (B/B_{MSY}) shows that the biomass declined as a result of the high fishing mortality but has increased in recent years and remains above B_{MSY} (Figure 1). The overfishing ratio (F/F_{msy}) shows that fishing mortality increased from the late 1970s through 1994 but has since declined (Figure 2). Fishery-dependent data also indicate an increasing biomass trend (except during the last four years which show a decline). The current fishing mortality rate does not seem to be inhibiting stock growth.

III. Status of the Fishery

Spanish Mackerel are an important recreational and commercial fishery in South Atlantic waters, with recreational landings north of Maryland limited and sporadic (Tables 2 and 4). Trip limits implemented in state and federal waters continue to prevent premature closure of the commercial fishery. Total landings of Spanish Mackerel in 2014 are estimated at 4.4 million pounds (compared to the 6.063 million pound ACL). The commercial fishery harvested approximately 70.7% of the total, and the recreational fishery about 29.3%.

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

From 1960 to 2014, commercial landings of Atlantic coast Spanish Mackerel have ranged between 1.9 and 11.1 million pounds, although that range is limited to between 1.9 and 6.0 million pounds if the unusually large harvests in 1976-77 and 1980 are excluded. Since 1981, total landings have averaged 5.12 million pounds. Coastwide commercial landings have generally been below 4 million pounds since 1995 (exception of 2010; landings of 4.53 million pounds); this coincided with the entanglement net ban in Florida. Gill nets were the dominant commercial gear in Florida prior to the ban. After the ban was instituted, the use of cast nets increased. The 2014 commercial landings were 3.272 million pounds (Figure 3), of which 2.585 million pounds were landed in Florida (79% of the harvest). North Carolina harvested approximately 21% of the total 2014 landings (Table 2).

Recreational anglers harvested an estimated 886,000 Spanish Mackerel (1.14 million pounds) in 2014, a decrease from the 1.19 million fish caught in 2013 (Tables 3 and 4). The number of recreationally harvested fish appears to show a cyclical trend, with low harvests in the early to mid 80s and mid to late 90s, interspersed with higher harvests (Figure 4). Florida and North Carolina continue to account for the majority of recreational landings in both number and weight. In 2014, Florida harvested 43% of the total number of fish and North Carolina 45%. The number of recreational releases of Spanish Mackerel has generally increased over time, reaching a peak of over 930,000 fish in 2008 (Table 5, Figure 4). Recreational releases in 2014 were an estimated 490,000 fish.

IV. Status of Assessment Advice

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

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

V. Status of Research and Monitoring

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

and Assessment Program (NEAMAP) began regular spring and fall surveys between Martha's Vineyard and Cape Hatteras in the fall of 2007.

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

North Carolina also conducts fishery independent monitoring. Three fishery independent gill net surveys were initiated by the North Carolina Division of Marine Fisheries in May of 2001, 2003 and 2008, respectively. These surveys utilize a stratified random sampling scheme designed to characterize the size and age distribution for key estuarine species in Atlantic Ocean and Pamlico Sound as well as the Pamlico, Pungo, Neuse, Cape Fear and New rivers. The overall Spanish Mackerel CPUE was very low for all areas except the Atlantic Ocean where the 2014 CPUE was 0.64 (n=16).

VI. Status of Management Measures

2008 Framework Adjustment (Federal)

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

Omnibus Amendment (Interstate)

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

Recreational Fishery

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

Commercial Fishery

- Prohibited: purse seines; drift gill nets south of Cape Lookout, NC
- 12" FL or 14" TL minimum size limit
- March 1 – end of February season
- Trip limits (per vessel, per day)
NY-GA: 3500 lbs
FL: 3500 lbs, 3/1-11/30;
3500 lbs Mon-Fri & 1500 lbs Sat-Sun, 12/1 until 75% adjusted quota taken;

1500 lbs, when 75% adjusted quota taken until 100% adjusted quotas taken;
500 lbs after 100% of adjusted quotas taken (the adjusted quota compensates for estimated catches of 500 lbs per vessel per day to the end of the season)

- Commercial quotas decreased the following year if Total ACL is exceeded and stock is overfished

Amendment 18 (Federal)

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

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

Addendum I

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

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

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

The measures in Addendum I only applied for the 2013 and 2014 fishing seasons. In August 2015, the South Atlantic Board formally extended the provisions of Addendum I for the 2015 and 2016

fishing seasons. Reports by North Carolina, the only state to reduce their minimum size, will be reviewed annually.

