# 2013 South Atlantic Red Snapper Annual Catch Limit and Season Length Projections

Southeast Regional Office (SERO)

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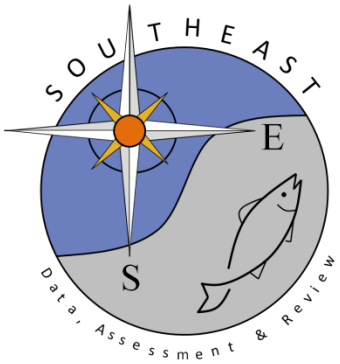

**2013 South Atlantic Red Snapper Annual Catch Limit and Season Length Projections**
**Southeast Regional Office**
**St. Petersburg, FL**
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**SERO-LAPP-2013-04**

## Introduction

The South Atlantic Fishery Management Council approved Amendment 28 to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic Region in September 2012. NOAA Fisheries published a proposed rule for the amendment on April 29, 2013 (78 FR 25047) and a final rule is pending. If approved, Amendment 28 would establish (1) a process to determine if a red snapper fishing season will occur each year, which would include specification of the allowable harvest and season lengths for the commercial and recreational sectors; (2) an equation to determine the annual catch limit (ACL) amount for each sector; and (3) management measures if fishing is allowed. The purpose of this analysis is to determine the recreational and commercial annual catch limits for 2013 and estimate the length of the 2013 commercial and recreational fishing seasons.

## 2013 Annual Catch Limit

Amendment 28 specifies the following formulas for calculating the annual catch limit (ACL) for red snapper each fishing year:

$$\textit{If total removals}_{yr-1} > ABC_{yr-1}\textit{, then } ACL_{yr} = 0 \quad (1)$$

$$\textit{If total removals}_{yr-1} < ABC_{yr-1}\textit{, then} \quad (2)$$

$$ACL_{yr} = \left(\frac{ABC_{yr-2} - estCSR_{yr-2}}{ABC_{yr-2}} + \frac{ABC_{yr-1} - estCSR_{yr-1}}{ABC_{yr-1}}\right)/2 \times ABC_{yr}$$

where ABC equals the acceptable biological catch in 2011 ($ABC_{yr-2}$) or 2012 ($ABC_{yr-1}$) and estCSR equals the estimated closed season removals in 2011 ($estCSR_{yr-2}$) or 2012 ($estCSR_{yr-1}$).

Total removals for 2012 (total $removals_{yr-1}$) were obtained from SEFSC (2013) and compared to the 2012 acceptable biological catch of 86,000 fish to determine if the ACL in 2013 could be set greater than zero (equation 1). Total removals were less than the 2012 ABC and totaled 80,516 fish, indicating the ACL for 2013 could be set greater than zero.

To estimate the 2013 ACL, closed season removals were obtained for 2011 and 2012 from data summarized in SEFSC (2012, 2013; **Table 1**). Estimated closed season removals (including out of season landings and dead discards) for both the commercial and recreational sectors combined were 61,406 fish in 2011 and 65,612 fish in 2012 (**Table 1**). In 2011, the ACL for red snapper

was set equal to zero and no open season landings were reported. In 2012, an estimated 14,904 fish were landed during the commercial and recreational fishing seasons (**Table 1**). Using 2011 and 2012 ABC and estimated closed season removals, equation 2 estimates the ACL for 2013 to equal 13,325 fish. This ACL is allocated 71.93% to the recreational sector and 28.07% to the commercial sector, resulting in an ACL of 9,585 fish for the recreational sector and 3,740 fish for the commercial sector. The commercial ACL for 2013 was then converted to pounds gutted weight (lbs gw) using the 2013 average weight (=5.73 lbs gw) from Table 9c in SEDAR-24 (2010) red snapper yield projections. The commercial ACL for 2013 is 21,447 lbs gw.

