

**2006 REVIEW OF THE FISHERY MANAGEMENT PLAN
FOR SPANISH MACKEREL
(*Scomberomorus maculatus*)**

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**2006 REVIEW OF THE ASMFC FISHERY MANAGEMENT PLAN
FOR SPANISH MACKEREL
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I. Status of the Plan

The federal *Fishery Management Plan for the Coastal Migratory Pelagic Resources* (1983 and subsequent amendments) and the Atlantic States Marine Fisheries Commission's *Fishery Management Plan (FMP) for Spanish Mackerel* (1990) manage Atlantic group Spanish mackerel in the state and federal Atlantic waters south of the New York/Connecticut border through the east coast of Florida. The states of Florida through New York, excluding Pennsylvania, have a declared interest in the Commission's FMP for Spanish mackerel. The goals of the Commission's Spanish Mackerel 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. The Commission's Spanish Mackerel FMP objectives are to: (1) allow recovery of overfished populations and stabilize the stock at a level to produce maximum sustainable yield (MSY); (2) achieve compatible management throughout the range of the stock; (3) provide a flexible management system responsive to changes in the fishery and/or information; (4) promote cooperative interstate research and comprehensive monitoring activities and establish mandatory, timely reporting for quota monitoring; (5) minimize disruption of traditional fisheries and markets; and (6) minimize waste in the fishery.

Atlantic Group Spanish mackerel are managed on the basis of the annual recommendations of the joint Gulf of Mexico and South Atlantic Fishery Management Council's Mackerel Stock Assessment Panel (MSAP), an appointed technical group which reviews the stock assessments and makes annual determinations of Acceptable Biological Catch (ABC). The South Atlantic Fishery Management Council (SAFMC) determines needed annual adjustments to regulatory measures for Atlantic Group Spanish mackerel, including Total Allowable Catch (TAC), bag limits, size limits, and trip limits. SAFMC deliberations are assisted by a Mackerel Committee that includes representatives from the Mid-Atlantic Council and a fishermen Advisory Panel with South Atlantic and Mid-Atlantic representation. A Plan Review Team (PRT) comprised of Council, Commission, and State representatives annually reviews the status of implementation of the interstate FMP and reports to the Commission's South Atlantic State/Federal Fisheries Management Board. The South Atlantic Board serves as the Commission's Spanish Mackerel Management Board and reports to the Commission's Interstate Fishery Management Plan (ISFMP) Policy Board. The ASMFC Interstate FMP for Spanish mackerel is a flexible document intended to track the federal FMP; thus, the SAFMC has the lead on Atlantic Group Spanish mackerel management.

The consensus of the Spanish Mackerel PRT is that the goal of the Commission's FMP and its management objectives continue to be valid. The South Atlantic and most Mid-Atlantic states have completely implemented the current requirements of the interstate Spanish mackerel plan.

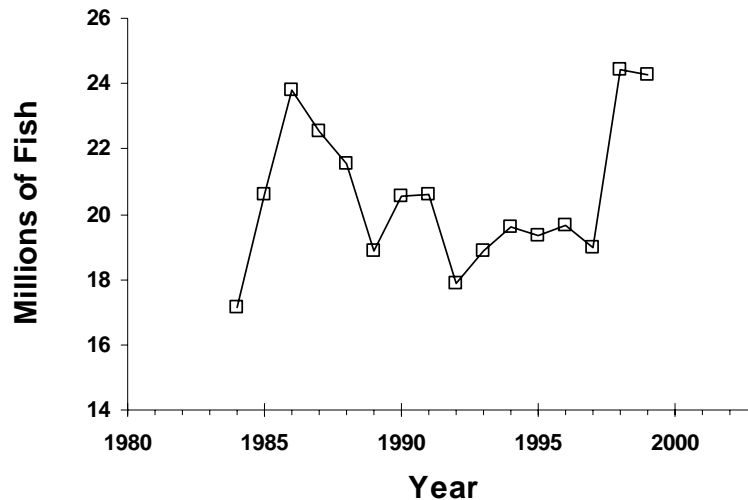
II. Status of the Stocks

The Mackerel Stock Assessment Panel conducted a full stock assessment for Atlantic Group Spanish mackerel in 2003, which included data through the 2001/2002 fishing year; projected