Amendment 20A (Federal)

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

South Atlantic CMP Framework Action (Federal)

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

CMP Framework Amendment 1 (Federal)

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

Amendment 20B (Federal)

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

CMP Framework Amendment 2 (Federal)

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

VII. Implementation of FMP Compliance Requirements for 2013

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

De minimis Guidelines

A state qualifies for *de minimis* status if its past 3-years' average of the combined commercial and recreational catch is less than 1% of the past 3-years' average of the coastwide combined commercial and recreational catch. Those states that qualify for *de minimis* are not required to implement any monitoring requirements, none of which are included in the plan.

De Minimis Requests

The states of New Jersey, Delaware, and Georgia request *de minimis* status. The PRT notes these states meet the requirements of *de minimis*.

Regulation Changes

Georgia

As of January 1, 2014, Spanish Mackerel no longer have a fishing season. Size and bag limits will stay the same.

Florida

Effective October 12, 2015:

68B-23.006 Other Prohibitions.

(1) It is unlawful for any person to possess, transport, buy, sell, exchange or attempt to buy, sell or exchange any Spanish Mackerel harvested in violation of this chapter.

(2) The Commission shall issue a permit pursuant to Rule 68B-2.010, F.A.C., to authorize Spanish Mackerel caught in an organized tournament to be donated to a licensed wholesale dealer.

(3) The prohibitions of this chapter apply as well to any and all persons operating a vessel in state waters, who shall be deemed to have violated any prohibition which has been violated by another person aboard such vessel.

VIII. Recommendations of the Plan Review Team

Research and Monitoring Recommendations

High Priority

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

Medium Priority

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

Low Priority

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

IX. References

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X. Figures

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

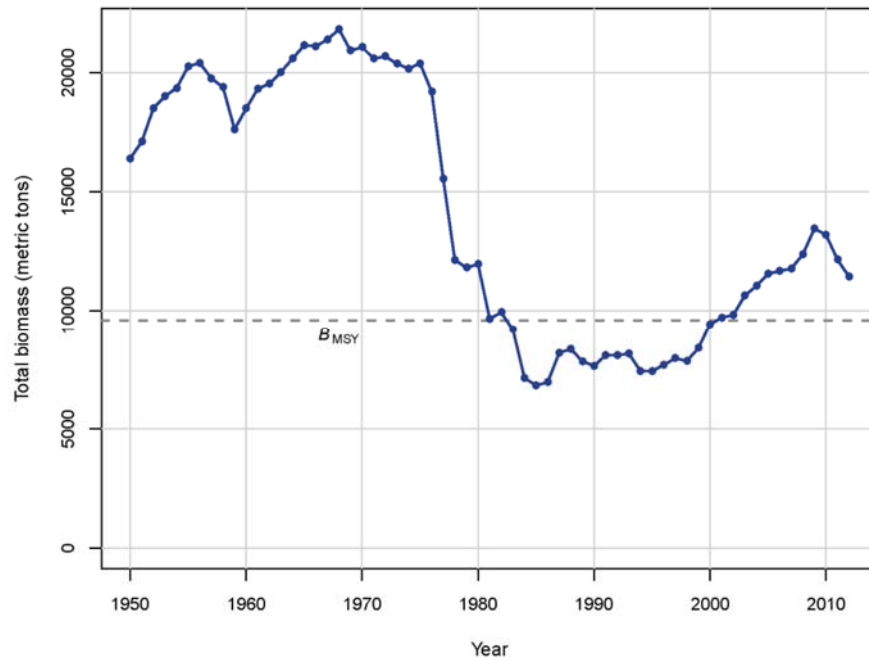


Figure 2. Estimated time series of Atlantic group Spanish mackerel fishing mortality rate (F) relative to F_{MSY} benchmark. Solid line indicates estimates from base run of the Beaufort Assessment Model; gray error bands indicate 5th and 95th percentiles of the Monte Carlo Bootstrap analysis trials (SEDAR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

