Amendment 50

Catch Level Adjustments, Rebuilding Schedule, and Allocations for Red Porgy

Discussion Document for Snapper Grouper Advisory Panel

Background

In 1991, Amendment 4 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region (Snapper Grouper FMP) reported that the Red Porgy stock was undergoing overfishing and was overfished. Amendment 4 established an initial rebuilding plan, and the associated final rule (56 FR 56016, October 31, 1991) implemented a minimum size limit for Red Porgy. The rebuilding plan was put into effect in 1991 with a target time to rebuild of 10 years. The stock was assessed in 1999 (Vaughan 1999), and based on the findings, the stock was determined to be subject to overfishing and overfished. In an emergency rule published September 3, 1999 (64 FR 48324), the National Marine Fisheries Service (NMFS) prohibited the harvest and possession of Red Porgy in or from the exclusive economic zone off the southern Atlantic states. NMFS extended the prohibition on harvest and possession of Red Porgy through August 28, 2000 (65 FR 10039; February 25, 2000).

History of Red Porgy Stock Status

Assessment	Overfished	Overfishing
SEDAR 1 2002	X	
SEDAR 1 Update 2006	X	
SEDAR 1 Update 2012	X	
SEDAR 60 2020	X	X

The Red Porgy stock in the South Atlantic was the first stock assessed through the Southeast Data, Assessment, and Review (SEDAR) process in 2002. The findings of the assessment indicated the stock was overfished but not undergoing overfishing. The final rule for Amendment 12 to the Snapper Grouper FMP (65 FR 51248, August 23, 2000) closed commercial harvest during the Red Porgy peak spawning season, reduced the commercial trip limit, and reduced the recreational bag limit; and the amendment specified a new 18 year rebuilding plan, which was the maximum recommended timeframe based on the formula: T_{MIN} (10 years) + one generation time (8 years, based on data used in the assessment). The rebuilding schedule began with the implementation of the no harvest emergency rule on September 3, 1999 (64 FR 48324) and ended on December 31, 2017. The findings from subsequent update assessments in 2006 and 2012 also resulted in the same determinations. The stock has not rebuilt despite management efforts throughout its management history.

The most recent assessment followed a standard approach with data through 2017 (SEDAR 60 2020) and incorporated the revised estimates for recreational catch (Fishing Effort Survey). The findings of the assessment indicated that the South Atlantic Red Porgy stock is overfished and undergoing overfishing (**Figure 1**). The Council's Scientific and Statistical Committee (SSC) reviewed the assessment during their April 2020 meeting and found that the assessment represented the best scientific information available. The Council received the results of the assessment and the SSC's recommendations at their June 2020 meeting and directed staff to begin work on a plan amendment to end overfishing as well as address rebuilding and allocations, etc. for review at the September 2020 meeting.

The Council received notification from the National Marine Fisheries Service (via letter dated June 12, 2020) of the status of the Red Porgy stock in the South Atlantic and indicated management has not made adequate progress in rebuilding the population. Following notification that a stock is undergoing overfishing and overfished, the Magnuson-Stevens Fishery Conservation and Management Act requires the Council to develop a fishery management plan amendment with actions that end overfishing immediately and rebuild the affected stock. The Council has two years to develop an amendment; hence, the statutory deadline would be June 12, 2022.