landings through 2002/2003 also were included (MSAP 2003). Estimated fishing mortality for Atlantic Group Spanish mackerel has been below F_{MSY} and F_{OY} since 1995. Estimated stock abundance has increased since 1995 and is now at a high for the analysis period (Figure 1). Stock biomass has increased from about 19 million to 24 million fish. Probabilities that the Spanish mackerel is overfished are less than 1% and that overfishing has occurred in the most recent fishing year of the assessment are 3%; therefore the MSAP concluded that Atlantic Group Spanish mackerel were not overfished and overfishing did not occur in 2002/2003. Although all measures of stock status are well within desirable ranges, the median estimate of MSY dropped from 6.4 million pounds in the last full assessment in 1998 to 5.2 million pounds in the 2003 assessment. Much of the decline is believed to be due to the lower estimates of recruitment between the 2003 and the 1998 assessments. The MSAP recommended an Acceptable Biological Catch (ABC) as the median estimate of catch at F 40% SPR, which is 6.7 million pounds (20th–80th percentile range = 5.2-8.4 million pounds).

The PRT believes harvest reductions are due to management measures in state and federal waters as well as the recreational fishery targeting other species. The low level of harvest in relation to the stock size is encouraging for stock rebuilding, which is reflected in the increase in transitional SPR. Cooperative State/Federal management has achieved a successful stock recovery.

Figure 1. Estimated Atlantic Spanish mackerel stock abundance from the 2003 base model (MSAP 2003)



III. Status of the Fishery

Spanish mackerel remains an important recreational and commercial fishery in South Atlantic waters and is gaining importance in the mid-Atlantic states (Figure 2, Tables 1, 2 & 3). Trip limits implemented in state and federal waters off Florida continue to prevent premature closure of the commercial fishery before the end of the fishing year.

From 1960 to 2005, commercial landings of Atlantic coast Spanish mackerel have ranged between 1.9 and 11.1 million pounds (Table 1). The peak occurred in 1997. Coastwide commercial landings have been below 4 million pounds since 1995; this coincided with the July

1, 1995 net ban in Florida. The 2005 landings were approximately 3.6 million pounds, similar to the 2004 landings, and a slight increase from the 3.3 million pounds landed in 2003. Commercially caught Spanish mackerel come predominantly from the state waters of Virginia, North Carolina, and Florida, with Florida responsible for over 86% of the total commercial catch in 2005 (Table 1). Less than 1% of the total commercial landings occurred north of Virginia.

The number of Spanish mackerel harvested by the recreational fishery has increased in recent years after reaching a low in 1998 (Table 2). The 2005 recreational harvest in numbers of fish and pounds showed a slight increase from 2004, with approximately 1.1 million fish landed (1.7 million pounds) (Tables 2 & 3). Florida and North Carolina continue to account for the majority of recreational landings in both number and weight (>70% by number since 1981). Florida has been responsible for more than 50% of the total number of fish harvested since 2001. The number of recreational releases of Spanish mackerel in 2005 was 732,334 fish, an increase from the previous year (Table 4, Figure 3).

Figure 2. Commercial and recreational harvest (pounds) of Spanish mackerel, 1981-2005