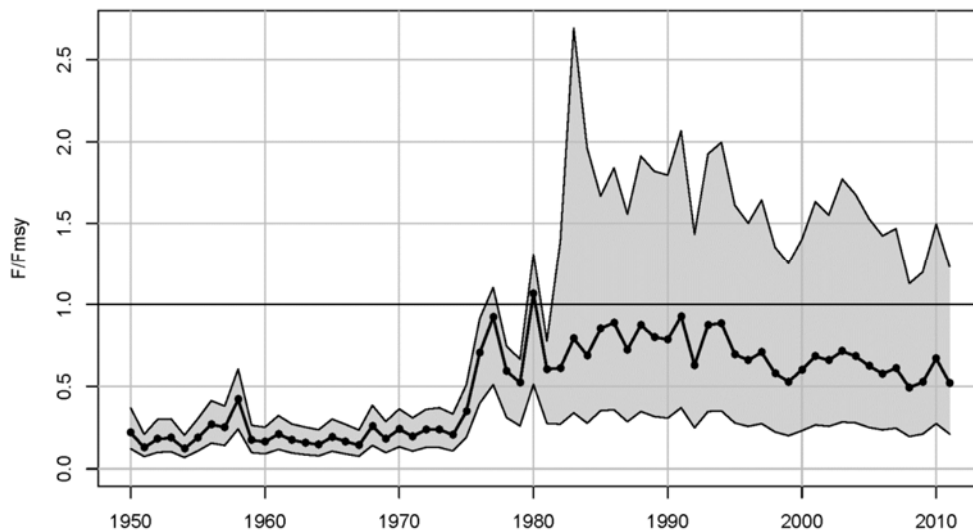


Figure 3. Commercial and recreational harvest (pounds) of Spanish mackerel, 1960-2014
 (Recreational data available from 1981-present only; see Tables 2 and 4 for values and sources)

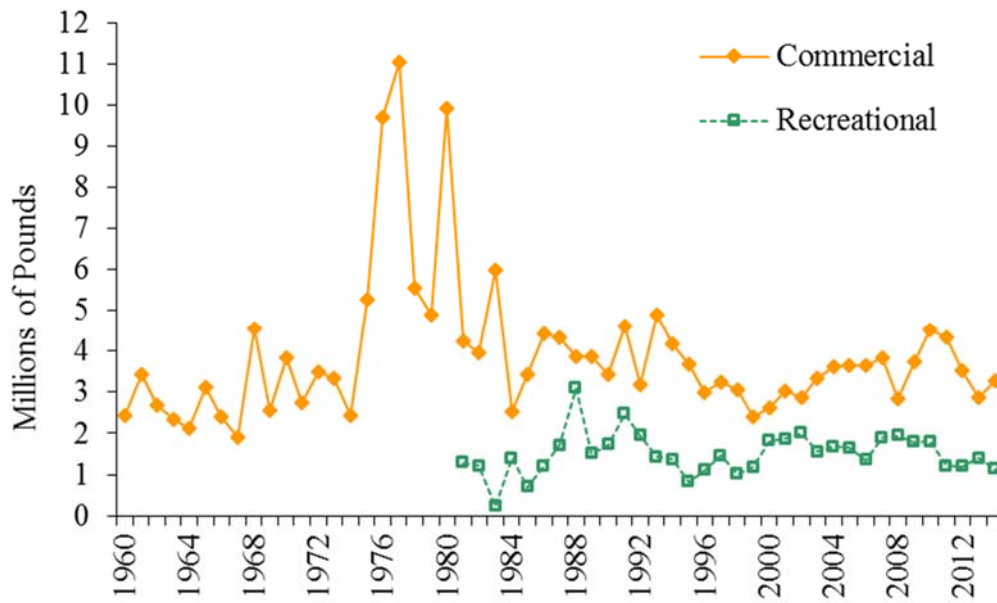
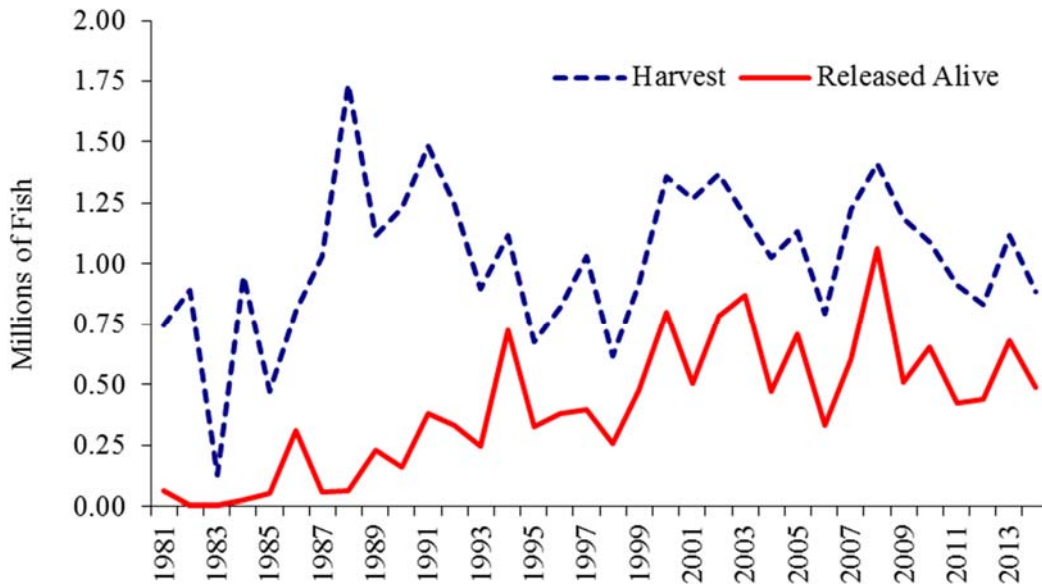


