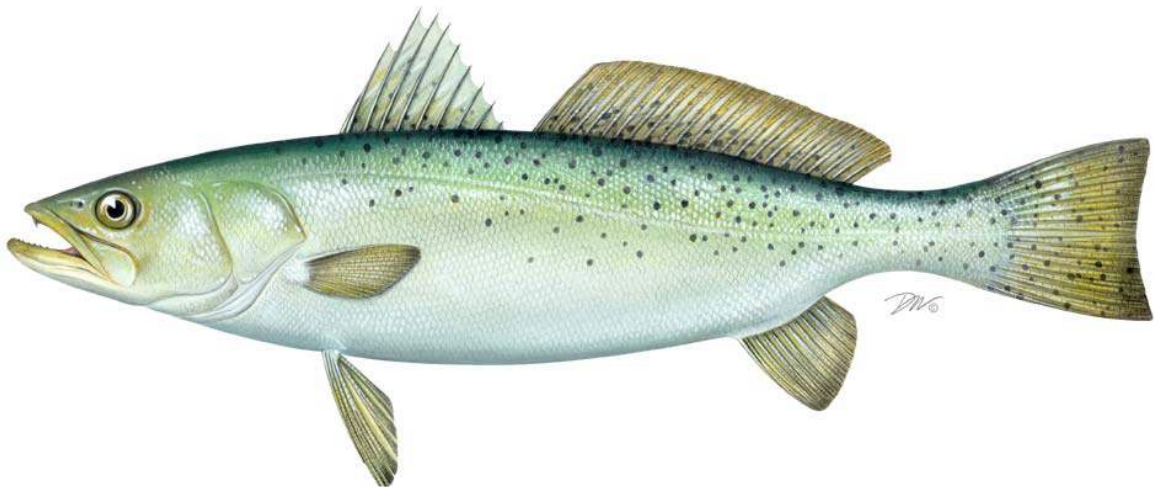


REVIEW OF THE  
INTERSTATE FISHERY MANAGEMENT PLAN FOR

**SPOTTED SEATROUT**  
*(Cynoscion nebulosus)*

2008 FISHING YEAR



**The Spotted Seatrout Plan Review Team**

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## **I. Status of the Fishery Management Plan**

|                                  |   |
|----------------------------------|---|
| <u>Date of FMP Approval:</u>     | Original FMP – October 1984   |
| <u>Amendments:</u>               | Amendment 1 – November 1991   |
| <u>Management Area:</u>          | The Atlantic coast distribution of the resource from Maryland through the east coast of Florida |
| <u>Active Boards/Committees:</u> | South Atlantic State/Federal Fisheries Management Board;<br>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 Coastal Fisheries Cooperative Management Act.

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.

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 2008.

## **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 in 1997, 1999, 2003, and 2006 are for separate northern and southern populations. Transitional SPR estimates for Florida's spotted seatrout in 2005 are 62% in the northeast region of the state's Atlantic coast and 51% in the southeast region (Murphy *et al.* 2006). These assessments have provided the basis for managing spotted seatrout in Florida. The next state assessment of spotted seatrout is planned for September 2010.

The South Carolina Department of Natural Resources packaged three state-specific assessments into a report in 2001; however, these assessments were not peer reviewed. The assessments of 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). The 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.

North Carolina recently completed a peer reviewed stock assessment of spotted seatrout covering 1991-2008 (Jensen 2009). The assessment indicated that SPR has been below 20% SPR in recent years. Jensen 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. North Carolina is on the process of developing a state FMP for spotted seatrout based on the assessment, with a draft FMP to be completed by March 2010.

### **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 2008, recreational landings were more than six 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 (1960-2008) 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 1977 to 2008, commercial landings have averaged 549,000 pounds. North of Florida, variability in annual harvest is typical and seems to parallel the climatic conditions of the preceding winter and spring. In 2008, the commercial landings are estimated to be 368,994 pounds, which represents a 20% decrease from the 2007 harvest but a 9% increase from the previous ten-year average. Over 82% of the commercial harvest was taken in North Carolina with gill nets being the predominate gear. Virginia and Florida were responsible for approximately 12% and 6% of the 2008 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 28 years, the recreational catch of spotted seatrout has shown a strong upward trend, increasing from 1.1 million fish in 1981 to 6.7 million fish in 2008 (Figure 2). The recreational harvest of spotted seatrout, however, has remained relatively stable around the time series average of 1.3 million fish (1.8 million pounds). In 2008, recreational harvest was nearly 1.6 million fish (2.6 million pounds). Due in part to recreational size and creel limits and closed seasons, the percentage of caught fish being released has increased to be 75-80 percent of the catch since 2000. In 2008, Georgia anglers took the largest proportion of the total number of fish harvested in the management unit (38%), followed by North Carolina anglers (36%), South Carolina anglers (11%), Florida anglers (10%), and Virginia anglers (5%). 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 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. Only Florida and North Carolina have published recent stock assessments for spotted seatrout, and these provide divergent trends on the status of the species. 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.