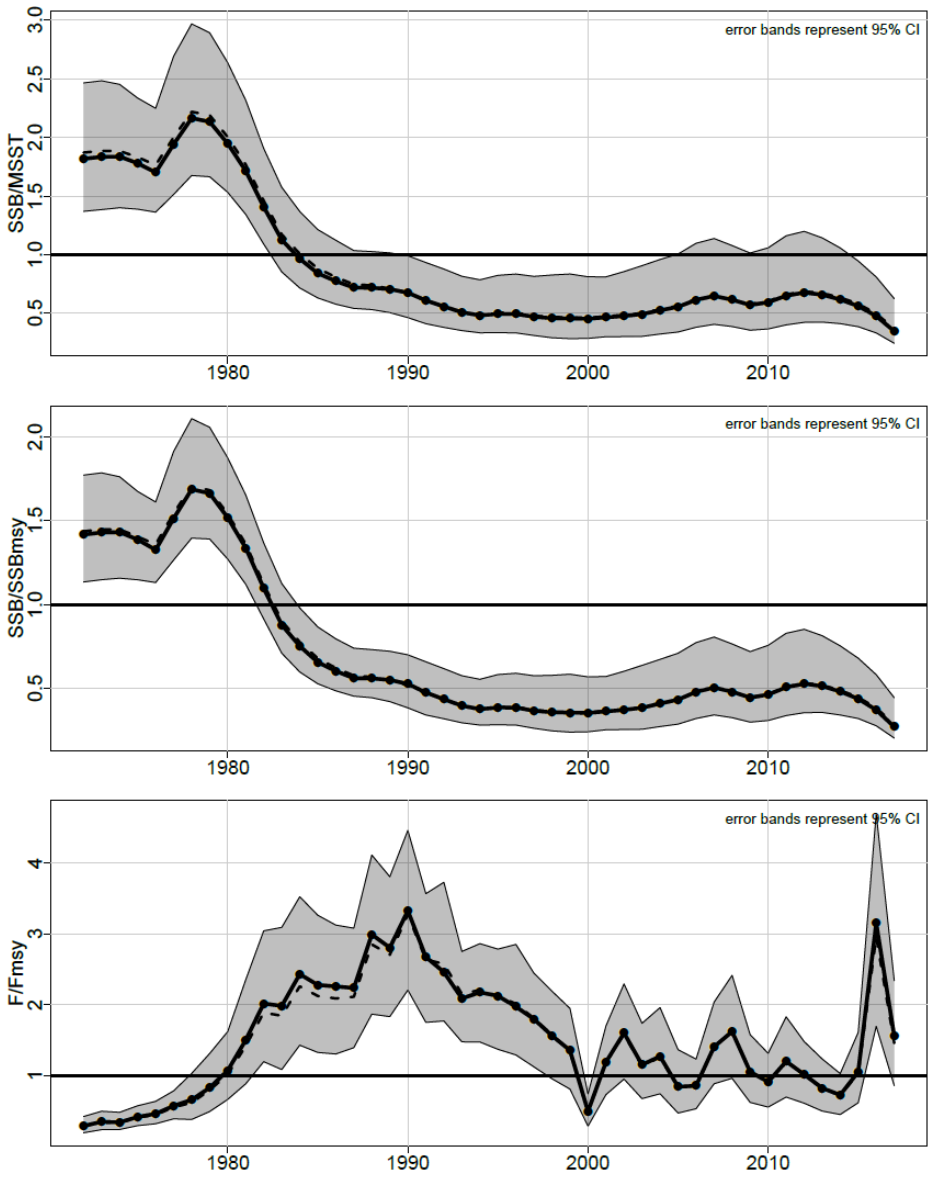

Figure 1. Estimated time series of spawning sock biomass (SSB) and fishing mortality (F) relative to benchmarks. Top: SSB relative to the minimum stock size threshold (MSST), if less than 1 stock is overfished. Middle: SSB relative to SSB_{MSY}, if less than 1 stock is overfished. Bottom: F relative to F_{MSY}, if > 1 stock is undergoing overfishing.

Potential management actions in this amendment

- Revise the rebuilding schedule for Red Porgy in the South Atlantic
- Adjust catch levels (annual catch limit and recreational annual catch target)
- Revise sector allocations
- Revise management measures

Amendment timing

September 2020	Review options paper and provide guidance to staff
December 2020	**Review draft amendment and approve for scoping**
Jan-Feb 2021	Conduct scoping hearings
March 2021	Review scoping comments, review preliminary analyses, and provide guidance to staff
June 2021	Review modifications to the amendment, select preferred alternatives, and approve for public hearings
Jul-Aug 2021	Conduct public hearings
September 2021	Review public comment and approve all actions
December 2021 or March 2022	Review final draft amendment and consider approval for formal review
Mid to late 2022	Regulations effective