Figure 4. Recreational harvest and releases (numbers of fish) of Spanish mackerel, 1981-2014
 (See Tables 3 and 5 for values and sources)



XI. Tables

Table 1. Summary of state regulations for Spanish mackerel in 2014

Notes: A commercial license is required to sell Spanish mackerel in all states; other general gear restrictions apply to the harvest of Spanish mackerel.

State	Recreational	Commercial
NY	14" TL, 15 fish	14" TL. 3,500 lb trip limit
NJ	14" TL, 10 fish	14" TL.
DE	14" TL, 15 fish	14" TL. 3,500 lb trip limit
MD	14" TL, 15 fish	14" TL. 3,500 lb trip limit
PRFC	14" TL, 15 fish	14" TL. Closure if/when federal waters close.
VA	14" TL, 15 fish	14" TL. 3,500 lb trip limit. Closure if/when federal waters close.
NC	12" FL, 15 fish	12" FL. 3,500 lb trip limit (Spanish and king mackerel combined). Purse gill nets prohibited. 11½" FL for pound net fishery July 3-Sept 30.
SC	12" FL, 15 fish	12" FL. 15 fish. Closure if/when federal waters close.
GA	12" FL, 15 fish	12" FL. 15 fish.
FL	12" FL, 15 fish. Transfer to other vessels at sea is prohibited. Cast nets less than 14' and beach or haul seines with no greater than 2" stretched mesh allowed	12" FL. Trip limits: April 1 until Nov. 30 - 3500 lb; Dec. 1 until 75% of adjusted quota reached – 3500 lb Mon-Fri. & 1500 lb Sat-Sun; >75% adjusted quota until quota filled -1500 lb; > 100% of adjusted quota - 500 lb. Restricted Species Endorsement Required Transfer of fish between vessels prohibited 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, 1981-2014
 (Source: NMFS Fisheries Statistics Division)