More recent assessments of spotted seatrout in South Carolina and Georgia have been performed than those summarized in Section II; however, these remain unpublished. A 2005 South Carolina assessment has not been completed because the statistician contracted to run the assessment

changed vocations and in-house staff are either unable or unavailable to finish the report. A 2002 Georgia assessment is unpublished because the results were highly questionable due to data deficiencies and changing methodologies.

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 (e.g., Lowerre-Barbieri *et al.* 2009). 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 (Adams *et al.* 2003). An ecological study of spotted seatrout was initiated in 2007 to collect stable isotope data 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. 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. A fishery-independent trammel net survey, 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. The 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. In time, these surveys will improve the ability to evaluate the spotted seatrout population in Georgia.

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 Atlantic Coastal Fisheries Cooperative Management Act funds.

## **VI. Status of Management Measures and Issues**

### *Changes to State Regulations*

North Carolina: Effective October 5, 2009, the size limit for spotted seatrout was increased to 14" total length. This change was adopted as an interim management measure to ensure the viability of spotted seatrout while the North Carolina Spotted Seatrout FMP is being developed (See: <http://www.ncfisheries.net/procs/procs2k9/FF-53-2009R.html>).

### *Omnibus Amendment*

In October 2008, the Management Board initiated the development of an amendment to the Spanish Mackerel FMP to address three issues: compliance measures (because the current plan's measures are recommended), alignment with Commission standards (because the current plan does not include *de minimis* criteria and other standard elements), and consistency with federal management in the exclusive economic zone (because the plan is intended to track federal Spanish mackerel measures).

As the amendment process was getting underway, the fact was raised that the FMPs for two other species under the Management Board's purview do not include monitoring, management, or reporting requirements. Like the Spanish Mackerel FMP, both the Spot and the Spotted Seatrout FMPs were adopted prior to the enactment of the ACFCMA and thus include only recommended measures. The three FMPs were also prepared prior to the adoption of the Commission's Interstate Fishery Management Program Charter, which provides standards and procedures for the development of interstate FMPs. The decision was thus made in August 2009 to expand the previously initiated amendment for Spanish mackerel to also address revisions to

the spot and spotted seatrout management plans. The potential completion date for the omnibus amendment is in 2011.

## **VII. Implementation of FMP Compliance Requirements for 2008**

There are no compliance requirements in this FMP.

## **VIII. Recommendations of Plan Review Team**

### Management and Regulatory Recommendations

- The Plan Review Team will provide input on management issues and options to consider in the Omnibus Amendment during the development of the draft amendment.