**Table 1**. Acceptable biological catches, estimated closed season removals, open season landings, total removals, and annual catch limits for South Atlantic red snapper, 2011-2013.

| | Number of Fish | | |
|---|---|---|---|
| **Variable** | **yr 2011** | **yr 2012** | **yr 2013** |
| ABC | 64,000 | 86,000 | 96,000 |
| estCSR (closed season landings + ddiscards) | 61,406 | 65,612 | -- |
| open season landings | 0 | 14,904 | -- |
| total removals | 61,406 | 80,516 | -- |
| ABC - total removals | 2,594 | 20,388 | -- |
| ACL (all modes) | 0 | 13,067 | 13,325 |
| rec ACL | 0 | 9,399 | 9,585 |
| comm ACL (numbers) | 0 | 3,668 | 3,740 |
| comm ACL (pounds gw) | 0 | 20,818 | 21,447 |

**2013 Red Snapper Fishing Season Lengths**

The proposed rule for Amendment 28 states: *the commercial fishing season would begin on or close to the second Monday in July and the recreational fishing season, which would consist of weekends only (Fridays, Saturdays, and Sundays), would begin on or close to the second Friday of July. If the fishing seasons do not open exactly on these dates, the seasons would open as close to these dates as possible. NMFS would not announce the season end date for the commercial sector before the season starts, but would monitor harvest and close the commercial sector when the commercial ACL has been met or projected to be met by filing an in-season closure notification with the Federal Register. NMFS would project when the recreational ACL would be reached and announce the fishing season end date in the Federal Register. The recreational season length would be based on an evaluation of historical harvest levels and fishing effort.*

*Additionally, the Council decided that if the projected commercial or recreational fishing season is determined by NMFS to be 3 days or less, then the commercial or recreational fishing season would not open for that fishing year because that short time period would not provide sufficient fishing opportunity for the public.*

Commercial Fishing Season

The commercial fishing season in 2012 was open for 22 days under a 50-lb gw trip limit and no minimum size limit. Commercial landings reported in SEFSC (2013) totaled 8,695 lbs gw for 2012, of which 6,459 lbs gw were reported during months when the commercial sector was open. The daily catch rate during the commercial open season was 294 lbs gw per day. Based on this catch rate, the 2013 commercial season could be open for as many as 73 days. However, Amendment 28 increases the commercial trip limit from 50 to 75 lbs gw. Assuming a 50% increase in harvest resulting from the trip limit (the maximum increase if every trip landed the 50-lb trip limit previously), then the daily catch rate for 2013 would be 441 lbs gw per day (= 294 lbs gw X 1.5) and the season would be as many as 49 days. Based on the catch rates described above, the commercial season is projected to remain open significantly longer than 3 days. NMFS will monitor commercial harvest and close the commercial sector once the ACL is met or projected to be met.

Recreational Fishing Season

The recreational fishing season in 2012 was open two consecutive 3-day weekends (Sept 14-16, Sept 21-23) under a 1-fish bag limit and no minimum size limit. Recreational landings reported in SEFSC (2013) totaled 15,059 fish, of which 13,896 fish were landed during months when the season was open. Landings during the two-weekend openings exceeded the 9,399 fish recreational ACL by 4,498 fish (48% overage). Commercial and recreational landings totaled 14,904 fish during the 2012 open-season and exceeded the total ACL of 13,067 fish by 1,837 fish (14%). The recreational ACL for 2013 is estimated to be 9,585 fish, which is 186 fish more than the 2012 ACL. To estimate the length of the 2013 recreational fishing season, landings from 2012 were used as a proxy. Of the 13,896 fish landed, 10,164 fish (73%) could be assigned to the weekend of landing (**Table 2**). Florida charter landings summarized in Sauls et al. (2013) were reported by weekend. Florida private landings were estimated for both weekends combined in Sauls et al. (2013). To estimate Florida private landings by weekend, effort estimates summarized in Table 9 of Sauls et al. (2013) were used to partition total landings into landings by weekend. For South Carolina, landings were reported in logbooks and all landings were reported on the second weekend. For headboats, catch-effort logbook files were used to calculate the percentage of landings occurring on each weekend during September. A small number of fish (n=41) were reported on days after the second weekend opening and were assigned to the second weekend. The percentage of landings for each weekend by state of landing was then multiplied by total headboat landings for that state to determine the number of fish landed by headboats on each weekend by state. For all other states and fishing modes, landings by weekend were not estimated on a fine enough scale to determine the amount landed on each weekend. The proportion of Florida landings by mode and weekend (Wkend 1: 30% charter, 28% private; Wkend 2: 70% charter, 72% private) were therefore used as a proxy to assign Georgia private and charter landings and North Carolina charter landings by weekend (**Table 3**).

