

Species Profile: Spotted Seatrout Recreational Catch & Release Dominates Southeast Fishery

Introduction

Spotted seatrout support significant recreational fisheries throughout the Southeast, with nearly seven million fish harvested and released in 2006. In Florida in particular, where the fish is highly accessible, spotted seatrout is often the most sought after and exploited gamefish. The commercial fishery is smaller, harvesting less than 400,000 pounds in 2006, or about 15 percent of the recreational harvest in pounds of fish. Fishery regulations are restricted to size and possession limits in most states. The Commission's Fishery Management Plan (FMP) recommends a minimum size limit of at least 12 inches, which all six states with a declared interest in the species (Maryland to Florida) have implemented.

One of the biggest challenges for this species is that its life cycle depends on the same coastal areas that humans find most attractive for living and recreation. Increased coastal development and the resulting loss of estuarine habitat, coupled with heavy fishing pressure, have effected spotted seatrout populations. The extent of anthropogenic effect is unclear as there is no coastwide stock assessment for the species and local assessments vary by state. Spotted seatrout are also susceptible to inshore calamities such as winter freezes, excessive fresh water, hurricanes, and red tide conditions. Fortunately, seatrout have a life history trait that helps maintain population size – the ability to reproduce prolifically.

Life History

On the Atlantic coast, spotted seatrout occur from Cape Cod, Massachusetts to the Florida Keys, but are most abundant from the Chesapeake Bay southward. They are found primarily in estuaries, but move into nearshore ocean waters during cold periods. In general, spotted seatrout appear to be non-migratory and spend their entire life within five to ten miles of their natal estuary, although fish from the Chesapeake Bay have been known to migrate seasonally (south in the fall, north in the spring) to northern North Carolina waters.

From April to September, sexually mature females spawn around estuary inlets. Depending on the size of the female, spotted seatrout produce anywhere from 10,000 to millions of oceanic eggs. The most important nursery grounds for the young are small tidal marsh creeks and shallow grass beds, while larger juveniles are widely distributed in estuarine areas and along coastal beaches. The fry gather in schools during their first summer and tend to travel together until they are four or five years old. They mature at the age of one year, when males are about 10 inches long and females about 11 inches. At any given age, females are larger than males, and they also attain a greater maximum age and size. They may live as long as 18 years, but individuals over five years of age are rare.



Photo courtesy of Captain Walter Bateman, www.carolinaguide.com



Spotted Seatrout *Cynoscion nebulosus*

Common Names: spotted weakfish, speckled seatrout, gator trout, spotted squeteague

Interesting Facts:

- It is a member of the family Sciaenidae, which includes red drum, croaker & weakfish.
- It has one of the longest spawning seasons of any marine fish (6 months) and may spawn every 4 - 5 days.
- Experienced anglers watch & "sniff" for slicks when searching for seatrout since they regurgitate food when excited. Oils from partially digested food rise to the surface, making a slick that smells similar to watermelon or freshly mown grass (Texas Parks & Wildlife).

Largest Recorded: 15 lbs, 8 oz

Age & Length at Maturity: 1 year; males @ 10" and females @ 11"

Stock Status: Unknown coastwide; local stocks assessed by Southeast states

Adults frequent grass beds, live oyster beds, creek mouths, drop-offs, and structures such as jetties, stumps, pilings, and wrecks, where they feed primarily on shrimp and fish. They are most abundant in depths of less than ten feet and prefer temperatures between 60 and 80° F. Water temperatures below 45° F appear to cause large-scale mortalities. They tolerate a range of salinities, but adults appear to be most numerous in waters with salinities approaching that of seawater.

Commercial & Recreational Fisheries

Commercial landings of spotted seatrout along the Atlantic coast historically came from Florida's east coast and North Carolina, with Virginia, South Carolina, and Georgia accounting for a small portion of the total. From 1950 to 1976, commercial landings 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 gillnets in Florida's coastal waters. From 1977 to 2006, commercial landings have averaged fewer than 600,000 pounds. Variability in annual harvest is typical and seems to parallel the climatic conditions of the preceding winter and spring. In 2006, the commercial landings are preliminarily estimated at 392,522 pounds, with about 80 percent coming from North Carolina.

Figure 1. Spotted Seatrout Recreational Harvest and Releases, and Commercial Landings (Source: Personal communication from NMFS Fisheries Statistics Division, 2007)