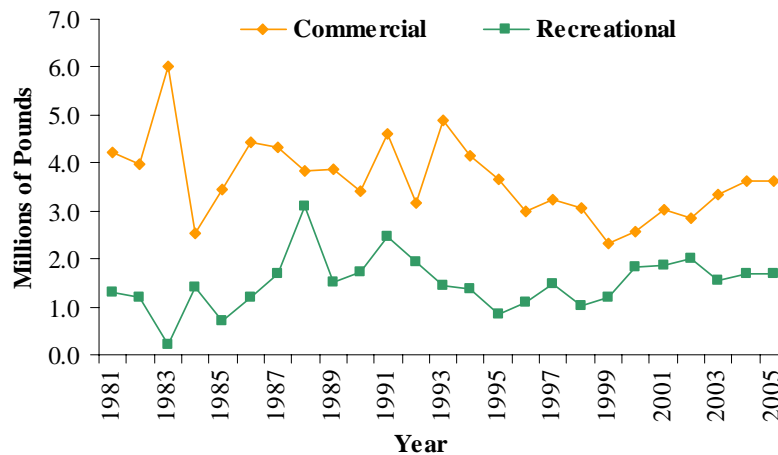
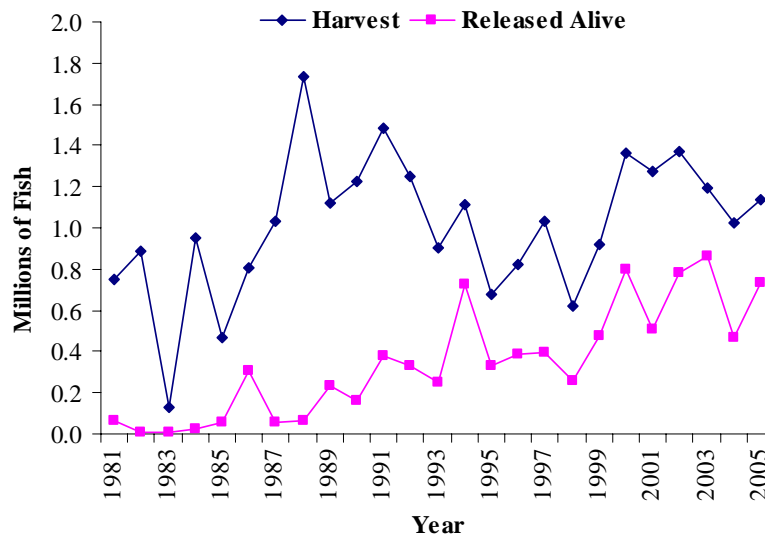


Figure 3. Recreational harvest (number of A + B1 fish) and releases (number of B2 fish) of Spanish mackerel, 1981-2005



IV. Status of Assessment Advice

The Mackerel Stock Assessment Panel conducted a quantitative stock assessment in May 2003. The status of the Atlantic Spanish mackerel stock was evaluated using an age-based sequential virtual population analysis (VPA). The South Atlantic Fishery Management Council, inclusive of members of the South Atlantic Board, internally reviewed and endorsed the assessment. The SAFMC review process is accomplished by the Scientific and Statistical Committee and the Mackerel Advisory Panel.

A benchmark stock assessment of Atlantic coast Spanish mackerel will be completed in Fall 2008 through the Southeast Data, Assessment, and Review (SEDAR) process.

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) conducts an ongoing, fishery independent Shallow Trawl survey from Cape Hatteras to Cape Canaveral. Sampling in 2005 produced 1,341 Spanish mackerel that weighed a total of 130 kg. The density of individuals of Spanish mackerel in 2005 increased from the levels observed in 2003 and 2004 (SC DNR, 2006).

Abundance trends continue to be monitored primarily through fishery-dependent sources. The states and the SEFSC, through the cooperative commercial statistics collection program and the Marine Recreational Fishery Statistics Survey (MRFSS), monitor catch data. The commercial catch is monitored most intensively in the winter and early spring by the state of Florida and the NMFS as the commercial quota is approached.

VI. Status of Management Measures

In June of 2003, the SAFMC voted to defer action until after completion of the stock assessment; therefore, the existing regulations were in place for the 2005-2006 fishing year (April 1, 2005 – March 31, 2006). The Total Allowable Catch (TAC) for FY 2005-06 was 7.04 million pounds. The TAC is allocated on a 55:45 basis between the commercial fishery (3.87 million lbs) and the recreational fishery (3.17 million lbs). Trip limits for the commercial fishery in federal waters remained unchanged for vessels from Georgia through New York, with a year-round 3,500-pound daily possession/landing limit. A January 2000 Framework modified the trip limits for the Southern Zone (south of the Florida/ Georgia border) based on the amount of commercial quota which is available on December 1 of each year. From December 1 until 75% of the adjusted allocation is taken, no trip limits are in place on Monday through Friday, but are limited to 1,500 pounds on Saturday and Sunday. Once 75% of the adjusted allocation is taken, vessels are limited to 1,500 pounds per day for all days. When 100% of the adjusted allocation is taken, vessels are limited to 500 pounds per day until the end of the season (March 31). The adjusted

allocation compensates for the estimated catch of 500 pounds per vessel per day to the end of the season. The timing of the fishing year is such that it is unlikely the commercial quota will affect any of the mid-Atlantic states.

