

**2014 South Atlantic Red Snapper Annual Catch Limits and  
Recreational Season Length Projection  
Southeast Regional Office  
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## 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 (Amendment 28) in September 2012. Amendment 28 established: (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 ACLs for 2014 and estimate the recreational fishing season length. An estimate of the commercial season length is not provided, because NOAA Fisheries monitors commercial landings in-season and closes the commercial sector when the quota is met or projected to be met.

## 2013 Annual Catch Limit

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

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

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

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

where ABC equals the acceptable biological catch in 2012 ( $ABC_{yr-2}$ ) or 2013 ( $ABC_{yr-1}$ ) and estCSR equals the estimated closed season removals in 2012 ( $estCSR_{yr-2}$ ) or 2013 ( $estCSR_{yr-1}$ ).

Total removals for 2013 were obtained from SEFSC (2014) and compared to the 2013 acceptable biological catch of 96,000 fish to determine if the ACL in 2014 could be set greater than zero (equation 1). Total removals were based on landings and discards reported to state and federal surveys, state logbooks, and federal commercial logbooks. Two possible estimates of total removals were provided in SEFSC (2014); one using Marine Recreational Fisheries Statistics Survey estimates (MRFSS), as adjusted from Marine Recreational Information Program (MRIP) estimates for all waves, and the other using wave 4 (Jul-Aug) estimates from a recreational weekend-only red snapper survey conducted by the Florida Fish and Wildlife Conservation Commission (Sauls et al. 2014). Total removals ranged from 72,881 to 97,563 fish, depending on the method used. Based on incorporation of the Florida study results, the 2013

ABC was not exceeded, indicating an ACL for 2014 can be set greater than zero. Using only MRFSS data, the 2013 ABC was exceeded and the 2014 ACL would need to be set to zero.

Sauls et al. (2014) conducted their specialized Florida survey to increase the precision and accuracy of red snapper catch estimates. MRFSS provides catch estimates over a two-month period and was never intended to provide estimates of catch for short fishing seasons, such as a 3-day weekend. Comparison of MRIP/MRFSS landings with the Florida study revealed that charter landings estimates were comparable, but private landings were significantly higher for MRIP/MRFSS. Sauls et al. (2014) provide much more precise estimates of landings (Proportional Standard Error (PSE) for charter 13-18%; PSE for private 24-35%) compared to MRIP/MRFSS (PSE >80%). For these reasons, total removal estimates based on the Florida study were used as the basis for calculating ACLs and estimating the recreational season. This approach is consistent with the methodology used to determine last year's ACLs and season.

To estimate the 2014 ACL, closed season removals were obtained for 2012 and 2013 from data summarized in SEFSC (2013, 2014; **Table 1**). Estimated closed season removals (including out of season landings and dead discards) for both the commercial and recreational sectors combined were 65,612 fish in 2012 and 61,907 fish in 2013 (**Table 1**). In 2012, an estimated 14,904 fish were landed during the commercial and recreational fishing seasons. Commercial and recreational landings during the open season in 2013 were estimated to be 10,974 fish (**Table 1**). Using 2012 and 2013 ABC and estimated closed season removals, equation 2 establishes the ACL for 2014 to equal 31,387 fish. This ACL is allocated 71.93% to the recreational sector and 28.07% to the commercial sector, resulting in an ACL of 22,576 fish for the recreational sector and 8,810 fish for the commercial sector. The commercial ACL for 2014 was then converted to pounds gutted weight (lbs gw) using the 2013 average weight (=5.788 lbs gw) from Table 9c in SEDAR-24 (2010) red snapper yield projections. The commercial ACL for 2014 is 50,994 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, 2012-2014.

Variable	Number of Fish		
	yr 2012	yr 2013	yr 2014
ABC	86,000	96,000	106,000
estCSR (closed season landings + ddiscards)	65,612	61,907	--
open season landings – recreational	13,897	5,952	--
open season landings – commercial	1,007	5,022	--
open season landings – total	14,904	10,974	--
total removals	80,516	72,881	--
ABC - total removals	20,388	23,119	--
ACL (all modes)	13,067	13,325	31,387
rec ACL	9,399	9,585	22,576
comm ACL (numbers)	3,668	3,740	8,810
comm ACL (pounds gw)	20,818	21,447	50,994

## 2014 Recreational Red Snapper Fishing Season Length

Amendment 28 specified that the recreational fishing season will consist of weekends only (Fridays, Saturdays, and Sundays) and will begin on or close to the second Friday of July. NOAA Fisheries projects when the recreational ACL will be reached in advance of the season and announces the fishing season start and end dates. Additionally, the Council decided that if the projected recreational fishing season is determined by NOAA Fisheries to be 3 days or less, then the season would not open for that fishing year because that short time period would not provide sufficient fishing opportunity for the public. The following summarizes methods for estimating the 2014 recreational fishing season length.

