

Atlantic States Marine Fisheries Commission

**ADDENDUM I TO THE OMNIBUS AMENDMENT TO THE
INTERSTATE FISHERY MANAGEMENT PLANS FOR SPANISH
MACKEREL, SPOT, AND SPOTTED SEATROUT**

Spanish Mackerel Commercial Management Measures for 2013 and 2014



ASMFC Vision Statement:

Healthy, self-sustaining populations for all Atlantic coast fish species or successful restoration well in progress by the year 2015

Approved August 2013

1.0 Introduction

Spanish mackerel are cooperatively managed by the states through the Atlantic States Marine Fisheries Commission (Commission) in state waters (0-3 miles from shore), and by the South Atlantic Fishery Management Council and NOAA Fisheries in federal waters (3-200 miles from shore). The management unit for Spanish mackerel consists of all estuarine waters to the inshore boundary of the exclusive economic zone (EEZ) from New York through the east coast (Monroe/Dade county line) of Florida.

In August 2013, the South Atlantic State-Federal Fisheries Management Board (Board) approved a commercial management measure under the adaptive management/framework procedures of the Omnibus Amendment to the Interstate Fishery Management Plans for Spanish Mackerel, Spot, and Spotted Seatrout (Omnibus Amendment). Addendum I establishes a two-year pilot program that allows states to reduce the minimum size limit of Spanish mackerel for the commercial pound net fishery to 11.5 inches from 12 inches for July through September. This reduced minimum size would allow for conversion of dead discards to landings, so as to minimize waste from this fishery (see Appendix A).

2.0 Overview

2.1 Statement of the Problem

A portion of the Spanish mackerel entering estuarine pound nets during the summer months are just under the legal size limit of 12 inches fork length. When the nets are bunted and the fish bailed, the undersized Spanish mackerel are difficult to release alive and quickly die, unlike other species. An allowance for a minimum size limit of 11.5 inches fork length for pound nets during summer months would reduce these dead regulatory discards and allow the fishery to utilize these fish.

2.1.2 Background

Spanish mackerel (*Scombermorus maculatus*) are distributed throughout the western Atlantic and Gulf of Mexico (Collette and Russo 1979, 1984). The most recent assessment report continues to support the existence of two stocks, one in the eastern Atlantic and one in the eastern Gulf of Mexico (SEDAR 2012). The Miami-Dade/Monroe County, Florida boundary has been used as the management boundary for the two stocks, separating the South Atlantic Fishery Management Council and the Gulf of Mexico Fishery Management Council jurisdictions.

Atlantic Spanish mackerel generally range from the Florida Keys northward through New York and occasionally to southern New England. They migrate seasonally, overwintering off the east coast of Florida and migrating northward to the Carolinas and the mid-Atlantic in the spring as waters warm (Berrien and Finan 1977). The spawning season for Spanish mackerel generally increases from north to south, due mainly to warmer water temperatures (SEDAR 2012).

Since 1950, the majority (greater than 85% on average) of commercial landings has been attributed to the east coast of Florida, followed by North Carolina and Virginia. While these three states account for greater than 99% of commercial landings, the states of Maine, Massachusetts, New York, Rhode Island, Connecticut, Delaware, Maryland, New Jersey, South Carolina and Georgia also have recorded commercial landings of Spanish mackerel.

2.1.3 Stock Status

A benchmark assessment of the Atlantic group Spanish mackerel stock was conducted through the South East Data, Assessment, and Review (SEDAR) process in 2012. SEDAR 28 assessed both Gulf and Atlantic migratory groups of Spanish mackerel, and the results indicate that the Atlantic stock is neither overfished ($SSB/MSST = 2.29$) nor experiencing overfishing ($F_{2011}/F_{msy} = 0.521$).

2.1.4 North Carolina Pound Net Commercial Fishery Description

Note that North Carolina was the only state to provide information on the impact of current minimum size regulations on the commercial pound net summer flounder fishery.

The majority of North Carolina's commercial Spanish mackerel fishery occurs in state waters, with less than five percent of harvest, on average, occurring in federal waters (Table 1). Landings from state waters are split between the ocean (53.09%) and Pamlico Sound (37.27%), with other estuarine water bodies accounting for less than five percent of remaining harvest (Table 1).