The commercial fishery coastwide has been predominately in state waters; however, the Florida net ban, which became effective on July 1, 1995, shifted the bulk of the commercial harvest off Florida into federal waters. States also began to implement effort controls. In 1997-1999, North Carolina implemented a two-year moratorium on the issuance of new commercial licenses. Starting in July 1999, North Carolina capped the number and set strict income-related eligibility requirements for new licenses. Maryland capped its commercial licenses at the existing number for a five-year period beginning in 1997. Virginia delayed entry for two-years into its gill net fishery. New York has a restrictive period for commercial licensing of non-residents and an income-related eligibility requirement associated with certain fisheries.

In 2005, Amendment 15 to the *Fishery Management Plan for the Coastal Migratory Pelagic Resources* changed the fishing year for Atlantic migratory groups of king and Spanish mackerel to March 1 through February 28-29. These changes were intended to provide social and economic stability in the mackerel fisheries.

In 2006, the SAFMC considered a regulatory amendment to reduce the TAC for Atlantic coast Spanish mackerel to 6.7 million pounds and alter the trip limits to be consistent with the new fishing year set in Amendment 15. A change in the TAC was considered for two reasons: the MSAP recommended an ABC of 6.7 million pounds; and, since 2000, estimated landings have been 1 to 3 million pounds below the TAC of 7.04 million pounds, with a decrease in the difference over time. If the fishery developed greater capacity and the TAC was realized at a level of 7.04 million pounds for several years, fishing mortality rates would increase and could eventually exceed F 30% SPR. Consequently, fishing at this level over time would eventually reduce spawning stock biomass to a level below that which is capable of producing MSY on a continuing basis. In September, the Council determined that such actions would be better addressed through a plan amendment, which would give more flexibility in setting TACs and allow for updates in the framework procedures currently in the regulatory amendment process.

VII. Implementation of FMP Compliance Requirements as of October 1, 2006

Since adoption of the interstate Spanish Mackerel FMP in 1990, southern and mid-Atlantic states have responded to the plan's recommendations through implementation of bag limits, size limits, commercial trip limits, and/or provisions for seasonal closures (Table 5) to complement the Council's measures for federal waters. In February 1994, the South Atlantic State/Federal Fishery Management Board determined the following measures of the Commission's Spanish Mackerel FMP to be mandatory for compliance with the interstate plan: quota closures, 10 fish bag limit, 12-inch fork length minimum size, 3.5-inch minimum stretch mesh size for the directed gill net fishery, and commercial trip limits or landing restrictions (3,500 lb/trip from Georgia through New York; incremental trip limits in Florida). The date for compliance was March 20, 1995. The bag limit was increased to 15 fish through a regulatory adjustment on August 2, 2000.

The Plan Review Team judges that all nine states with a declared interest have achieved full regulatory compliance with the interstate plan. The recovery of the Spanish mackerel fishery

throughout its historical range continues to benefit from management measures in state (Florida, in particular) and federal waters.

VIII. Recommendations

Management and Regulatory Recommendations

1. In order to prevent disruption of traditional fisheries and avoid user conflicts, it is recommended that states with commercial Spanish mackerel fisheries north of Florida maintain the trip limits as specified in the SAFMC FMP.
2. States should be considered *de minimis* with regard to trip and landing limits (SAFMC FMP measure 8.6.8) if their landings are less than five percent (5%) of the target commercial quota. If a state's landings are five percent or greater of the target commercial quota, the state should implement the required trip or landing limits in the next fishing year. Any state with *de minimis* status should provide monitoring reports for their commercial fishery on a timely enough basis to prevent quota overages.

Amendments

In light of the mandatory nature of state regulatory requirements implied as a result of federal action, it is preferable that the Commission has a mechanism to independently affirm those measures. This can be accomplished through:

- an amendment to the ASMFC plan to incorporate a framework mechanism for tracking the federal FMPs adjustments to TACs, bag limits, size limits, trip limits, and other regulatory measures; or
- a joint federal/interstate FMP for Spanish mackerel; or
- a state law that automatically tracks federal regulations.

