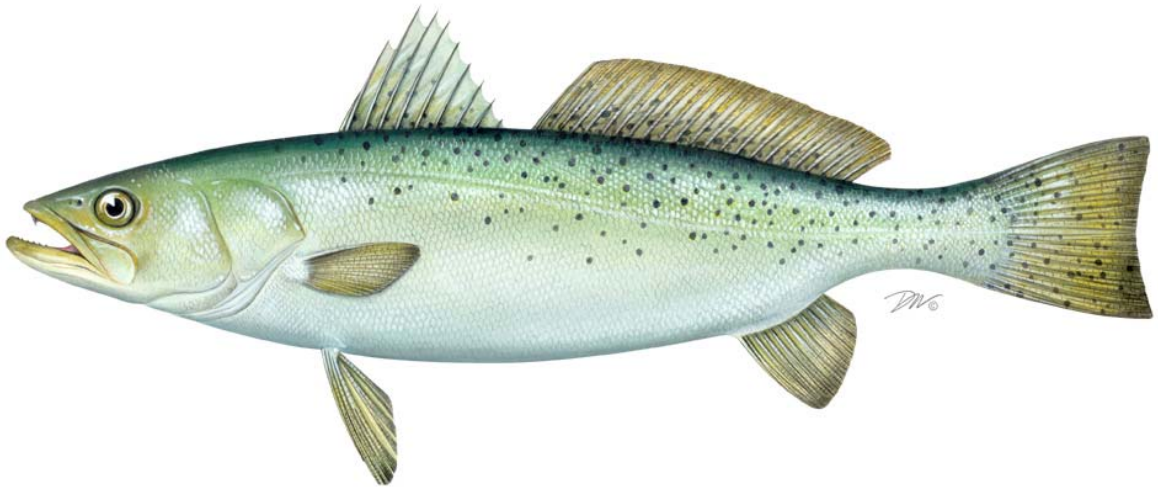
REVIEW OF THE INTERSTATE FISHERY MANAGEMENT PLAN FOR

SPOTTED SEATROUT
(Cynoscion nebulosus)

2007 FISHING YEAR



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I. Status of the Fishery Management Plan

Date of FMP Approval: Original FMP – October 1984

Amendments: Amendment 1 – November 1991

Management Area: The Atlantic coast distribution of the resource from Maryland through the east coast of Florida

Active Boards/Committees: 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 Florida through Maryland 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. The FMP does not require state compliance through the Atlantic Fisheries Cooperative Management Act.

The goal of Amendment 1 to the spotted seatrout FMP 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." The plan's objectives are to: 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.

Recommended 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 assessment and monitoring the status of the fisheries. 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 in 2007.

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, Florida, Georgia, and South Carolina have performed age-structured analyses on local stocks of spotted seatrout, and North Carolina is in the process of completing its first spotted seatrout assessment. Recent assessments are putting more emphasis on the inclusion of incidental bycatch data, release mortality, and the size and age structure of releases. Stock assessments provide

estimates of spawning potential ratio (SPR), which is a measure of the effect of fishing pressure on the relative abundance of the mature female segment of the population. The FMP recommends a goal of 20 percent SPR; South Carolina and Georgia have adopted this goal, and Florida has established a 35 percent SPR goal.

Florida's stock assessments in 1997, 1999, 2003, and 2006 are for separate northern and southern populations. Current transitional SPR estimates for spotted seatrout in Florida are 62 percent in the northeast region of the state's Atlantic coast and 51 percent in the southeast region (Murphy *et al.* 2006). A 1997 Georgia assessment found that fishing mortality needed to be reduced to meet the SPR goal, resulting in a one inch increase to the 12 inch minimum size limit and a 10 fish reduction from the 25 fish creel limit (Zhao *et al*. 1997). A more recent (2002) Georgia assessment found evidence that the stock was overfished; however, the report indicated that the estimates of SPR were unreliable due to data deficiencies and changing methodology (Foster, unpublished). A 1995 South Carolina assessment indicated that the mature female biomass and fishing mortality rate resulted in an SPR below the goal, thus South Carolina increased the minimum size limit from 12 to 13 inches and decreased the bag limit from 15 to 10 fish per person (Wenner & Zhao 1995). A 2005 South Carolina assessment found that the regulation changes led to a SPR above the goal, but that a 2000/2001 winter freeze severely effected the population, which only in 2004 had recovered to pre-freeze levels (de Silva, unpublished).