Year	NY	NJ	MD	VA	NC	SC	GA	FL	Total
1981	500	500		3,500	51,639		518	4,174,432	4,231,089
1982	1,000	200		12,700	189,217	1,081	745	3,758,603	3,963,546
1983	600	100		3,500	41,336	706		5,947,102	5,998,544
1984	300	100		10,000	127,467	1,321		2,397,373	2,536,561
1985	100			15,300	173,186	847		3,244,980	3,434,413
1986	3,200	1,500		168,400	232,197	6,375	1,335	4,003,738	4,417,345
1987	16,600	24,000	4,800	251,200	504,063	961	255	3,497,135	4,319,914
1988	19,200	16,900	4,300	291,600	438,222	1,029	726	3,071,687	3,847,064
1989	17,700	24,100	10,400	354,400	589,383	1,605		2,853,177	3,872,065
1990	24,329	28,336	43,411	491,651	838,914	384	491	1,979,081	3,418,712
1991	149,321	77,151	62,688	447,127	858,808	444	197	2,986,871	4,611,835
1992	31,873	51,751	37,930	271,313	738,362	1,952	71	2,022,961	3,159,098
1993	42,063	23,036	9,445	335,688	589,868	480	95	3,902,240	4,905,763
1994	124,733	19,915	3,363	376,818	531,355	362		3,099,780	4,160,492
1995	9,136	2,153	3,089	168,732	402,305			3,064,926	3,662,760
1996	17,980	40,821		283,750	401,546			2,244,667	2,991,287
1997	31,107	12,122	3,033	164,639	766,901			2,269,289	3,247,192
1998	37,238	13,242	13,204	121,109	372,440			2,498,461	3,055,874
1999	47,831	17,144	21,604	251,626	459,120			1,566,706	2,366,714
2000	35,825	11,757	26,607	168,679	659,431			1,675,473	2,577,960
2001	13,851	9,401	18,899	178,849	653,491			2,115,782	3,010,325
2002	18,741	11,196	20,725	102,454	698,463			1,995,212	2,846,856
2003	18,339	5,432	5,239	103,409	456,794			2,740,632	3,330,725
2004	16,921	3,060	4,881	66,482	456,243			3,066,186	3,619,942
2005	5,197	2,074	7,750	43,126	446,013			3,133,772	3,638,226
2006	5,720	1,456	290	43,192	470,669			3,142,721	3,665,534
2007	7,244	2,075	3,734	58,064	487,891			3,264,452	3,825,603
2008	2,513		6,192	156,011	415,416			2,262,661	2,844,947
2009	3,462	3,324	11,570	138,292	961,836			2,629,343	3,748,048
2010	3,713	829	4,939	47,562	911,878	0	0	3,553,155	4,522,605
2011	1,149	305	5,054	36,314	871,217			3,432,932	4,347,674
2012	2,294	2,806	3,630	18,317	916,439			2,596,981	3,542,602
2013	4,468	264	2,392	7,746	620,752	0	0	2,247,993	2,879,545
2014	3,081	292	1,644	7,859	673,974	17	0	2,585,473	3,272,352

Table 3. Recreational harvest (numbers) of Spanish mackerel by state, 1981-2014
(NMFS Fisheries Statistics Division)

