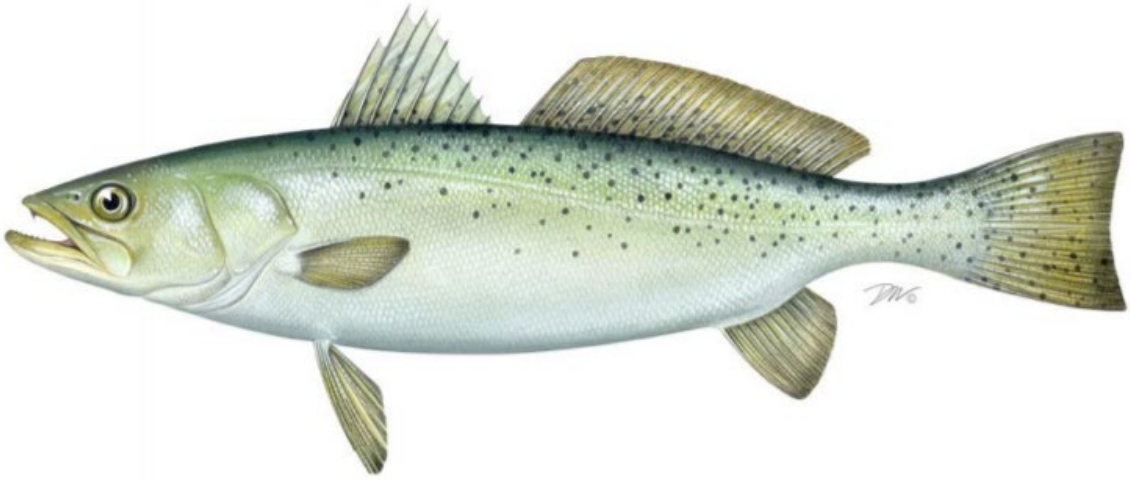
ATLANTIC STATES MARINE FISHERIES COMMISSION

REVIEW OF THE INTERSTATE FISHERY MANAGEMENT PLAN

FOR SPOTTED SEATROUT
(Cynoscion nebulosus)

2013 FISHING YEAR



Prepared by the Plan Review Team

Approved by the South Atlantic Management Board

Table of Contents

I. Status of the Fishery Management Plan

Date of FMP Approval:	Original FMP – October 1984
Amendments:	Amendment 1 – November 1991 Omnibus Amendment to Spanish Mackerel, Spot, and Spotted Seatrout (Amendment 2)- August 2011
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, Omnibus Amendment Plan Development 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.

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 through 2013.

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 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% 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 transitional SPR estimates for Florida's spotted seatrout during 2007-2009 were 67% in the northeast region of the state's Atlantic coast and 45% 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.

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. 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 (1960-2013) have ranged from 165,000 pounds to 1.38 million pounds (Figure 1). 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 1960 to 1976, annual commercial landings of spotted seatrout averaged 1.07 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 2004 to 2013, commercial landings have averaged approximately 328,254 pounds. North of Florida, variability in annual harvest is typical and seems to parallel the climatic conditions of the preceding winter and spring. In 2013 the commercial landings are estimated to be 456,284 pounds, representing a 12% increase from the previous year's harvest and a 50% increase from the previous ten-year average. North Carolina accounted for approximately 80% of the total coastwide catch, with Virginia and Florida responsible for approximately 7% and 14.5% of the 2013 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 a strong upward trend, increasing from 1.1 million fish in 1981 to a peak of 8.8 million fish in 2012, and back down to 5.7 million fish in 2013 (Figure 2). The recreational harvest of spotted seatrout, however, has remained relatively stable around the time series average of 1.3 million fish. The recreational harvest increased from approximately 952,458 fish in 2010 to 1.8 million fish in 2012, with a decrease to 1.1 million fish in 2013. 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 has increased to 75-87 percent of the catch since 2000. In 2013, the release percentage (80.3%) was similar to the previous 10-year average (79.3%). In 2013, North Carolina anglers took the largest proportion of harvested fish with 33%, followed closely by Florida anglers at 30%. 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 available data. Several states have performed age-structured analyses on local stocks of spotted seatrout. Recent Florida and North Carolina 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 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 2013 sampling program.