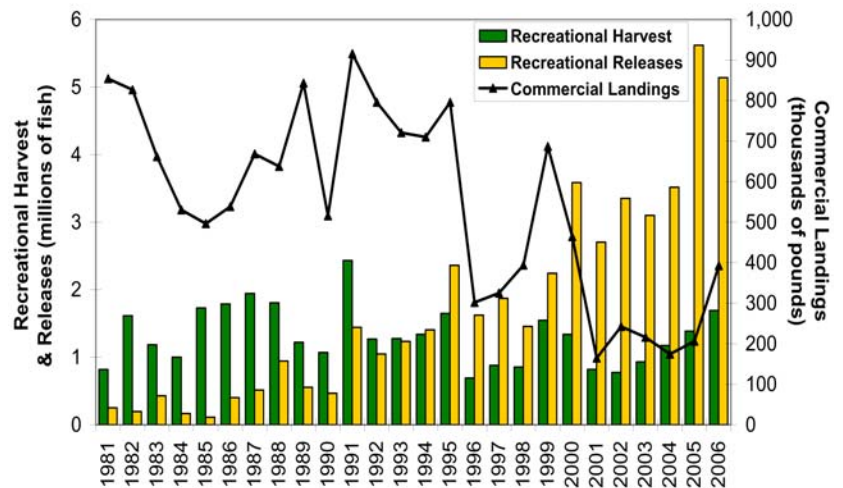
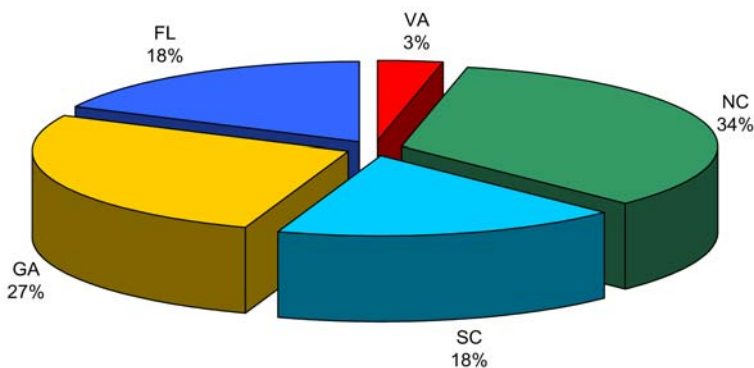


Figure 2. Spotted Seatrout Recreational Harvest by State in 2006
Source: NMFS Fisheries Statistics Division, 2007
(Percents are based on number of fish harvested)



Over the last 26 years, the recreational catch of spotted seatrout has shown a strong upward trend, increasing from 1.1 million fish in 1981 to 6.8 million fish in 2006. The majority of this increase, particularly in recent years, is due to expansion of the recreational releases, which now constitute 75 to 85 percent of the total recreational catch. 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. See the accompanying figure for a breakdown of recreational harvest by state in 2006.

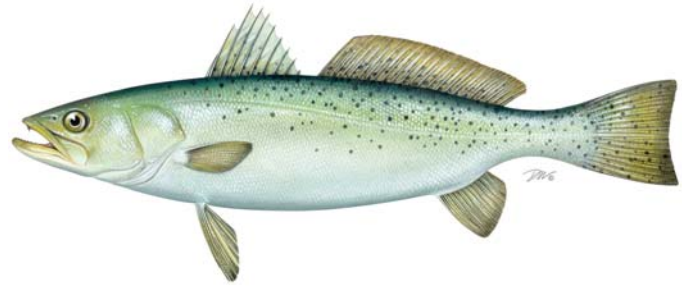
Stock Status

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, South Carolina, Georgia, and Florida have performed age-structured analyses on local stocks of spotted seatrout, and North Carolina will be conducting its first spotted seatrout assessment in 2007/2008. 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 Commission's Spotted Seatrout 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 conducted assessments for its entire east coast population in 1993 and 1995, then for separate northern and southern 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. Current 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. 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. 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.

In response to a 1995 state assessment that indicated that mature female biomass and fishing mortality rate resulted in an SPR below the goal, South Carolina increased the minimum size limit from 12 to 13 inches and decreased the bag limit from 15 to 10 fish per person. A 2005 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 in 2004 had recovered to pre-freeze levels.



Atlantic Coastal Management Considerations

Atlantic coastal states from Maryland through Florida manage spotted seatrout under Amendment 1 to the FMP (1991). Management measures include a minimum size limit of 12 inches in total length for both commercial and recreational fisheries and the collection of improved catch and effort data from the commercial and recreational fisheries, including size and composition of the catch, along with socioeconomic data. The Plan also recognizes the possibility that additional measures, such as creel limits, catch quotas, area closures, and gear restrictions may be needed in the future. The Spotted Seatrout Plan Review Team reviewed the Plan's goals and management measures in 2006. From the resulting report presented in 2007, the Management Board agreed that the Plan provides an adequate level of interjurisdictional management for the species and that an amendment was not necessary at the time.

A major problem addressed in the Plan is the lack of stock assessment data for effective management of the resource. At the time of the Plan's adoption, little was known about the status and population structure of spotted seatrout along the Atlantic coast. Basic data requirements included information on recruitment, age, size, and sex composition, and variations in these characteristics over time and space. Since 1984, much more information has been collected on spotted seatrout, especially in the Southeast. Current data needs include more accurate catch and effort statistics for both recreational and commercial fisheries in order to assess the impact of fishing activities on spotted seatrout stocks. Fluctuations in commercial and recreational spotted seatrout landings have varied considerably during the last 20 years, but since most of the reported landings have had no meaningful effort data associated with them, they have not been useful as indicators of the status of stocks. Some states have begun to accumulate catch and effort data, especially with regards to the recreational fisheries. This should provide insight into the status of the stocks over time.

For more information, please contact Nichola Meserve, Spotted Seatrout Fishery Management Plan Coordinator, at <nmeserve@asmfc.org>.