Acceptable Biological Catch and Overfishing Limit

The Scientific and Statistical Committee (SSC) reviewed the Red Porgy stock assessment (SEDAR 60 2020) at their April 2020 meeting. The SSC found that the assessment was conducted using the best scientific information available, was adequate for determining stock status and supporting fishing level recommendations and addressed uncertainty consistent with expectations and available information. The SSC recommended revising the overfishing limit (OFL) based on projections under a fishing mortality rate that would produce maximum sustainable yield ($F = F_{MSY}$) and recommended the $F = 75\% F_{MSY}$ scenario be used to set the acceptable biological catch (ABC) for Red Porgy. Both projections used average recruitment from the last three assessment years instead of long-term recruitment. The findings of SEDAR 60 indicated average recruitment has been declining throughout the time series and has been below the recruitment levels corresponding to MSY for most of the past three decades (**Figure 2**).

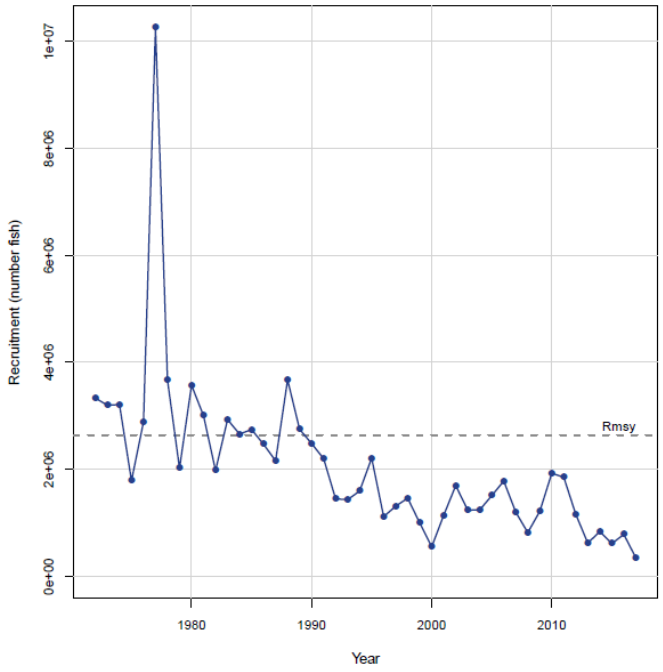

Figure 2. Estimated recruitment of age-1 fish. Horizontal dashed line indicates Rmsy (Source: SEDAR 60 2020).

The updated OFL and ABC values are based on **landed catch** and are highlighted in blue (**Table 1**).

Table 1. South Atlantic Red Porgy OFL and ABC recommendations based on management starting in 2022 (SEFSC, September 2020).

OFL Recommendations		
Year	**Landings (lbs ww)**	**Numbers of Fish**
2022	97,000	62,000
2023	102,000	65,000
2024	107,000	67,000
2025	110,000	69,000
2026	113,000	71,000
ABC Recommendations		
Year	**Landings (lbs ww)**	**Numbers of Fish**
2022	75,000	47,000
2023	81,000	51,000
2024	87,000	54,000
2025	91,000	57,000
2026	95,000	59,000

Note: The SSC had a difficult time implementing the ABC control rule because Red Porgy has made little to no progress towards rebuilding given low recruitment in recent years. The projections indicate the ABCs will have only a very minor impact on stock rebuilding. If recruitment continues to be low, the productivity of the stock and the benchmark reference points will need to be reevaluated.

Proposed Actions

Action 1. Revise the Red Porgy rebuilding schedule

NOTE: Rebuilding projections assume long-term average recruitment and management implemented in 2022. Consequently, catch levels from the rebuilding projections are higher than the recommended ABC.

Alternative 1 (No Action). The Red Porgy stock in the South Atlantic was under an 18-year rebuilding schedule that was expected to rebuild the stock by the end of 2016. Red Porgy did not rebuild and currently is not under a rebuilding plan.

Alternative 2. Revise the rebuilding timeframe to equal the shortest possible time to rebuild in the absence of fishing mortality (T_{MIN}). This would equal 10 years with the rebuilding period ending in 2032. 2022 would be Year 1.
Note: This option assumes that fishing mortality is zero and discards are eliminated. Therefore, it can be expected that under this scenario rebuilding will take longer than 10 years. Under this scenario, a 51.4% probability of rebuilding would be achieved in 2032. This projection assumed current fishing mortality from 2018 through 2021.