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 2013, a total of 4,392 fish carcasses were donated through the program. Approximately 69% (3,023) of the carcasses were seatrout, with an average centerline (CL) length of 363.4 mm CL (minimum: 227 mm CL; maximum: 597 mm CL), were reported from 15 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 2013, the average centerline length in Wassaw was 342.8 mm CL and 345.0 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 2013, a total of 85 Spotted Seatrout were captured by 302 random electrofishing sets, with a mean overall CPUE of 0.28 Spotted Seatrout per set and PSEs of between 33% and 66% per stratum. 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 2013, a total of 3,535 Spotted Seatrout were captured in 911 random trammel net sets, with an overall mean CPUE of 3.88 Spotted Seatrout per trammel set and percent standard errors (PSEs) of between 12.1% and 32.2 per stratum. 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 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 0.68 (n=200) for Pamlico Sound (second highest in the time series); 0.63 (n=196) for surveys in the Pamlico-Pungo, and Neuse rivers (the foruth highest in the time series); and 0.32 (n=37) for surveys in the Cape Fear and New Rivers. 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.

A spotted seatrout tagging study was initiated in September 2008 and is scheduled to conclude in August 2012. Funding for one year was to collect preliminary data necessary to design and conduct an effective long-term tagging study on spotted seatrout in North Carolina, 2008-2009 (funded by NC Sea Grant Fishery Resource Grant). This was followed by an advanced tagging study by NC State University researchers who are using a combined conventional tag and telemetry approach to study the movement and mortality of spotted seatrout in North Carolina, 2009-2012 (funded by NC Marine Resources Fund, which consists of proceeds from the sale of the Coastal Recreational Fishing License).

VI. Status of Management Measures and Issues

Changes to State Regulations

North Carolina:
Reduction in recreational bag limit from six fish to four fish and removed restriction limiting two fish to greater than 24 inches total length.

Florida

Effective September 1, 2013, the recreational seasons were dropped, the commercial season was lengthened, and the commercial possession limit was modified to accommodate twice the possession limit on a vessel occupied by two or more license fishers.

Omnibus Amendment (Interstate)
In August 2011, the Management Board approved the development of an amendment to the Spot FMP to address three issues: compliance measures, consistency with federal management in the exclusive economic zone, and alignment with Commission standards. The updated FMP's objectives are to: (1.) Increase the level of research and monitoring on spot bycatch in other fisheries, in order to complete a coastwide stock assessment (2.) Manage the Spot fishery stock to maintain the spawning stock biomass above the target biomass levels. (3.) Develop research priorities that will further refine the spot management program to maximize the biological, social, and economic benefits derived from the spot population. Through the Omnibus Amendment does not require specific fishery management measures in either the recreational or commercial fisheries for states within the management unit range.

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

12'' TL minimum size with comparable mesh size requirements (both commercial and recreational). 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.
- 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.
- Provide state-specific batch fecundity estimates for use in stock assessments.
- 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.
- Evaluate effects of environmental factors on spawning frequency and stock density.
- Initiate collection of social and economic aspects of the spotted seatrout fishery.

IX. References

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X. Figures

Figure 1. Commercial landings (1960-2013) and recreational landings (1981-2013), in pounds, from Maryland to Florida (See Tables 2 and 4 for values and sources)