### 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.

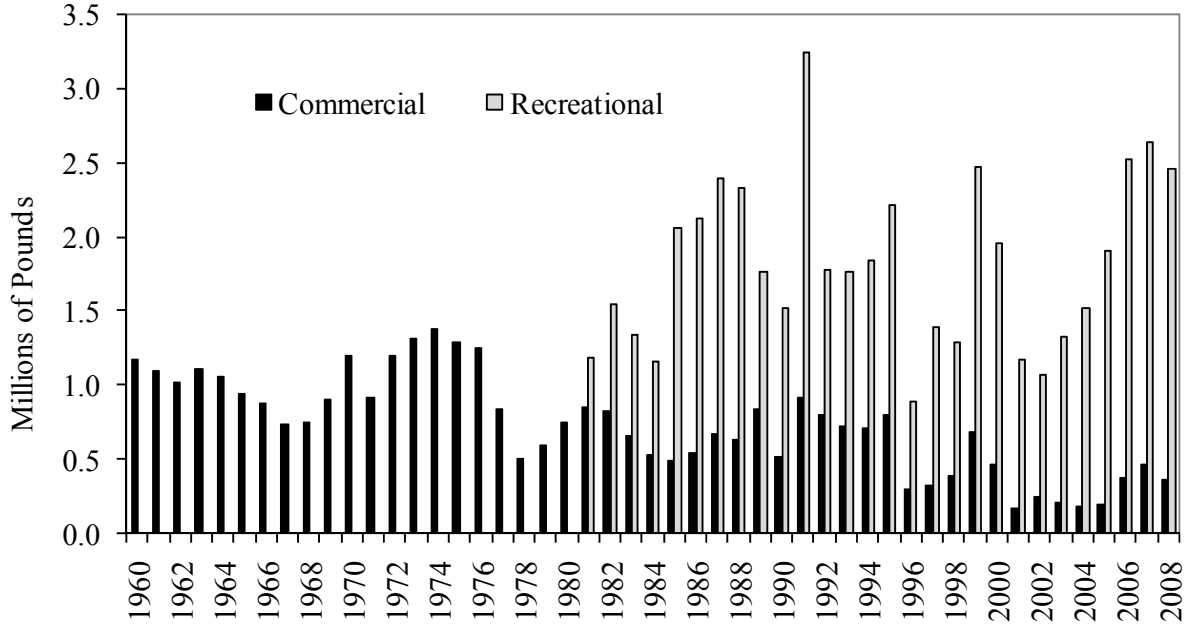
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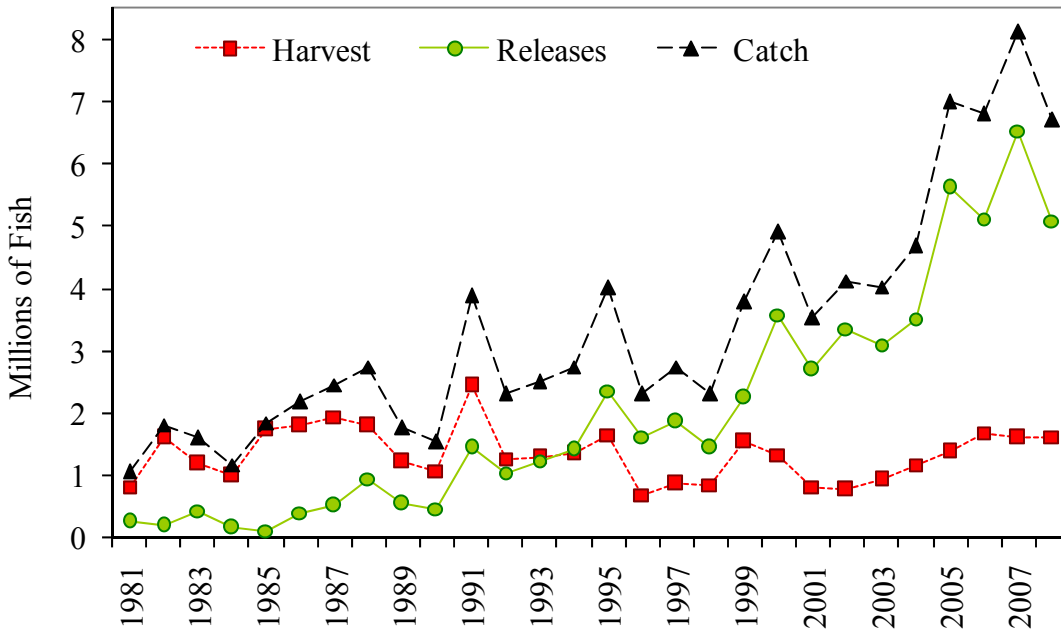
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**X. Figures**

**Figure 1. Commercial landings (1960-2008) and recreational landings (1981-2008), in pounds, from Maryland to Florida (See Tables 2 and 4 for values and sources)**



**Figure 2. Recreational catch (numbers), 1981-2008, from Maryland to Florida (See Tables 3 and 5 for values and sources)**



