

SOUTH ATLANTIC COUNCIL'S RED SNAPPER:

NEW SCIENCE + NEW RULES = LIMITED MANAGEMENT CHOICES

Prepared for: Snapper Grouper Public Hearings; November 2-16, 2009

Prepared by: Gregg T. Waugh, Deputy Executive Director

New Science

Recent aging data show red snapper live to 54 years and not 24 years as previously thought.

In 1997, the information contained in a National Marine Fisheries Service stock assessment, indicated a maximum age of 25 with few fish older than 25. This was based on 537 fish aged from 1990-1996 (220 headboat samples, 111 commercial samples, and 206 fishery independent samples).

In 2004, new information from a South Carolina Department of Natural Resources scientific report that indicated a maximum age of 45 years. This was based on 1,303 fish aged from Cape Lookout, NC through Key West, FL during 1979-2000 (831 commercial and 472 fishery independent samples). The commercial samples indicated a range of 1-22 years with a mean of 3.1 years while the fishery independent samples indicated a range of 1-45 years with a mean of 4.2 years.

In 2007, new information from a research project at the University of North Carolina in Wilmington indicated a maximum age of 54 years. This was based on the 1997 data (537 samples) and on 6,031 age samples collected from 1997-2006. Results indicated a maximum age of 54 years and found only 27 fish older than 25 years. This large increase in the maximum age reflects improved science over the years but also indicates that the red snapper stock is much less productive than previously thought.

In 2009, new information became available in response to a request from the South Atlantic Council to determine the age structure of red snapper during the summer months of 2009. Results from the work conducted by staff from the NMFS SEFSC in Beaufort, NC, Florida Fish and Wildlife Conservation Commission, and Georgia Department of Natural Resources (1,207 red snapper aged from Florida, 40 from NC, 38 from SC, and 177 from GA) indicated that in northeast Florida, 6% (n=73) of the fish were older than ten year. The oldest fish was 37 years and was 37 inches total length. In the Georgia samples, 5% (n=9) were older than age 10. The oldest fish in the sample was 22 years and was 36 inches total length. The modal age for northeast Florida and Georgia was 4 years representing 57% and 58% of the samples,

respectively. Data presented in the 2009 report are not directly comparable to the age composition data used in the SEDAR15 red snapper model. The age data used in the assessment model are weighted by the landings for each fishery, gear and state. In addition, age compositions are expected to fluctuate from year to year, reflecting variations in year-class strength. Nonetheless, these samples appear to support results of the SEDAR15 stock assessment in at least two respects. First, the distribution of ages contains far more, younger fish than would be expected from a healthy population of red snapper. Second, the assessment model predicted strong age-1 year classes in 1998, 1999, and 2000. Those fish should now be ages 10 through 12, and indeed, they appear to be reflected in the 2009 age compositions.

Over the years, new studies have produced data that added to or clarified our scientific understanding of the red snapper stock. In each case, the “new science”, which constituted the “best science available”, altered our understanding of the status of the red snapper resource. This has resulted in the Council taking actions at a number of points in time that should have rebuilt the red snapper stock based on the best available science that existed at the time. However, due to a lack of data, in each instance the Council’s management actions were not sufficient to end overfishing and rebuild the red snapper stock.

Stock Assessments

The new stock assessment shows red snapper are overfished and undergoing overfishing rather than almost in good shape as previously thought.

The **first stock assessment (1990)**, conducted by the National Marine Fisheries Service and a Council Plan Development Team, concluded the stock was overfished and undergoing overfishing given that spawning levels were below the Council’s 30% SPR Overfishing/Overfished level (5-15% recreational and 17-24% commercial). The Plan Development Team recommended 40% SPR as the most appropriate goal; a 21” size limit to achieve the 40% SPR spawning level; and that reserves be established to include 20% of the live bottom. Studies by the National Marine Fisheries Service and the State of South Carolina used in the assessment indicated 80-100% survival of caught and released red snapper. The Council established a 20” size limit and a 2 red snapper bag limit effective in April 1991.