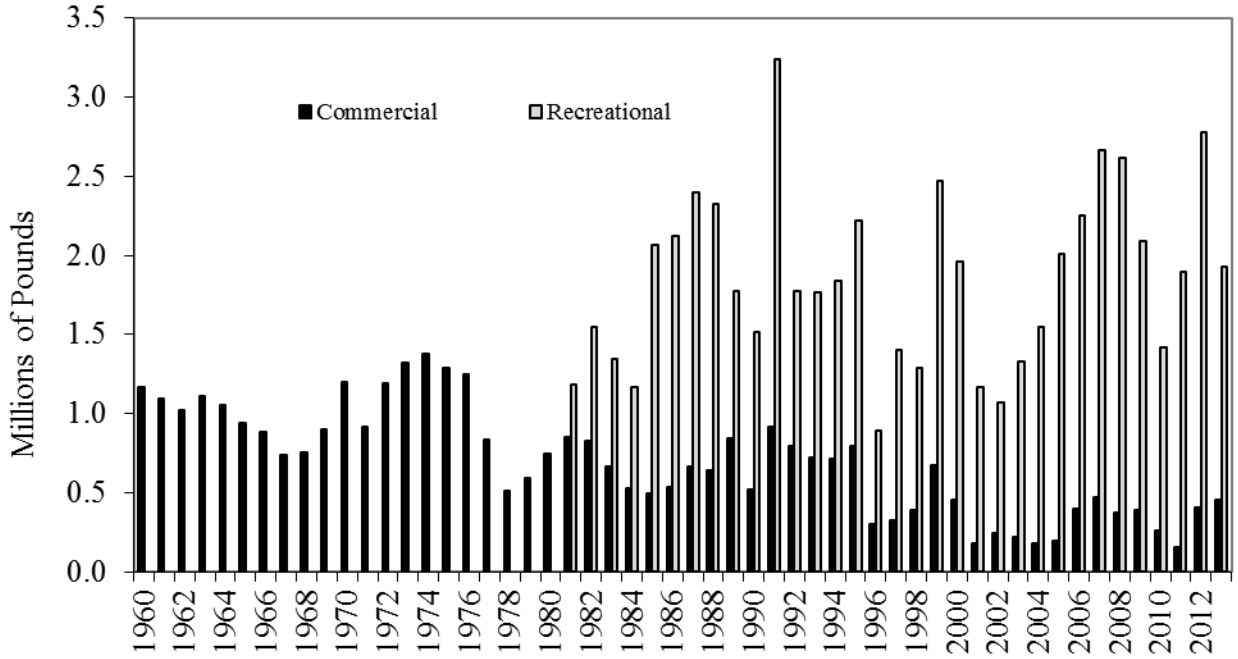
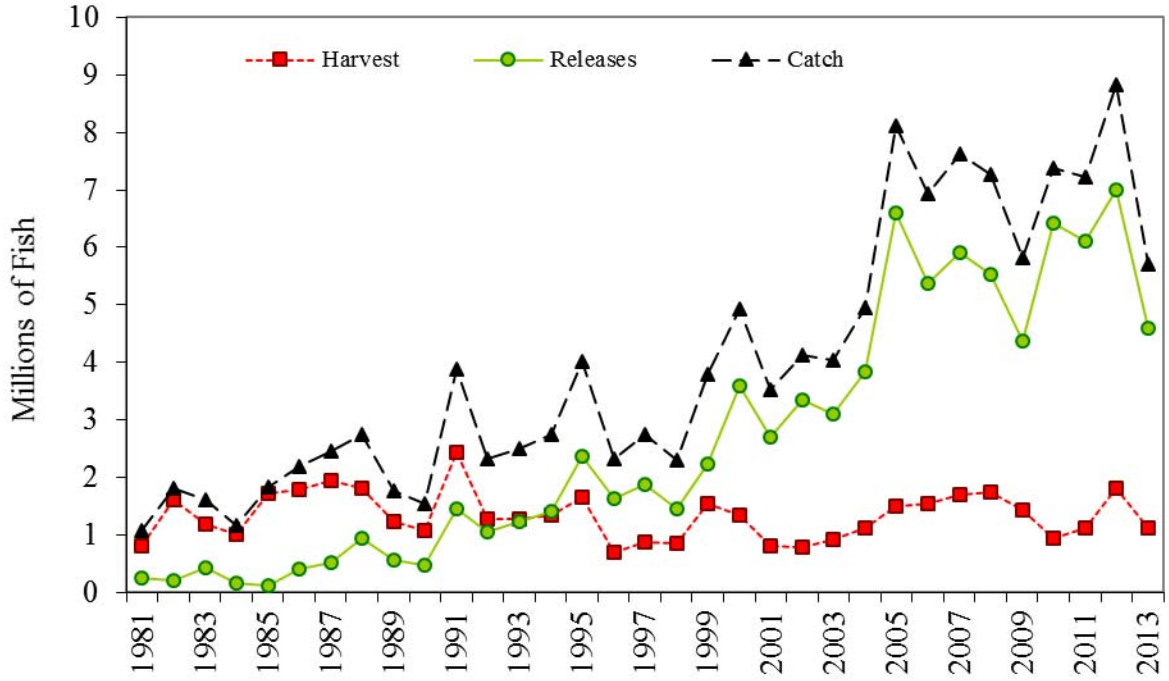


Figure 2. Recreational catch (numbers), 1981-2013, from Maryland to Florida
(See Tables 3 and 5 for values and sources)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XI. Tables