Given limited resources, the latter is probably the most efficient mechanism to accomplish complementary state/federal management of Spanish mackerel, with the South Atlantic Fishery Management Council remaining as the lead agency. Until an amendment or joint plan is feasible, southern and mid-Atlantic states should remain actively involved in the joint councils' regulatory processes for Atlantic Group Spanish mackerel.

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.

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Table 1. Commercial landings (lbs. by calendar year) of Spanish mackerel by state, 1960-2005
(NMFS 2005; State Fisheries Departments, pers. comm. 2006)

Year	ME	MA	RI	NY	NJ	MD	VA	NC	SC	GA	FLEC	Total
1960							19,900	118,500	6,100		2,282,300	2,426,800
1961			400			200	122,600	133,600	4,000		3,158,300	3,419,100
1962							14,600	83,200	13,300	300	2,578,300	2,689,700
1963							79,300	135,300	8,300	900	2,123,400	2,347,200
1964					100		33,100	78,300	2,500		2,002,200	2,116,200
1965			300			1,000	73,300	117,200	13,300	600	2,900,900	3,106,600
1966					100	400	141,900	78,500	1,300	1,300	2,181,300	2,404,800
1967					200	3,600	26,300	72,700	2,500	2,000	1,801,500	1,908,800
1968					100	1,700	58,500	68,900	8,200	600	4,406,500	4,544,500
1969		100				1,200	123,000	88,600	3,800		2,358,800	2,575,500
1970			200		200	1,100	200,100	63,300	1,800	400	3,574,400	3,841,500
1971			100		100	900	51,000	95,200	4,000	300	2,581,800	2,733,400
1972					100	400	22,700	96,300	5,200	4,700	3,369,000	3,498,400
1973					100	200	50,000	64,200	4,100	4,900	3,203,000	3,326,500
1974					1,700	100	24,000	73,300	2,000	500	2,346,100	2,447,700
1975			900	400	4,500	400	61,600	48,900	9,800	5,800	5,144,800	5,277,100
1976				600	1,400	400	79,600	30,500	3,600	3,000	9,588,600	9,707,700
1977					400		21,100	46,100	100	1,800	10,987,300	11,056,800
1978					100	100	1,600	39,851	608	211	5,510,538	5,553,008
1979							700	12,721	150	2,201	4,885,628	4,901,400
1980				100	600		8,300	75,306	6,769	1,491	9,811,053	9,903,619
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		2,600	2,600	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		600		3,200	1,500		168,400	232,197	6,375	1,335	4,003,738	4,417,345
1987	3,300	16,000	4,900	16,600	24,000	4,800	251,200	504,063	961	255	3,497,135	4,323,214
1988			3,400	19,200	16,900	4,300	291,600	438,222	1,029	726	3,071,687	3,847,064
1989		12,400	8,900	17,700	24,100	10,400	354,400	589,383	1,605		2,853,177	3,872,065
1990		6,585	5,530	24,329	28,336	43,411	491,651	838,914	384	491	1,979,081	3,418,712
1991		19,698	9,530	149,321	77,151	62,688	447,127	858,808	444	197	2,986,871	4,611,835
1992		608	2,277	31,873	51,751	37,930	271,313	738,362	1,952	71	2,022,961	3,159,098
1993		5	2,843	42,063	23,036	9,445	335,688	589,868	480	95	3,891,979	4,895,502
1994		3,273	893	124,733	19,915	3,363	376,818	531,355	362		3,099,780	4,160,492
1995			12,419	9,136	2,153	3,089	168,732	402,197			3,064,926	3,662,652
1996		25	2,523	17,980	40,821		283,750	401,546			2,244,667	2,991,312
1997		77	86	31,107	12,122	3,033	164,639	766,901			2,269,289	3,247,254
1998		68	109	37,238	13,242	13,204	121,109	372,440			2,498,400	3,055,810
1999		2,131	276	47,831	17,144	21,604	251,626	459,120			1,529,939	2,329,671
2000		11,046	188	35,825	11,757	26,607	168,679	659,431			1,667,581	2,581,114
2001		3,717	20,052	13,851	9,401	18,899	178,610	653,491			2,115,782	3,013,803
2002			65	18,741	11,196	20,725	102,417	698,172			1,993,169	2,844,485
2003		514	366	18,339	5,432	5,239	103,401	456,794			2,740,769	3,330,854
2004		198	5,971	16,921	3,060	4,881	66,979	456,243		6	3,084,712	3,638,971
2005*		246	294	5,138	2,079	7,252	43,115	444,975		<500	3,132,341	3,635,940
Total	3,300	79,891	85,122	684,726	405,696	312,570	5,899,454	13,295,805	118,974	35,942	160,066,193	