**Table 2**. 2012 South Atlantic recreational red snapper landings by mode, state, and weekend. Wkend 1 = Sept 14-16; Wkend 2 = Sept 21-23; Unknown indicates weekend of landing could not be determined.

| Mode | State | Wkend 1 | Wkend 2 | Unknown | Total |
|---|---|---|---|---|---|
| Charter | FL | 296 | 688 | 0 | 984 |
| | GA | 0 | 0 | 105 | 105 |
| | SC | 0 | 13 | 0 | 13 |
| | NC | 0 | 0 | 1,026 | 1,026 |
| Private | FL | 2,118 | 5,361 | 0 | 7,479 |
| | GA | 0 | 0 | 2,602 | 2,602 |
| | SC | 0 | 0 | 0 | 0 |
| | NC | 0 | 0 | 0 | 0 |
| Headboat | FL-NC | 702 | 985 | 0 | 1,687 |
| TOTAL | FL-NC | 3,116 | 7,048 | 3,733 | 13,896 |

**Table 3.** 2012 South Atlantic recreational red snapper landings assigned to weekend of landing. Wkend 1 = Sept 14-16; Wkend 2 = Sept 21-23.

| Mode | State | Wkend 1 | Wkend 2 | Total |
|---|---|---|---|---|
| Charter | FL | 296 | 688 | 984 |
| | GA | 32 | 73 | 105 |
| | SC | 0 | 13 | 13 |
| | NC | 309 | 717 | 1,026 |
| Private | FL | 2,118 | 5,361 | 7,479 |
| | GA | 737 | 1,865 | 2,602 |
| | SC | 0 | 0 | 0 |
| | NC | 0 | 0 | 0 |
| Headboat | FL-NC | 702 | 985 | 1,687 |
| TOTAL | FL-NC | 4,193 | 9,703 | 13,896 |

An estimated 4,193 were landed on weekend 1 during the 2012 season compared to 9,703 fish landed on weekend 2. Catch rates average 1,398 fish per day on weekend 1 compared to 3,234 fish per day on weekend 2. The average daily catch rate for the entire 6-day season was 2,316 fish per day. As discussed in Sauls et al. (2013): *Weather played a role in reducing fishing effort for week 1 as evidenced by sampler observations of fewer boats entering ocean waters and fewer reported trips by the charter fleet from the northern region where the majority of the directed effort was concentrated.*

Using 2012 data as a proxy for 2013 landings, the season is estimated to range from 3 to 6.8 days, depending on the daily catch rate assumed. Daily catch rates observed during weekend 2 would result in a 3 day season, while daily catch rates observed during weekend 1 would result in a 6.8 day season. Using the average catch rate per day for 2012, the 2013 season is

projected to be 4.1 days. Similarly, if during a three-day weekend opening weather conditions and catch rates are comparable to weekend 2 for 2 of the 3 open days and comparable to weekend 1 for the other day, then the season could be open for 3.6 days. If weather is poor and catch rates are low for 2 of the 3 open days and weather is good and catch rates are high for the other day then the season could be open 4.8 days.

**Discussion**

Season lengths for red snapper are difficult to predict, especially for the recreational sector, given the short duration of the fishing season and variability in weather conditions. In this analysis, 2012 data were used as a proxy for 2013 landings. The commercial sector is estimated to remain open for 7 weeks or more, whereas the recreational sector is estimated to remain open 3-7 days. Weather played a major factor in how much was landed by the recreational sector each weekend during 2012 and will similarly influence 2013 recreational landings. Poor weather conditions (high wind and wave heights) resulted in less than half the recreational ACL in 2012 being landed on weekend 1. In contrast, better weather conditions on weekend 2 resulted in landings exceeding the ACL just for that weekend alone. The length of the 2013 recreational fishing season will be contingent on fishing effort levels, weather, and fish availability, all of which cannot be predicted by this analysis. However, it is unlikely that the recreational season could be as long as 7 days given this calculation is based on poor weather conditions and low catch rates persisting throughout the entire time frame of the open season. Given the recreational season will open in July or early August, compared to September, effort and landings are likely to be similar or possibly higher than weekend 2 in 2012 assuming good weather conditions. If daily catch rates are similar to weekend 2 than the season could be open for 3 days. However, there is also potential that bad weather conditions affect only a portion of a weekend. If this occurs, catch rates would be higher on days with better weather and lower on days with poor weather, resulting in a season length of approximately 4 days.

**References**

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