Commercial harvest of Spanish mackerel in North Carolina is dominated by landings from gill nets, with an average of 92.12% of landings attributed to this gear (Table 2). Pound nets account for an average of 6.69% of Spanish mackerel landings with remaining gears each contributing less than 1% of total landings. Of the pound net landings, on average, over 99% of all harvest occurs in Pamlico Sound (Table 3). Pound net harvest generally occurs during the summer and fall months, with the highest average landings of Spanish mackerel occurring in June (Table 4). The second and third highest average landings occur during the months of July and August, respectively.

In recent years, fishermen have noted the presence of increased numbers of Spanish mackerel that are ¼-inch to ½-inch short of the 12 inch fork length minimum size limit in pound nets during August and September. 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. Most pound nets are constructed using 1 ½-inch to 1 5/8-inch mesh in the pound and 4-inch to 6-inch mesh for the leads. 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.

To further illustrate the impact of the existing minimum size limit on this gear during August and September, fishery-dependent and fishery-independent sampling data (Appendix A). The results of the analysis indicate that approximately 200 pounds of Spanish mackerel between 11.5 and 12 inches (i.e., undersized fish) were landed annually from pound nets during the months of August and September in North Carolina. These results illustrate the difficulty in culling the undersized Spanish mackerel from the catch at this time of the year, and the impact of the minimum size limit on dead discards.

3.0 Management Program

3.1 Alternative size limit pilot program

To alleviate the issue of dead discards from pound nets during the months of July through September, states may establish a seasonal exemption from the current minimum size limit of 12-inch fork length minimum size to 11.5-inches fork length. This size limit change would apply only to commercial pound net fisheries during the months of July through September. The intent of the proposed measure is to reduce and/or eliminate seasonal regulatory discards. A state must inform the Commission of its management program if it participates in the pilot program.

The pilot program will be effective for the 2013 and 2014 fishing years only.

The Board may extend these measures through future action after the 2014 fishing year. The impacts of these measures would be reviewed by the Technical Committee and/or Plan Development Team in annual compliance reports.

4.0 Compliance

Management program established through Addendum I is effective August 7, 2013.

References

- Berrien P and D Finan. 1977. Biological and fisheries data on Spanish mackerel, *Scomberomorus maculatus* (Mitchill). Highlands (NJ): NMFS Sandy Hook Laboratory. Technical Series Report No 9. 52 p.
- Collette, B. B., and J. L. Russo. 1979. An introduction to the Spanish mackerels, genus *Scomberomorus*, p. 3-16, In: Nakamura and Bullis (eds.), Proceedings: Colloquium on the Spanish and king mackerel resources of the Gulf of Mexico. Gulf States Marine Fisheries Commission, No. 4, Gulf States Marine Fisheries Commission, Ocean Springs, MS.
- Collette, B. B., and J. L. Russo. 1984. Morphology, systematics, and biology of the Spanish mackerels (*Scomberomorus*, Scombridae). Fish. Bull., U.S. 82(4):545-692.
- SEDAR. 2012. SEDAR 28 – South Atlantic Spanish mackerel Stock Assessment Report. SEDAR, North Charleston SC. 438 pp.

Table 1. North Carolina commercial landings of Spanish mackerel by water body (2000-2012).

Year	Other Waterbodies	Ocean > 3 miles	Ocean 0-3 miles	Pamlico Sound	Grand Total
2000	66,293	22,807	448,755	121,572	659,427
2001	45,053	29,513	402,104	177,003	653,673
2002	80,692	16,590	449,574	151,591	698,447
2003	12,481	20,120	350,237	73,947	456,785
2004	12,705	33,902	327,743	81,893	456,243
2005	13,847	56,295	205,376	170,484	446,002
2006	7,669	49,998	316,980	96,015	470,662
2007	8,630	51,090	374,857	53,301	487,878
2008	32,517	13,224	257,820	111,844	415,405
2009	47,910	30,805	431,166	451,931	961,812
2010	45,781	3,830	177,566	684,690	911,867
2011	21,536	34,644	255,384	559,653	871,217
2012	13,383	39,697	464,799	398,560	916,439
Total	408,497	402,515	4,462,361	3,132,484	8,405,857
Average (2000- 2012)	31,423	30,963	343,259	240,960	646,604
Percent Average (2000-2012)	4.86	4.79	53.09	37.27	100.00

Table 2. North Carolina commercial landings of Spanish mackerel by gear type (2000-2012).