Table 1. Summary of state regulations for spotted seatrout in 2013

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; 150 lb bycatch limit. Hook & line: open 1/1-12/31, 13", 1 fish.
Delaware	12" TL	12" TL
Maryland	14" TL; 10 fish	12" TL. Minimum mesh size restrictions for trawl (3-3/8" sq. or 3-3/4" diag.) and gill nets (3").
PRFC	14" TL; 10 fish	14" TL
Virginia	14" TL; 10 fish. 1 fish from Dec 1-March 31 for 24" TL or greater	14" TL except pound nets and haul seines allowed 5% by weight less than 14". Hook & line - 10 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.
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	15-24" TL; June 1-Nov 30 season (north), May 1-Sept 30 season (south); 75 fish per day or vessel (up to 150 per day if two or more licensed commercial fishers aboard); hook & line or cast net only. Restricted Species endorsement, landed whole

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

Table 2. Commercial landings (pounds) of spotted seatrout by state, 1981-2013
(Source: State Compliance Reports, 2014)

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	515,579
1991	98	21,200	660,662		7,380	225,812	915,323
1992	0	10,395	526,271		11,310	247,189	795,330
1993	868	38,033	449,886		8,550	223,931	721,355
1994	690	44,636	412,458		5,112	247,666	710,704
1995	668	28,722	574,410		8,482	184,269	796,665
1996	12,742	3,897	226,668		7,501	48,254	299,062
1997	15,199	11,639	232,583		7,621	57,316	324,358
1998	16,933	21,235	307,777		2,845	41,556	390,346
1999	29,419	35,055	546,775		3,244	61,802	676,295
2000	18,419	15,463	376,657		1,997	45,392	457,928
2001	25,161	19,039	105,797			30,234	180,231
2002	10,313	8,792	175,643		969	44,640	240,357
2003	816	5,299	181,529			27,075	215,579
2004	401	10,705	130,961	0	815	29,605	181,116
2005	2,339	7,341	129,601	0	0	36,762	196,058
2006	295	30,218	312,620	0	0	36,687	400,542
2007	14	34,166	374,722	0	0	46,838	469,854
2008	269	44,275	304,430	0	0	20,887	369,861
2009	176	23,880	320,247	0	0	46,297	390,657
2010	1,025	17,271	200,822	0	0	39,374	258,492
2011	585	14,728	75,239	0	0	63,592	154,144
2012	1890	76,963	265,017	0	0	61,664	405,534
2013	2428	28,223	367,412	0	0	58,221	456,284

Table 3. Recreational harvest (numbers of fish) of spotted seatrout by state, 1981-2013
(Source: NMFS Fisheries Statistics Division, 01/21/14)

Year	MD	VA	NC	SC	GA	FL	Total
1981	0	0	30,036	20,934	189,080	576,847	816,897
1982	0	0	112,023	849,634	226,758	426,378	1,614,793
1983	0	0	91,956	121,939	325,656	645,120	1,184,671
1984	0	0	90,262	95,281	114,403	700,876	1,000,822
1985	0	0	263,878	347,851	251,765	866,162	1,729,656
1986	7,507	82,671	270,866	477,136	401,489	550,592	1,790,261
1987	29,295	17,415	320,977	392,328	439,782	744,330	1,944,127
1988	20,769	288,706	420,115	355,547	389,276	331,708	1,806,121
1989	151,985	66,033	181,150	174,010	448,767	198,618	1,220,563
1990	20,416	67,939	251,089	113,160	368,787	249,824	1,071,215
1991	17,995	69,032	316,895	438,503	1,204,116	385,817	2,433,452
1992	3,235	30,091	333,990	200,030	338,175	363,238	1,268,759
1993	7,038	103,131	206,523	222,145	463,703	274,118	1,276,658
1994	33,511	115,025	457,635	139,551	337,965	255,215	1,339,081
1995	19,198	90,838	325,927	223,750	607,096	381,884	1,648,693
1996	35,766	46,099	151,380	137,530	171,676	148,572	691,023
1997	19,950	92,725	256,719	111,576	167,286	228,096	879,793
1998	13,620	34,623	294,502	125,038	197,293	189,621	854,822
1999	2,112	138,492	410,320	101,260	655,407	241,096	1,548,687
2000	1,634	90,135	250,450	219,740	486,673	288,443	1,337,075
2001	0	13,447	182,123	63,452	309,487	250,987	819,496
2002	0	16,304	197,484	84,778	271,357	206,310	776,233
2003	2,091	102,483	106,416	123,027	425,994	169,587	929,598
2004	0	68,409	284,902	188,798	340,625	234,235	1,117,669
2005	1,954	22,062	586,561	271,810	242,281	379,547	1,504,963
2006	4,860	43,530	565,042	230,326	378,587	331,144	1,553,966
2007	0	159,244	531,614	160,602	576,633	277,858	1,705,951
2008	0	103,880	654,435	155,022	641,947	181,744	1,737,028
2009	7,933	22,635	608,789	124,079	506,552	171,667	1,441,655
2010	3,146	17,417	195,065	101,053	384,076	251,454	952,289
2011	3,058	247,736	215,922	66,207	289,950	286,500	1,109,373
2012	6,032	125,627	500,521	234,921	526,604	427,468	1,821,173
2013	0	55,151	369,265	126,351	237,551	335,547	1,125,409