## XI. Tables

**Table 1. Summary of state regulations for spotted seatrout in 2008**

| State          | Recreational   | Commercial  |
|----------------|--|---|
| New Jersey     | 13" TL; 6 fish   | Gill net: 13"; open 1/1-5/20 & 9/3-10/19 & 10/27-12/31; 150 lb bycatch limit; mesh $\geq$ 3.25" stretched except 2.75 - 3.25" stretched allowed within 2nm for permitted fishermen doing monthly reporting. Trawl: open 1/1-7/31 @ 13" & 10/13-12/31 @ 12"; mesh $\geq$ 3.75" diamond or 3.375 square; 150 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", 6 fish. |
| Delaware       | 12" TL   | 12" TL. Gill net restrictions.  |
| 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  | 14" TL except pound nets and haul seines allowed 5% by weight less than 14". Hook & line - 10 fish limit. Quota: 51,104 lbs (Sept. 1-Aug. 31).  |
| North Carolina | 12" TL; 10 fish  | 12" TL; hook & line - 10 fish limit.  |
| South Carolina | 14" TL; 10 fish. May be taken by rod & reel year-round or gigging March-November.  | Gamefish status: native caught fish may not be sold.  |
| 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  |

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

**Table 2. Commercial landings (pounds) of spotted seatrout by state, 1981-2008**  
 (Source: NMFS Fisheries Statistics Division, 11/17/09)

| <b>Year</b> | <b>MD</b> | <b>VA</b> | <b>NC</b> | <b>SC</b> | <b>GA</b> | <b>FL</b> | <b>Total</b> |
|-------------|-----------|-----------|-----------|-----------|-----------|-----------|--------------|
| 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        | 41,003    | 374,817   |           |           | 46,840    | 462,692      |
| 2008        |           | 43,601    | 304,504   |           |           | 20,889    | 368,994      |

**Table 3. Recreational harvest (numbers of fish) of spotted seatrout by state, 1981-2008**  
 (Source: NMFS Fisheries Statistics Division, 11/17/09)

| <b>Year</b> | <b>MD</b> | <b>VA</b> | <b>NC</b> | <b>SC</b> | <b>GA</b> | <b>FL</b> | <b>Total</b> |
|-------------|-----------|-----------|-----------|-----------|-----------|-----------|--------------|
| 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        |           | 145,736   | 525,156   | 122,419   | 499,709   | 302,625   | 1,595,645    |
| 2008        |           | 79,545    | 584,024   | 175,975   | 623,619   | 160,455   | 1,623,618    |

**Table 4. Recreational harvest (pounds of fish) of spotted seatrout by state, 1981-2008**  
 (Source: NMFS Fisheries Statistics Division, 11/17/09)

| <b>Year</b> | <b>MD</b> | <b>VA</b> | <b>NC</b> | <b>SC</b> | <b>GA</b> | <b>FL</b> | <b>Total</b> |
|-------------|-----------|-----------|-----------|-----------|-----------|-----------|--------------|
| 1981        |           |           | 63,036    | 14,808    | 138,720   | 967,921   | 1,184,485    |
| 1982        |           |           | 120,045   | 588,999   | 177,847   | 660,295   | 1,547,186    |
| 1983        |           |           | 96,359    | 138,442   | 323,889   | 784,531   | 1,343,221    |
| 1984        |           |           | 39,861    | 116,118   | 141,306   | 866,077   | 1,163,362    |
| 1985        |           |           | 288,088   | 509,551   | 234,704   | 1,032,344 | 2,064,687    |
| 1986        | 4,960     | 64,394    | 328,439   | 587,570   | 440,774   | 695,168   | 2,121,305    |
| 1987        | 22,511    | 38,495    | 366,442   | 592,612   | 491,317   | 883,707   | 2,395,084    |
| 1988        | 36,629    | 460,378   | 390,836   | 448,473   | 536,959   | 453,063   | 2,326,338    |
| 1989        | 184,318   | 112,344   | 259,726   | 277,489   | 608,009   | 328,338   | 1,770,224    |
| 1990        | 39,059    | 121,136   | 282,872   | 174,845   | 423,815   | 475,045   | 1,516,772    |
| 1991        | 34,753    | 121,604   | 472,397   | 628,011   | 1,449,853 | 534,371   | 3,240,989    |
| 1992        | 7,802     | 56,685    | 508,760   | 227,210   | 430,946   | 543,491   | 1,774,894    |
| 1993        | 12,800    | 201,562   | 307,151   | 268,055   | 586,426   | 392,827   | 1,768,821    |
| 1994        | 26,764    | 175,184   | 679,996   | 183,343   | 412,392   | 357,441   | 1,835,120    |
| 1995        | 31,464    | 148,544   | 478,674   | 247,987   | 667,379   | 642,670   | 2,216,718    |
| 1996        |           | 77,269    | 197,261   | 171,727   | 196,487   | 249,898   | 892,642      |
| 1997        | 32,963    | 261,911   | 311,891   | 163,771   | 242,506   | 380,276   | 1,393,318    |
| 1998        | 37,189    | 61,888    | 444,441   | 151,718   | 262,896   | 329,793   | 1,287,925    |
| 1999        |           | 290,694   | 690,606   | 146,277   | 916,860   | 428,061   | 2,472,498    |
| 2000        | 2,972     | 195,544   | 385,190   | 267,297   | 565,903   | 545,202   | 1,962,108    |
| 2001        |           | 26,733    | 213,438   | 58,885    | 369,083   | 502,254   | 1,170,393    |
| 2002        |           | 28,882    | 274,100   | 111,954   | 302,559   | 353,693   | 1,071,188    |
| 2003        | 3,494     | 218,061   | 145,936   | 140,276   | 502,278   | 316,279   | 1,326,324    |
| 2004        |           | 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        |           | 305,599   | 988,527   | 211,225   | 531,637   | 594,506   | 2,631,494    |
| 2008        |           | 195,987   | 922,733   | 302,019   | 733,307   | 298,679   | 2,452,725    |