Year	Gill Nets	Beach Seine	Pound Net	Trawl	Handlines	Pots	Haul Seine/ Swipe Net	Other Gears	TOTAL
2000	624,750	5,273	21,792	1,611	2,839	1,098	1,952	111	659,426
2001	598,447	3,356	33,163	780	15,972	165	1,738	54	653,675
2002	669,295	337	24,118	1,746	1,571	749	529	104	698,449
2003	448,390	365	5,218	658	1,060	494	560	40	456,785
2004	449,784	207	3,524	186	2,087	29	407	19	456,242
2005	437,948	801	2,184	355	2,988	22	1,654	49	446,001
2006	458,727	6,155	2,783	109	2,366	11	503	8	470,662
2007	477,824	1,458	3,440	195	3,799	730	301	132	487,879
2008	362,013	378	49,534	653	2,041	184	563	40	415,406
2009	720,702	3,156	228,201	1,237	4,698	205	3,573	40	961,812
2010	808,308	1,676	96,490	324	2,639	63	2,349	18	911,867
2011	812,876	443	53,702	65	1,715	-	2,356	60	871,217
2012	874,160	15	38,612	978	2,289	10	197	178	916,439
Grand Total	7,743,225	23,620	562,761	8,894	46,064	3,760	16,682	853	8,405,858
Average (2000-2012)	595,633	1,817	43,289	684	3,543	289	1,283	66	646,604
Percent Average (2000-2012)	92.12	0.28	6.69	0.11	0.55	0.04	0.20	0.01	100.00

Table 3. North Carolina Spanish mackerel pound net landings by waterbody (2000-2012).

Waterbody	Total Pounds (2000-2012)	Average (2000-2012)	Percent Average (2000-2012)
Albemarle Sound	941	72	0.17
Core Sound	1,314	101	0.23
Croatan Sound	924	71	0.16
Neuse River	39	3	0.01
Pamlico River	28	2	0.00
Pamlico Sound	559,467	43,036	99.42
Roanoke Sound	5	< 1	<1
Grand Total	562,718	43,286	100.00

Table 4. North Carolina Spanish mackerel pound net landings by month (2010-2012).

Year	May	June	July	August	September	October	Total
2010	3,500	55,471	26,038	11,182	283	16	96,490
2011	2,118	35,463	10,571	5,291	214	45	53,702
2012	3,173	24,191	5,761	2,719	2,622	146	38,612
Grand Total	8,791	115,125	42,370	19,192	3,119	207	188,804
Monthly Average	2,930	38,375	14,123	6,397	1,040	69	62,935

Appendix A. Pound net analysis

(Analysis provided by the North Carolina Division of Marine Fisheries)

Biological data collected from Spanish mackerel in the North Carolina Division of Marine Fisheries' (NCDMF) various fisheries-dependent and fisheries-independent programs were used to fit the allometric length-weight (in-lb) relation:

$$W = aL^b$$

where L is length in inches, W is weight in pounds, and a and b are parameters of the function. The predicted value of a was 0.000385 and the predicted value of b was 2.95.

Length samples of Spanish mackerel collected from the NCDMF Sciaenid Pound Net Sampling Program during 2010 through 2012 were used to characterize the length-frequency distribution of Spanish mackerel landed in North Carolina by pound nets. The numbers at length were converted to weight at length using the allometric length-weight function described above. This was done to estimate the proportion of weight at length.

The average landings per year of Spanish mackerel by pound nets in North Carolina during August and September were computed using landings data from 2010 through 2012 (Table 1). This average was applied to the estimated proportion of weight at length to estimate landed weight at length.

The estimated weight of Spanish mackerel landed by pound nets in North Carolina during August and September for fish greater than or equal to 11.5 inches and less than 12.0 inches is 197.2 pounds.

Table 1. Annual landings of Spanish mackerel by pound nets in North Carolina during August and September, 2010–2012.

Year	Pounds
2010	11,465
2011	5,505
2012	5,341
Average	7,437