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 at least 1981 (Figure 1). In 2007, recreational landings were more than five times the commercial landings. The more northern fisheries experienced a winter mortality event in 2000/2001, which likely contributed to the sudden decline in commercial and recreational landings in 2001 and 2002. Both fisheries' landings have increased since then.

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 (1950-2007) have ranged from 165,000 pounds to 2.3 million pounds. Commercial landings historically came primarily from Florida and North Carolina, with Virginia, South Carolina, and Georgia accounting for a small portion of the total. From 1950 to 1976, annual commercial landings of spotted seatrout averaged 1.33 million pounds, but have declined since then 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 1977 to 2007, commercial landings have averaged fewer than 600,000 pounds. North of Florida, variability in annual harvest is typical and seems to parallel the

climatic conditions of the preceding winter and spring. In 2007, the commercial landings are estimated to be 462,684 pounds, which represents a 22 percent increase from the 2006 harvest. Over 81% of the commercial harvest was taken in North Carolina with gill nets being the predominate gear. Florida and Virginia were responsible for approximately 10% and 9% of the 2007 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 27 years, the recreational catch of spotted seatrout has shown a strong upward trend, increasing from 1.1 million fish in 1981 to 8.1 million fish in 2007 (Figure 2). The recreational harvest of spotted seatrout, however, has fluctuated without trend around its average of 1.3 million fish. In 2007, recreational harvest was nearly 1.6 million fish (2.6 million pounds), a slight decrease from 2006. Due in part to recreational size and creel limits, the percentage of caught fish being released has increased to be 75-80 percent of the catch since 2000. In 2007, North Carolina anglers took the largest proportion of the total number of fish caught (33%), followed by Georgia anglers (31%), Florida anglers (19%), Virginia anglers (9%), and South Carolina anglers (8%). 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 in inland waters.

IV. Status of Assessment Advice

A coastwide stock assessment of spotted seatrout has not been conducted and the PRT does not recommend that one be completed due to the life history of the fish and the available data. Florida, Georgia, and South Carolina have performed age-structured analyses on local stocks of spotted seatrout. 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.

Florida conducted assessments for its entire Atlantic coast population in 1993 and 1995, then for separate northern and southern Florida Atlantic coast populations in 1997, 1999, 2003, and 2006. Tagging studies and genetic analyses have shown little evidence of stock mixing and support the regional scope of recent state assessments. However, the northern extent of the spotted seatrout stock in northeast Florida remains unknown and genetics information appears to show a separate stock in extreme southeast Florida (Biscayne Bay). Other states do not have adequate data to partition state waters into zones. Rather, there is limited information for the whole state, particularly catch estimates and length frequencies. While the recreational catch could be divided into regions for each state, the sample size would be insufficient to result in meaningful estimates for most states.

The 2005 South Carolina assessment remains an unpublished document. This is partly because the statistician contracted to run the assessment has changed vocations. Lack of in-house available staff expertise required the state to contract out the position. This is also problematic

because of the lack of flexibility and communication between the data gatherers and the statistician. The 2002 Georgia assessment was conducted as scheduled; however, results were highly questionable due to data deficiencies and changing methodologies.