Year	NY	NJ	DE	MD	VA	NC	SC	GA	FL	Total
1981	0	0	0	0	0	231,744	25,058	1,786	485,395	748,260
1982	0	0	0	0	0	694,420	21,092	408	173,648	889,568
1983	0	0	0	0	0	6,156	3,279	2,109	117,532	129,076
1984	0	0	0	0	0	618,313	79,855	3,718	248,047	949,933
1985	0	0	0	0	0	344,965	36,605	4,809	84,227	470,606
1986	0	1,479	0	457	6,942	431,020	147,358	25,257	195,385	807,898
1987	1,417	0	0	8,036	1,520	815,920	65,846	20,925	118,184	1,031,848
1988	0	0	0	0	101,691	1,312,070	82,135	4,404	233,582	1,733,882
1989	1,010	22,067	0	0	73,236	679,360	121,115	7,444	213,665	1,118,217
1990	1,725	2,495	319	1,355	63,821	821,334	81,375	31,568	225,263	1,229,658
1991	7,608	25,072	2,054	41,250	68,102	676,718	132,198	2,391	517,290	1,484,005
1992	1,325	10,549	210	4,847	71,265	701,974	62,546	25,737	370,808	1,249,261
1993	2,681	3,458	0	43,050	73,832	451,523	92,621	12,980	219,458	899,791
1994	0	7,910	0	43,710	145,871	535,949	113,991	15,235	252,668	1,115,334
1995	0	0	0	26,216	86,899	285,882	34,355	16,726	226,334	676,412
1996	0	1,172	0	0	69,399	355,036	134,282	16,948	245,085	821,922
1997	0	0	0	0	68,517	585,765	101,067	28,396	246,885	1,030,630
1998	0	4,046	186	3,633	33,139	239,051	65,584	28,002	244,235	617,876
1999	0	1,335	226	1,220	75,972	476,018	27,477	9,007	327,621	919,314
2000	4,453	923	0	15,220	71,249	671,353	28,282	20,545	547,315	1,360,868
2001	802	0	0	8,025	29,591	400,706	43,501	11,013	774,065	1,270,264
2002	0	0	0	0	17,433	401,981	24,235	1,927	926,599	1,372,175
2003	0	0	0	6,975	17,063	349,170	24,879	11,235	784,385	1,197,080
2004	0	813	0	4,180	28,300	326,780	56,524	7,412	368,998	794,345
2005	0	0	0	14,349	10,573	335,760	70,124	12,853	512,607	956,266
2006	0	1,079	0	4,408	40	306,273	23,529	1,555	322,789	659,673
2007	0	0	0	20,049	16	495,476	94,635	15,539	455,689	1,081,404
2008	0	344	0	7,515	83,904	744,140	52,726	14,682	503,398	1,406,709
2009	0	215	0	19,901	16,452	677,787	73,611	4,476	368,615	1,161,057
2010	0	0	0	5,580	20,524	483,956	70,350	4,956	512,295	1,097,661
2011	0	0	0	10,554	35,054	367,086	87,110	7,486	406,067	913,357
2012	0	0	0	2,962	11,847	491,238	80,204	2,119	246,865	835,235
2013	0	0	43	2,905	61,308	497,329	22,414	1,299	534,042	1,119,336
2014	0	0	0	5,494	17,521	398,398	80,935	1,903	381,839	886,235

Table 4. Recreational harvest (pounds) of Spanish mackerel by state, 1981-2014
(NMFS Fisheries Statistics Division)

Year	NY	NJ	DE	MD	VA	NC	SC	GA	FL	Total
1981						423,801	53,292	4,306	808,808	1,290,207
1982						928,201	29,546	483	251,115	1,209,345
1983						14,725	8,274	4,198	199,331	226,528
1984						848,537	116,083	5,540	427,501	1,397,661
1985						507,545	34,445	3,547	152,113	697,650
1986		2,500		1,008	9,709	639,105	256,157	47,941	251,673	1,208,093
1987	2,890			14,345	2,011	1,296,732	117,053	40,681	230,725	1,704,437
1988					160,407	2,136,806	140,896	5,141	656,047	3,099,297
1989	3,560	35,415			81,107	877,911	197,982	6,162	303,485	1,506,469
1990	2,332	3,320	470	1,790	86,932	1,084,167	153,932	45,748	346,585	1,725,276
1991	19,612	36,096	3,062	57,249	72,708	1,056,524	291,717	3,717	887,777	2,471,998
1992	3,880	16,526	302	9,634	76,411	947,065	145,451	79,818	669,160	1,948,247
1993	7,590	5,280		68,757	93,272	664,815	135,287	22,209	439,555	1,437,345
1994		8,614		44,969	160,610	588,035	152,836	66,949	350,679	1,372,692
1995		0		34,705	110,433	329,466	40,995	12,072	302,632	830,303
1996		0			80,505	385,922	184,655	31,856	413,687	1,096,625
1997		0			22,233	862,497	143,297	37,877	400,148	1,466,052
1998		9,189	379	5,725	57,467	305,630	106,209	112,562	408,872	1,006,033
1999		2,207	240	1,715	79,602	469,258	44,917	10,031	578,123	1,187,396
2000	10,798	1,119		20,642	83,297	671,616	30,543	47,137	946,395	1,816,600
2001	1,168	0		14,526	42,047	499,829	46,945	23,056	1,232,506	1,870,428
2002		0			12,163	475,742	47,057	4,795	1,475,232	2,014,989
2003		0		9,762	22,030	446,052	29,107	34,855	1,021,204	1,563,010
2004		2,150		14,434	36,497	558,968	147,609	11,799	915,099	1,686,556
2005		0		38,946	14,459	359,927	138,517	16,296	1,088,720	1,656,865
2006		2,914		6,400	70	454,749	83,069	2,487	807,327	1,357,016
2007		0	0	25,276	29	729,687	119,207	26,513	1,003,340	1,904,052
2008		513	0	11,550	112,619	783,330	75,583	31,041	930,923	1,945,559
2009		302	0	42,300	24,663	892,632	101,614	13,272	708,270	1,783,053
2010		0		13,995	26,338	582,550	136,648	5,168	1,034,480	1,799,179
2011		0		22,630	41,325	194,521	72,631	9,439	873,604	1,214,150
2012		0		5,223	17,806	665,168	98,316	4,536	412,001	1,203,050
2013			43	6,949	68,205	625,035	50,865	2,158	646,996	1,400,263
2014	0	0	0	12,440	19,522	441,511	126,345	2,356	534,575	1,136,749