### Recreational Fishing Season

The recreational fishing season in 2012 was open two consecutive 3-day weekends (Sept 14-16, Sept 21-23) and in 2013 was open one 3-day weekend (August 23-25, 2013). A 1-fish bag limit and no minimum size limit was in effect during both seasons. Recreational landings reported in SEFSC (2013, 2014) totaled 15,059 fish in 2012 and 6,644 fish in 2013. Some landings occurred when the season was closed. In 2012, 13,896 fish were landed during months when the season was open, whereas 5,952 fish were landed in 2013 during months when the season was open (Table 1). Landings during the two-weekend openings exceeded the 9,399 fish recreational ACL by 4,498 fish (+48%) in 2012 (Table 1). In 2013, landings during the 3-day weekend opening were less than the 9,585 fish recreational ACL by 3,633 fish (-38%; Table 1). 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%; Table 1). During the 2013 open-season, commercial and recreational landings totaled 10,974 fish and were less than the total ACL of 13,325 fish by 2,351 fish (-18%; Table 1).

The recreational ACL for 2014 is estimated to be 22,576 fish, which is more than two times greater than the 2013 recreational ACL. To estimate the length of the 2014 recreational fishing season, landings from 2012 and 2013 were used as proxies. SERO (2013) estimated landings by weekend for the 2012 fishing season. Landings ranged from 4,193 fish on the first weekend of the season to 9,703 fish on the second weekend of the season. In 2013, 5,952 fish were estimated to be landed during the 3-day weekend opening. Landings per day in 2012 averaged 1,398 fish per day on weekend 1 and 3,234 fish per day on weekend 2. In 2013, landings per day averaged 1,984 fish per day. The average daily catch rate for the entire 6-day season in 2012 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.* Sauls et al. (2014) also noted that: *weather declined on the last day of the 2013 season resulting in lower recreational boat traffic.*

Using 2012 and 2013 data as a proxy for 2014 landings, the length of the 2014 recreational season is estimated to range from 7 to 11 days, depending on the daily catch rate assumed. Daily landing rates observed during weekend 2 of the 2012 season would result in a 7-day season, while daily landing rates observed during weekend 1 of the 2012 season would result in

an 11-day season. Daily landing rates observed during the 2013 season would result in a 9-day season.

## **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 and 2013 data were used as proxies for 2014 landings. The length of the recreational fishing season for red snapper is estimated to range from 7-11 days. Weather played a major factor in how much was landed by the recreational sector each weekend during the 2012 and 2013 seasons and may similarly influence 2013 recreational landings. Poor weather conditions (high wind and wave heights) during weekend 1 of the 2012 season resulted in less than half the recreational ACL being landed. Similarly, poor weather conditions on the third day of the 2013 season also resulted in less boat traffic and fishing effort. In contrast, better weather conditions on weekend 2 of the 2012 fishing season and the first two days of the 2013 season resulted in higher landings and fishing effort. The length of the 2014 recreational fishing season will be contingent on fishing effort levels, weather, and fish availability, all of which cannot be fully predicted by this analysis. However, it is unlikely that the recreational season could be as long as 11 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 when weather is more favorable, effort and landings are likely to be similar or possibly higher than the second weekend in 2012 or the first two-days of the 2013 season. If daily catch rates are similar to the second weekend of the 2012 season, then the 2014 season could be open for as many as 7 days.

## References

- Sauls, B., R. Cody, B. Cermak, O. Ayala, and K. Kowal. 2014. South Atlantic red snapper (*Lutjanus campechanus*) monitoring in Florida for the 2013 season. Final Report submitted to NOAA Fisheries, Southeast Regional Office, St. Petersburg, Florida, 43 pp.
- SEDAR-24. 2010. South Atlantic red snapper: Management quantities and projections requested by the SSC and SERO. NOAA Fisheries, Southeast Fisheries Science Center, Sustainable Fisheries Division, Beaufort, NC. 15 pp.
- SEFSC. 2013. Total removals of red snapper (*Lutjanus campechanus*) in 2012 from the U.S. South Atlantic. NOAA Fisheries, Southeast Fisheries Science Center, Sustainable Fisheries Division, Beaufort, NC. 11 pp.
- SEFSC. 2014. Total removals of red snapper (*Lutjanus campechanus*) in 2013 from the U.S. South Atlantic. NOAA Fisheries, Southeast Fisheries Science Center, Sustainable Fisheries Division, Beaufort, NC. 7 pp.
- SERO. 2013. 2013 South Atlantic Red Snapper Annual Catch Limit and Season Length Projections. NOAA Fisheries, Southeast Regional Office, St. Petersburg, FL. 5 pp.