North Carolina is in the process of conducting a stock assessment in conjunction with the state's FMP process, scheduled for completion in 2008. Poor data and limited staff availability have left the remaining states without an assessment. 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

Other than 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. 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. Florida's fishery-dependent sampling includes commercial trip-ticket information and biostatistical sampling of the commercial and recreational catch. A voluntary angler logbook program is utilized to collect information on the lengths of spotted seatrout released alive by anglers. This is used in a quarterly random survey of Florida's licensed anglers. Researchers at FWC are studying the reproductive biology and ecology of spotted seatrout in Tampa Bay, including maturation schedules, fecundity, spawning season, and spawning location. Florida also investigated post-release mortality rates of spotted seatrout caught by gillnet and hook and line gears. Spotted seatrout have also been routinely sampled since 1989 to monitor the mercury level in their tissues. An ecological study of spotted seatrout was initiated in 2007 to collect stable isotope date from tissue to characterize the energy transfer from salt marshes and mangroves to estuarine fish communities.

Georgia collects fishery-dependent data through a Marine Sportfish Carcass Recovery Program. A fishery-independent survey was implemented in 2003 to provide age and sex specific estimates of relative abundance in two Georgia estuaries to be used for stock assessments. Several years will be required to amass data needed to evaluate the survey and produce accurate estimates of biological reference points from assessments.

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 1991. 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. The reproductive dynamics of female spotted seatrout in South Carolina has been described.

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 and the bays of western Pamlico Sound. Project objectives include calculating annual indices of abundance for target species (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 in Pamlico Sound. 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. Hook and-line and estuarine gill net discard mortality studies were conducted in North Carolina in 1998-2001, supported by the Atlantic Coastal Fisheries Cooperative Management Act funds.

VI. Status of Management Measures and Issues

Fishery Management Plan
Amendment 1 was approved in 1991. No additional amendments or addenda are under development. It has been the opinion of the Commission's original Advisory Committee and the Spotted Seatrout Plan Review Team that the goal and objectives of the plan are still valid, but that full implementation of the FMP has not been achieved across the entire management unit. Therefore, the PRT had recommended in several previous FMP Reviews that the Board consider developing an amendment to contain objective compliance criteria. As a result, the Board tasked the PRT in 2006 with a review of the FMP's management goals and measures, the availability of stock information, and the appropriateness of inter-jurisdictional management. Based on the responses of the PRT, the Board agreed in mid-2007 that the Plan provides an adequate level of inter-jurisdictional management for the species and that an amendment was not necessary at the time.

Regulation Changes
South Carolina increased its minimum size limit for spotted seatrout from 13" TL to 14" TL in the summer of 2007.

In Florida, the definition of total length was clarified as the straight line distance from the most forward point of the head with the mouth closed, to the farthest tip of the of the tail with the tail compressed or squeezed, while the fish is lying on its side (July 2006).

VII. Implementation of FMP Compliance Requirements for 2007

There are no compliance requirements in this FMP. Nonetheless, all states with a declared interest in spotted seatrout (Maryland through Florida) have implemented a minimum size limit of at least the recommended 12 inches total length.

VIII. Recommendations of FMP Review Team

Management and Regulatory Recommendations

- Efforts should be continued towards achieving full implementation of the FMP.
- Development and implementation of methodologies to monitor stock status such as pre-recruit indices and population analyses should receive more attention as should effort and catch composition data.

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%.
- Initiate fishery independent surveys of spotted seatrout.
- Emphasize collection of the biological data necessary to conduct stock assessments and to assist in drafting fishery management plans.
- Utilize age structure analyses by sex in stock assessments.
- Collect data on the size or age of spotted seatrout released alive by anglers and the size and age of commercial discards.
- Continue work to examine the stock structure of spotted seatrout on a regional basis, with particular emphasis on advanced tagging techniques.
- Expand the NMFS recreational fishery survey to assure adequate data collection for catch and effort data, increased intercepts, and state add-ons of social and economic data needs.
- Conduct telemetry tagging surveys to provide precise estimates of mortality attributed to winter kills (a critical component to an accurate stock assessment of the species in some states).