Table 5. Recreational releases (numbers) of Spanish mackerel by state, 1981-2014
(NMFS Fisheries Statistics Division)

Year	NY	NJ	DE	MD	VA	NC	SC	GA	FL	Total
1981						5,616	0	0	56,374	61,990
1982						0	0	0	6,613	6,613
1983						0	0	515	4,929	5,444
1984						2,931	1,300	0	21,797	26,028
1985						27,753	3,862	0	23,316	54,931
1986		0		0	74	280,252	7,879	605	20,469	309,279
1987	0			0	13,947	28,136	5,506	2,916	7,197	57,702
1988					0	17,413	27,019	2,456	18,334	65,222
1989	0	0			10,286	64,749	73,983	391	83,682	233,091
1990	257	0	0	0	21,094	76,940	26,929	0	35,520	160,740
1991	0	2,674	1,092	1,747	28,777	133,601	19,331	57	190,602	378,740
1992	0	0	0	0	18,072	180,235	15,515	3,859	113,062	331,329
1993	0	1,160		2,684	70,081	81,927	15,966	0	74,052	246,454
1994	1,059	50,743		0	91,832	241,082	207,055	0	136,041	727,812
1995	7,297	1,269		1,562	24,467	145,845	14,159	2,594	129,469	326,662
1996		0			28,951	103,067	83,543	139	167,411	383,111
1997			338		22,658	140,704	62,356	0	168,815	394,871
1998		0	0	1,075	49,429	80,700	32,087	7,351	87,804	258,446
1999	1,415	2,670	0	0	36,276	205,870	46,400	495	185,106	478,232
2000	0	0	608	1,656	82,227	300,384	47,273	16,479	353,042	802,336
2001	1,657	4,907	825	7,265	30,158	160,591	9,711	3,188	285,738	506,311
2002				4,449	9,923	196,967	9,206	8,641	554,743	783,929
2003				6,994	20,539	164,787	223,116	6,501	445,965	867,902
2004		0		386	14,456	149,542	84,747	2,900	207,784	462,668
2005				2,169	0	180,326	184,637	4,056	248,636	619,824
2006		0		564	8,504	96,413	27,640	9,236	140,986	283,343
2007				8,461	279	257,841	96,779	54,044	197,529	614,933
2008		0		6,951	37,850	449,095	67,686	5,300	363,542	930,424
2009		26,741		3,630	20,980	313,030	55,600	982	149,825	570,788
2010				0	33,103	294,350	28,200	65	282,252	637,970
2011				0	28,526	170,926	67,144	10,131	147,399	424,126
2012				0	17,150	234,905	98,371	1,724	88,592	440,742
2013			94	0	5,583	289,216	24,862	0	365,107	684,862
2014		0	0	881	3,450	240,731	36,082	851	208,266	490,261