* Preliminary data; total for 2005 uses the maximum of 500 lbs for Georgia (exact amount is confidential)

Table 2. Recreational harvest (numbers of A + B1 fish) of Spanish mackerel by state, 1981-2005
(NMFS 2006)

Year	MA	RI	CT	NY	NJ	DE	MD	VA	NC	SC	GA	FLEC	Total
1981	4,277								231,744	25,058	1,786	485,395	748,260
1982									694,420	21,092	408	173,649	889,569
1983									6,156	3,279	2,109	117,532	129,076
1984									618,313	79,855	3,718	248,048	949,934
1985									344,965	36,606	4,809	84,226	470,606
1986					1,479		457	6,942	431,021	147,358	25,257	195,385	807,899
1987				1,417			8,036	1,520	815,920	65,846	20,925	118,184	1,031,848
1988								101,691	1,312,070	82,136	4,403	233,582	1,733,882
1989		320		1,010	22,067			73,236	679,360	121,115	7,444	213,665	1,118,217
1990		403		1,726	2,495	319	1,355	63,821	821,334	81,375	31,567	225,263	1,229,658
1991	7,071	78	4,173	7,608	25,071	2,054	41,250	68,102	676,717	132,198	2,391	517,290	1,484,003
1992				1,325	10,549	210	4,847	71,265	701,974	62,546	25,736	370,809	1,249,261
1993	188			2,681	3,457		43,050	73,832	451,523	92,621	12,979	219,458	899,789
1994					7,910		43,710	145,872	535,949	113,991	15,235	252,668	1,115,335
1995							26,216	86,899	285,882	34,355	16,726	226,334	676,412
1996					1,172			69,399	355,036	134,282	16,948	245,085	821,922
1997								68,517	585,765	101,067	28,396	246,885	1,030,630
1998					4,046	186	3,633	33,140	239,052	65,584	28,002	244,235	617,878
1999		438			1,335	226	1,220	75,972	476,019	27,477	9,007	327,621	919,315
2000	1,528			4,453	923		15,219	71,249	671,353	28,283	20,545	547,315	1,360,868
2001	2,561			802			8,025	29,590	400,706	43,501	11,013	774,065	1,270,263
2002								17,433	401,982	24,235	1,927	926,600	1,372,177
2003	3,373						6,975	17,063	349,170	24,879	11,235	778,434	1,191,129
2004	1,365				1,485		8,304	20,497	312,235	142,886	7,838	525,963	1,020,573
2005							21,065	20,979	331,033	74,347	11,736	674,799	1,133,959
Total	20,363	1,239	4,173	21,022	81,989	2,995	233,362	1,117,019	12,729,699	1,765,972	322,140	8,972,490	

Table 3. Recreational harvest (pounds of A + B1 fish) of Spanish mackerel by state, 1981-2005
(NMFS 2006)

Year	MA	RI	NY	CT	NJ	DE	MD	VA	NC	SC	GA	FLEC	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		847	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	26,327	251	19,612	16,958	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	580		7,590		5,280		68,757	93,272	664,815	135,287	22,209	439,555	1,437,345
1994					8,613		44,969	160,610	588,035	152,836	66,949	350,679	1,372,691
1995							34,705	110,433	329,466	40,995	12,072	302,632	830,303
1996								80,505	385,922	184,655	31,856	413,687	1,096,625
1997								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		1,303			2,207	240	1,715	79,601	469,258	44,917	10,031	578,123	1,187,395
2000	5,053		10,798		1,118		20,642	83,296	671,616	30,543	47,137	946,395	1,816,598
2001	10,351		1,168				14,526	42,046	499,829	46,945	23,056	1,232,506	1,870,427
2002								12,163	475,742	47,057	4,795	1,475,232	2,014,989
2003							9,762	22,031	446,052	29,107	34,855	1,006,345	1,548,152
2004					2,983		13,783	28,285	565,352	145,784	11,777	905,429	1,673,393
2005							47,436	28,816	358,338	148,667	15,820	1,088,374	1,687,451
Total	42,311	2,401	51,830	16,958	123,247	4,453	346,046	1,310,043	17,383,671	2,801,127	678,278	14,732,297	