Medium Priority

- Identify essential habitat requirements.
- Evaluate effects of environmental factors on stock density.
- Continue collection and expansion of commercial and recreational landings data.
- Initiate collection of social and economic aspects of the spotted seatrout fishery.
- Improve precision of effort reporting through commercial trip ticket programs.

IX. References

de Silva, J. Unpublished. Stock Assessment of Spotted Seatrout, *Cynoscion nebulosus*, in South Carolina with Recommendations on the Management of the Recreational Fishery. A Report to the South Carolina Department Natural Resources, Marine Research Institute, March 2005 (in review).

Foster, JR. Unpublished. A Stock Assessment of Spotted Seatrout, *Cynoscion nebulosus*, in Georgia Waters. A Report for the Georgia Department of Natural Resources, Coastal Resources Division, September 15, 2002.

Murphy, MD, CB Guenther, and B Mahmoudi. 2006. An assessment of the status of spotted seatrout in Florida waters through 2005. Florida Fish and Wildlife Conservation

Commission Fish and Wildlife Research Institute. In-House Report 2006-017, St. Petersburg.

Wenner, CA and B Zhao. 1995. Stock assessment and fishery management of the spotted seatrout, *Cynoscion nebulosus*, on the South Carolina coast. Marine Resources Research Institute, Marine Resources Division, South Carolina Department of Natural Resources, 217 Ft. Johnson Rd., Charleston, SC 29412.

Zhao, B, C Wenner, and N Nicholson. 1997. Stock Assessment of the Spotted Seatrout *Cynoscion nebulosus* on the Georgia Coast, 1986-1995.

X. Figures

Figure 1. Commercial and recreational landings (pounds), 1981-2007, Maryland to Florida
(See Tables 2 and 4 for values and sources.)