Table 4. Recreational harvest (pounds of fish) of spotted seatrout by state, 1981-2013
(Source: NMFS Fisheries Statistics Division, 01/21/14)

Year	MD	VA	NC	SC	GA	FL	Total
1981			63,037	14,808	138,719	967,921	1,184,485
1982			120,045	588,999	177,846	660,296	1,547,186
1983			96,359	138,442	323,888	784,532	1,343,221
1984			39,862	116,118	141,307	866,077	1,163,364
1985			288,088	509,552	234,705	1,032,343	2,064,688
1986	4,960	64,393	328,440	587,570	440,774	695,168	2,121,305
1987	22,512	38,495	366,443	592,612	491,317	883,708	2,395,087
1988	36,630	460,377	390,835	448,472	536,960	453,064	2,326,338
1989	184,318	112,345	259,726	277,488	608,009	328,337	1,770,223
1990	39,059	121,135	282,873	174,844	423,814	475,045	1,516,770
1991	34,753	121,604	472,396	628,010	1,449,854	534,372	3,241,967
1992	7,802	56,685	508,760	227,211	430,947	543,492	1,774,897
1993	12,801	201,561	307,151	268,055	586,425	392,827	1,768,820
1994	26,763	175,185	679,996	183,344	412,393	357,442	1,835,365
1995	31,464	148,543	478,673	247,986	667,379	642,669	2,216,714
1996	0	77,270	197,260	171,728	196,487	249,898	892,643
1997	32,963	261,912	311,890	163,771	242,505	380,275	1,397,953
1998	37,189	61,888	444,441	151,718	262,897	329,793	1,288,244
1999	0	290,694	690,606	146,277	916,860	428,061	2,472,498
2000	2,972	195,544	385,191	267,296	565,904	545,201	1,962,108
2001	0	26,733	213,439	58,884	369,084	502,254	1,170,394
2002	0	28,882	274,101	111,954	302,558	353,692	1,071,187
2003	3,495	218,061	145,936	140,277	502,278	316,279	1,326,326
2004	0	138,841	379,779	168,232	383,501	473,294	1,544,639
2005	5,491	55,901	664,012	339,212	271,586	663,908	2,007,533
2006	10,272	107,770	821,982	291,373	445,026	572,273	2,249,198
2007	0	380,281	879,306	277,514	616,213	512,806	2,666,120
2008	0	239,743	1,005,548	242,942	773,069	353,317	2,614,619
2009	9,006	44,761	954,845	174,894	598,647	305,129	2,087,282
2010	7,254	30,176	407,534	140,321	424,960	404,576	1,414,941
2011	4,664	550,157	403,517	116,979	353,472	464,863	1,893,652
2012	10,257	226,556	817,551	388,105	518,663	819,009	2,780,141
2013	0	126,291	649,158	228,014	282,362	637,881	1,926,218

Table 5. Recreational releases (number of fish) of spotted seatrout by state, 1981-2013
(Source: NMFS Fisheries Statistics Division, 01/21/14)

Year	MD	VA	NC	SC	GA	FL	Total
1981			0	5,522	36,853	209,059	251,434
1982			0	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	0	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	0	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	0	207,270	131,619	314,642	737,730	1,707,957	3,099,218
2004	10,493	257,996	260,877	277,553	610,325	2,413,742	3,830,986
2005	2,603	192,091	1,058,921	461,021	642,398	4,245,920	6,602,954
2006	24,953	82,935	594,955	543,560	808,986	3,315,836	5,371,225
2007	2,331	362,809	848,682	572,330	1,038,992	3,094,164	5,919,308
2008		366,566	880,560	734,227	720,738	2,830,240	5,532,331
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	8,382	291,070	1,427,410	600,607	321,461	1,939,475	4,588,405