The **second stock assessment (1997)**, conducted by the National Marine Fisheries Service, indicated a maximum age of 25 with few fish over age 12; a natural mortality of 0.15-0.30; and spawning levels approaching the Council’s 30% SPR Overfishing/Overfished level (spawning levels from 1986-91=3-15% had increased to 11-32% in 1992-95). The authors of the assessment concluded that natural mortality is probably over 0.2 but not over 0.3; the spawning level was 25% for a natural mortality of 0.25 and 32% for a natural mortality of 0.30 for 1992-95; and that “the red snapper stock is in a ‘transitional’ condition that is, the status of the stock is less than desirable, but does appear to be responding for the better to something, possibly

management, in the most recent years”. These results indicated that the Council’s regulations were working and that the stock was about to grow above the overfishing/overfished level.

The **third stock assessment (2008/09)**, conducted through the SEDAR process (the first biomass based stock assessment), used a maximum age of 53, applied different natural mortality rates to different age fish (0.07-0.17), and used more recent discard mortality studies that indicated a 40% recreational and 90% commercial mortality. The new information increased the maximum age (from 24 to 53/54), lowered the natural mortality (from 0.2-0.3 to 0.07-0.17), and increased the discard mortality (from 0-20% to 40-90%). Based on these changes, and data through 2006, the spawning level in 2006 was 3% and the stock is severely overfished (biomass ratio = 0.03 and should be above 1) and undergoing severe overfishing (fishing mortality ratio = 7.67 and should be less than 1).

New Rules

The Reauthorized Magnuson-Stevens Act requires the Council to prepare an amendment or regulations to end overfishing within one year if notified of overfishing prior to July 12, 2009 (MSA, p. 92 & 96); if notified after July 12, 2009, the Council has 2 years to implement measures to end overfishing. The Council was notified by Dr. Roy Crabtree, Regional Administrator of the National Marine Fisheries Service, in a letter dated July 8, 2008 that “the South Atlantic red snapper stock is undergoing overfishing and is overfished” and that the Magnuson-Stevens Act “requires the Council to prepare a plan amendment or proposed regulations to end overfishing within one year of notification that a stock is overfished”.

The new Act requires the Council specify Annual Catch Limits and Accountability Measures that must take effect in fishing year 2010 for species subject to overfishing (includes red snapper) and in fishing year 2011 for all other fisheries; not required for annual crops like shrimp (MSA, p. 79).

The Reauthorized Magnuson-Stevens Act also requires the Council to use the “best scientific information available” (MSA, p.58: National Standard 2) and to follow the advice of the “peer-review” process (MSA, p. 66 & 68). In the South Atlantic, the peer-review process is the SEDAR stock assessment plus the Scientific and Statistical Committee review. SEDAR is a 3-step process that includes a Data Workshop where the data are compiled and reviewed, an Assessment Workshop where the assessment is conducted, and a Review Workshop where the assessment is reviewed by independent scientists. The resulting stock assessment is then reviewed by the Council’s Scientific and Statistical Committee to ensure best scientific information available was used, that the results are useful for management, and to provide recommendations on the Overfishing Level and the Allowable Biological Catch.

The law specifies that the Council had until July 7, 2009 to complete an amendment or regulations to end overfishing of red snapper. The stock assessment results have been reviewed

and approved by the SEDAR Reviewers and the Council's Scientific and Statistical Committee. Therefore, it appears the Council has no alternative but to use these results to end overfishing of red snapper.