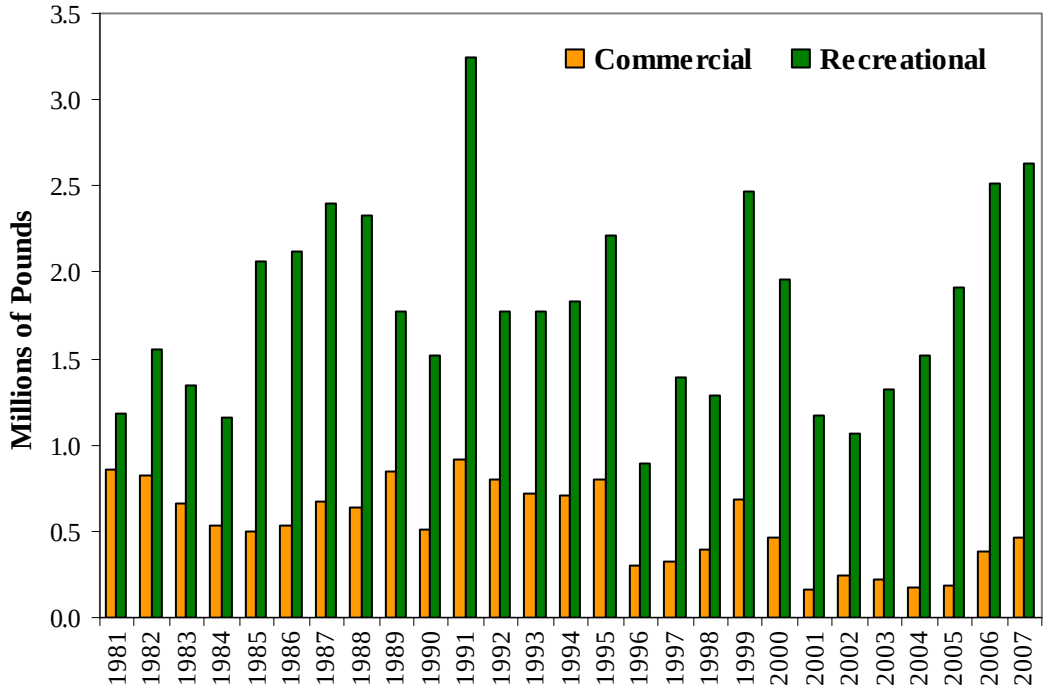
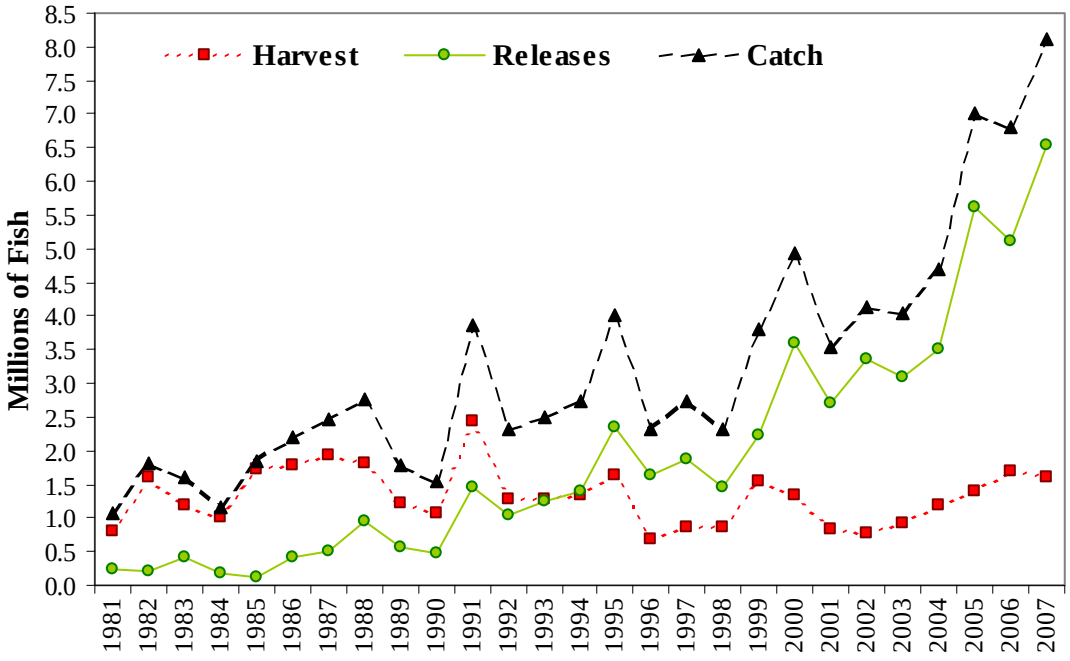


Figure 2. Recreational catch (numbers), 1981-2007, Maryland to Florida
(See Tables 3 and 5 for values and sources.)



XI. Tables

Table 1. Summary of state regulations for spotted seatrout in 2007*

State	Recreational	Commercial
New Jersey	13" TL; 8 fish	13" TL; 12" TL when taken by otter trawl 9/1-12/31. Weakfish regulations (closed seasons, bycatch limits, gear restrictions) apply to spotted seatrout.
Delaware	12" TL	12" TL. Gill net restrictions.
Maryland	14" TL; 10 fish	12" TL; seasonal closures. Minimum mesh size restrictions for trawl (3-3/8" square or 3-3/4" diagonal) and gill nets (3").
PRFC	14" TL; 10 fish	14" TL
Virginia	14" TL; 10 fish	14" TL; hook & line: 10 fish limit. Quota: 51,104 lbs. Pound nets and haul seines allowed 5% by weight less than 14"
North Carolina	12" TL; 10 fish	12" TL; hook & line: 10 fish limit
South Carolina	14" TL; 10 fish. Gigging allowed March-November only.	Gamefish status (no commercial harvest or sale)
Georgia	13" TL; 15 fish	13" TL; 15 fish. BRD requirement for trawl; gear mesh regulations.
Florida	15-20" TL slot with 1 fish >20" allowed; north region: 5 fish limit and Feb. closure; south region: 4 fish limit and Nov.-Dec. closure	15-24" TL; June 1-Aug. 31 season; 75 fish per day or vessel (the lesser); hook & line or cast net only

* A commercial fishing license is required to possess spotted seatrout in all states with a fishery. For all states, general gear restrictions affect commercial spotted seatrout harvest.