**Table 5. Recreational releases (number of fish) of spotted seatrout by state, 1981-2008**  
 (Source: NMFS Fisheries Statistics Division, 11/17/09)

| Year | MD      | VA      | NC        | SC      | GA      | FL        | Total     |
|------|---------|---------|-----------|---------|---------|-----------|-----------|
| 1981 |         |         |           | 5,522   | 36,853  | 209,059   | 251,434   |
| 1982 |         |         |           | 8,007   | 17,645  | 171,093   | 196,745   |
| 1983 |         |         | 16,579    | 32,860  | 12,038  | 367,881   | 429,358   |
| 1984 |         |         | 30,173    | 44,436  | 16,174  | 76,346    | 167,129   |
| 1985 |         |         | 16,578    | 6,409   | 22,917  | 66,960    | 112,864   |
| 1986 | 13,639  | 28,606  | 19,792    | 115,315 | 189,798 | 35,646    | 402,796   |
| 1987 |         | 30,070  | 136,104   | 130,253 | 176,415 | 41,391    | 514,233   |
| 1988 | 26,999  | 148,934 | 74,818    | 78,568  | 182,628 | 431,665   | 943,612   |
| 1989 | 52,859  | 11,977  | 82,909    | 54,279  | 167,025 | 187,406   | 556,455   |
| 1990 | 4,874   | 23,435  | 84,235    | 35,223  | 114,624 | 203,439   | 465,830   |
| 1991 | 21,811  | 40,550  | 169,921   | 51,415  | 369,972 | 789,779   | 1,443,448 |
| 1992 | 701     | 19,855  | 139,616   | 97,813  | 192,261 | 597,254   | 1,047,500 |
| 1993 |         | 65,605  | 149,744   | 92,101  | 146,665 | 780,573   | 1,234,688 |
| 1994 | 32,466  | 243,463 | 207,262   | 220,941 | 125,421 | 574,629   | 1,404,182 |
| 1995 | 157,530 | 327,643 | 277,896   | 194,996 | 327,835 | 1,074,703 | 2,360,603 |
| 1996 | 51,594  | 165,169 | 153,051   | 107,691 | 63,585  | 1,081,893 | 1,622,983 |
| 1997 | 4,826   | 168,964 | 98,377    | 89,147  | 61,148  | 1,449,278 | 1,871,740 |
| 1998 | 49,460  | 74,569  | 73,024    | 151,935 | 100,059 | 1,005,443 | 1,454,490 |
| 1999 | 7,082   | 152,120 | 253,442   | 92,792  | 160,801 | 1,577,378 | 2,243,615 |
| 2000 | 4,805   | 264,550 | 90,070    | 368,332 | 547,765 | 2,310,491 | 3,586,013 |
| 2001 |         | 110,308 | 194,982   | 38,709  | 365,140 | 1,995,635 | 2,704,774 |
| 2002 |         | 136,265 | 385,162   | 147,962 | 357,953 | 2,326,420 | 3,353,762 |
| 2003 |         | 207,270 | 131,619   | 314,642 | 737,730 | 1,707,957 | 3,099,218 |
| 2004 | 9,430   | 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   | 414,709 | 973,516   | 560,272 | 957,682 | 3,623,247 | 6,531,657 |
| 2008 |         | 373,146 | 1,005,298 | 850,006 | 719,622 | 2,140,752 | 5,088,824 |