The Council is working on measures to end red snapper overfishing in Amendment 17A but these will not be implemented until sometime in late 2010 or early 2011. Section 305(c)(1) of the Reauthorized Magnuson-Stevens Act (MSA, p. 99-100) provides authority for the Council to request emergency action and interim measures. The Council's Snapper Grouper Committee reviewed a draft SEDAR Advisory Report and discussed requesting an interim rule to prohibit all harvest/retention of red snapper during their March 2008 meeting but decided to wait until the June 2008 SSC review of the SEDAR assessment. Council staff was directed to scope the issue of what to do with red snapper prior to the June meeting. At their June 2008 meeting, the Council discussed requesting that a prohibition on harvest and possession of red snapper be implemented through interim measures. The Council approved the following motion at their June 2008 meeting in Orlando, Florida after reviewing the SSC's approval of the SEDAR stock assessment, extensive public input received during the scoping process, and input from the Snapper Grouper Advisory Panel:

“The Council directed staff to develop a letter to the Regional Administrator requesting the regional office develop an interim rule closing harvest of red snapper and implementing the reductions in fishing mortality as specified in the preferred alternatives in Amendment 16 for gag grouper, vermilion snapper, black grouper, and red grouper.” The Council's intent is that the Interim Rule would be brought before the Council for consideration at the September 2008 meeting.

A letter, dated July 16th, 2008, was sent to the Regional Administrator requesting the Regional Office to develop an interim rule. NOAA Fisheries (SERO) presented actions in the interim rule to the Committee at the September 2008 Council meeting. The Council decided not to proceed with a red snapper interim rule at the time and decided to postpone discussions until the December 2008 Council meeting. The Council discussed a red snapper interim rule at the December 2008 meeting, decided not to take action, and decided to discuss the issue at the March 2009 meeting. At the March 2009 meeting, the Council made the following two motions:

MOTION #19: Request an interim rule to implement no harvest of red snapper in the EEZ off NC, SC, GA & FL. [Intent to request an extension for a total of a one year closure and to request the states to adopt compatible regulations].

MOTION #20: Request the Regional Administrator not to publish the final rule (for the interim rule) prior to June 2009 Council meeting.

Based upon the Council's request for an interim rule, NMFS completed an Environmental Assessment (EA) for the interim rule. The Coastal Zone Management Act (CZMA) letters, along

with the EA, were sent to the states on 3/27/09. The CZMA allows the states a maximum of 90 days to reply; however, NMFS requested the states to review and reply within 30 days of receipt. A proposed rule was published in the Federal Register on July 6th and the comment period ended August 5th. NMFS is responding to comments and the request is under review. A decision is expected before the end of the year.

The Scientific and Statistical Committee has provided the following on Overfishing Level and Allowable Biological Catch recommendations:

Depletion Threshold

The NS1 guidelines state that an ‘ABC control rule...may establish a stock abundance level below which fishing would not be allowed.’ Currently the Pacific Fishery Management Council uses a 10% threshold. Specifically, if biomass is estimated below 10% of the virgin condition, then directed fishing is not allowed. The SAFMC SSC supports the concept of a depletion threshold and elimination of directed fishing when SSB falls below the threshold, and recommends that the threshold be established at 10% of unfished conditions. The SSC will recommend that directed fishing not be allowed if there is a reliable indication that current biomass is at or below 10% of the unfished biomass or, in cases where biomass estimates are considered unreliable, if SPR is at or below 10%.

The SSC recommended a rebuilding probability of success of 70% for red snapper.

The Allowable Biological Catch (ABC) is likely to be 61,000 – 82,000 pounds of total mortality (including discard mortality). How do we limit total mortality (including discard mortality) to this level?

1. PROHIBIT ALL HARVEST AND RETENTION – DOES NOT END OVERFISHING (F=0.691 VERSUS F40%=0.104)
2. BAG/SIZE LIMIT – REDUCE BAG FROM 2 TO 1 = 3.4% REDUCTION (87% REDUCTION NEEDED) AND RESULT IN WELL OVER THE ABC BEING HARVESTED
3. CLOSED SEASON – COULD WORK BUT ONLY HAVE SNAPPER GROUPER FISHERY OPEN 2-3 MONTHS OF YEAR
4. CLOSED AREA/SEASON – COULD WORK BUT STILL HAVE VERY SHORT OPEN SNAPPER GROUPER SEASON
5. CLOSED AREA – ONLY ALTERNATIVE IDENTIFIED THUS FAR THAT APPEARS WILL WORK