Table 2. Commercial landings (pounds) of spotted seatrout by state, 1981-2007
(Source: NMFS Fisheries Statistics Division, 09/05/08)

Year	MD	VA	NC	SC	GA	FL	Total
1981		4,000	113,304		629	736,026	853,959
1982		3,400	83,847	1,944	4,994	732,278	826,463
1983		4,400	165,360	4,479	5,795	481,535	661,569
1984		3,000	152,934	2,374	4,348	367,541	530,197
1985		8,302	109,048	1,770	7,149	369,756	496,025
1986		18,500	191,514	12,214	8,691	307,261	538,180
1987		13,300	315,380	11,941	10,739	317,044	668,404
1988		15,500	296,538	486	9,110	315,947	637,581
1989		18,500	451,909	33	10,565	361,973	842,980
1990		21,435	250,634	1,095	5,942	236,453	515,559
1991	98	21,200	660,662		7,380	225,812	915,152
1992	364	10,395	526,271		11,310	247,189	795,529
1993	24	38,033	449,886		8,550	223,931	720,424
1994	30	44,636	412,458		5,112	247,666	709,902
1995	182	28,722	574,410		8,482	184,269	796,065
1996	14,961	4,476	226,668		7,501	48,254	301,860
1997	15,688	11,711	232,583		7,621	57,316	324,919
1998	19,794	21,774	307,777		2,845	41,556	393,746
1999	36,365	38,513	546,775		3,244	61,802	686,699
2000	20,270	19,918	376,657		1,997	45,392	464,234
2001	24,754	3,773	105,797			30,236	164,560
2002	11,771	9,308	175,643		969	44,641	242,332
2003	902	5,310	181,529			27,172	214,913
2004	342	17,290	131,019		815	29,616	179,082
2005	2,410	21,448	129,645			36,763	190,266
2006	245	28,529	312,714			36,689	378,177
2007	32	41,004	374,808			46,840	462,684

Table 3. Recreational harvest (numbers of fish) of spotted seatrout by state, 1981-2007
(Source: NMFS Fisheries Statistics Division, 09/05/08)

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		13,447	182,124	63,452	309,487	250,987	819,497
2002		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		74,747	316,894	247,156	336,254	199,523	1,174,574
2005	3,828	31,416	512,262	268,467	231,429	337,744	1,385,146
2006	5,136	56,475	577,537	294,096	453,394	299,337	1,685,975
2007		144,863	525,156	122,419	499,709	302,625	1,594,772

Note: Virginia 2007 data are preliminary

Table 4. Recreational harvest (pounds of fish) of spotted seatrout by state, 1981-2007
(Source: NMFS Fisheries Statistics Division, 09/05/08)

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	0	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	0	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	0	134,602	385,624	229,541	377,370	390,880	1,518,017
2005	10,761	76,325	628,739	326,501	263,209	603,891	1,909,426
2006	9,993	132,629	941,161	369,165	531,441	533,121	2,517,510
2007		303,805	988,527	211,225	531,637	594,506	2,629,700

Note: Virginia 2007 data are preliminary

Table 5. Recreational releases (number of B2 fish) of spotted seatrout by state, 1981-2007
(Source: NMFS Fisheries Statistics Division, 09/05/08)

Year	MD	VA	NC	SC	GA	FLEC	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	295,518	300,025	333,537	608,193	1,969,884	3,516,587
2005	4,612	277,307	817,036	395,483	678,057	3,446,336	5,618,831
2006	9,721	125,135	559,786	666,865	872,395	2,889,495	5,123,397
2007	2,231	414,822	973,516	560,272	957,682	3,623,247	6,531,770

Note: Virginia 2007 data are preliminary