Table 4. Recreational releases (number of B2 fish) of Spanish mackerel by state, 1981-2005
(NMFS 2006)

Year	MA	RI	CT	NY	NJ	DE	MD	VA	NC	SC	GA	FLEC	Total
1981									5,616			56,374	61,990
1982												6,613	6,613
1983											515	4,929	5,444
1984									2,931	1,300		21,797	26,028
1985									27,753	3,862		23,316	54,931
1986								74	280,252	7,879	605	20,469	309,279
1987								13,947	28,136	5,506	2,916	7,197	57,702
1988									17,413	27,019	2,456	18,334	65,222
1989								10,286	64,749	73,983	391	83,682	233,091
1990				257				21,094	76,940	26,929		35,520	160,740
1991	859				2,674	1,092	1,747	28,777	133,601	19,331	57	190,602	378,740
1992	586							18,072	180,235	15,515	3,859	113,062	331,329
1993	584				1,160		2,684	70,081	81,927	15,966		74,052	246,454
1994				1,059	50,743			91,832	241,082	207,055		136,041	727,812
1995				7,297	1,269		1,562	24,467	145,845	14,159	2,594	129,469	326,662
1996								28,951	103,067	83,543	139	167,411	383,111
1997						338		22,658	140,704	62,356		168,815	394,871
1998							1,075	49,429	80,700	32,087	7,351	87,804	258,446
1999				1,415	2,670			36,276	205,870	46,400	495	185,106	478,232
2000	667					608	1,656	82,227	300,384	47,273	16,479	353,042	802,336
2001	2,271			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	442,119	864,056
2004	2,899						769	13,222	122,475	113,605	3,527	212,386	468,883
2005							5,048		174,023	177,589	8,846	366,828	732,334
Total	7,866	0	0	11,685	63,423	2,863	33,249	572,013	2,936,048	1,223,390	68,560	3,745,449	

Table 5. Summary of current (October 2005) State Regulations for Spanish mackerel

State	Recreational	Commercial	Notes
NY	14" TL; 15 fish	14" TL	3,500 lb. commercial possession limit/vessel
NJ	14" TL; 10 fish	14" TL	
DE	14" TL; 10 fish	14" TL	Gill net and drift net restrictions
MD	14" TL; 15 fish	14" TL	Declaration allowing regulation through framework; gill net mesh sizes for Chesapeake Bay
PRFC	14" TL; 15 fish	14" TL	Closure when quota reached
VA	14" TL; 15 fish	14" TL	Size limit exemption for pound net fishery; closure when quota reached; 3,500 lb. trip limit
NC	12" FL; 15 fish	12" FL	3,500 lb. commercial trip limit (Spanish and king mackerel combined); finfish excluder devices required in shrimp trawls. Purse gill net prohibition.
SC	12" FL; 15 fish	12" FL	Federal commercial harvest restrictions apply; federal permit required to exceed bag limit; state license required to land/sell.
GA	12" FL; 15 fish	12" FL	Commercial landings from state waters limited to bag limits; gillnets/longline gear prohibited in state waters; state waters closed December 1 - March 15 for harvest of Spanish mackerel; commercial landings (3,500 lb. trip limit) from EEZ by federally permitted vessels allowed throughout year as long as the federal quota remains open.
FL	12" FL; 15 fish Transfer at sea prohibited.	12" FL	3½ " minimum mesh size, 600 yd. maximum length net. Commercial daily trip limits: 3,500 lb. April 1 - November 30; December 1 until 75% of adjusted quota reached - 3,500 lb. per vessel/day Mon-Fri, 1,500 lb. per vessel/day Sat-Sun; >75% adjusted quota until quota filled - 1,500 lb. per vessel/day; > 100% of adjusted quota - 500 lb. per vessel/day.