Alternative 3. Revise the rebuilding timeframe to equal T_{MIN} times two. This would equal 20 years. 2022 would be Year 1.

Alternative 4. Revise the rebuilding timeframe to equal T_{MIN} + one generation time. This would equal 16 years. 2022 would be Year 1.
Note: The updated generation time for Red Porgy is 6.64 years (N. Klibanski, SEFSC 2020).

Alternative 5. Revise the rebuilding timeframe to equal the time estimated to rebuild the stock with a 50% probability of success while maintaining fishing mortality at 75% of the Maximum Fishing Mortality Threshold (MFMT) during the rebuilding period. For Red Porgy, 75%MFMT = 75%F_{MSY}. This would equal 26 years with the stock reaching a 50% probability of rebuilding success in 2047. 2022 would be Year 1.

Year	Landings (lbs ww)	Numbers of Fish
2022	105,000	70,000
2023	123,000	80,000
2024	138,000	90,000
2025	153,000	98,000
2026	167,000	106,000

Note: This is the maximum time allowed for rebuilding (Tmax). Catch levels under this scenario exceed the current recommendation for ABC (**Table 1**). Under this scenario, a 51.1% probability of rebuilding success would be achieved in 2047. This projection assumed current fishing mortality from 2018 through 2021.

Action 2. Revise the Red Porgy total annual catch limit and optimum yield

Note: Alternatives 2 through 4 include the current ABC recommendation from the SSC.

Alternative 1 (No Action). The current annual catch limit and optimum yield for Red Porgy are equal to the acceptable biological catch (328,000 pounds whole weight).

Alternative 2. Revise the annual catch limit and optimum yield for Red Porgy to equal the updated acceptable biological catch based on the results of the latest stock assessment (SEDAR 60 2020). The 2026 annual catch limit would remain in place until modified.

Year	Total ACL (lbs ww)	Total ACL (numbers)
2022	75,000	47,000
2023	81,000	51,000
2024	87,000	54,000
2025	91,000	57,000
2026	95,000	59,000

Alternative 3. Revise the total annual catch limit and optimum yield for Red Porgy and set equal to 90% of the updated acceptable biological catch. The 2026 annual catch limit would remain in place until modified.

Year	Total ACL (lbs ww)	Total ACL (numbers)
2022	67,500	42,300
2023	72,900	45,900
2024	78,300	48,600
2025	81,900	51,300
2026	85,500	53,100

Alternative 4. Revise the total annual catch limit and optimum yield for Red Porgy and set equal to 80% of the updated acceptable biological catch. The 2026 annual catch limit would remain in place until modified.

Year	Total ACL (lbs ww)	Total ACL (numbers)
2022	60,000	37,600
2023	64,800	40,800
2024	69,600	43,200
2025	72,800	45,600
2026	76,000	47,200

Action 3. Revise the Red Porgy sector allocations and sector annual catch limits

Note: The revised total annual catch limit in Alternatives 1 (No Action) through 3 reflects Alternative 2 in Action 2: ABC=ACL=OY with implementation in 2022.

Alternative 1 (No Action). The Red Porgy total annual catch limit is allocated 50% to the commercial sector and 50% to the recreational sector. The commercial ACL is split into two seasons with 30% allocated to season 1 (January through April) and 70% allocated to season 2 (May through December).

Year	Commercial ACL		Recreational ACL	
	lbs ww	numbers	lbs ww	numbers
2022	37,500	23,500	37,500	23,500
2023	40,500	25,500	40,500	25,500
2024	43,500	27,000	43,500	27,000
2025	45,500	28,500	45,500	28,500
2026	47,500	29,500	47,500	29,500

Alternative 2. Apply the current allocation formula: ACL = ((mean landings 2006-2008)*0.5)) + ((mean landings 1986-2008)*0.5). This would result in a commercial allocation of 51.43% and a recreational allocation of 48.57% using revised recreational landings estimates from the Fishing Effort Survey.

Year	Commercial ACL		Recreational ACL	
	lbs ww	numbers	lbs ww	numbers
2022	38,573	24,172	36,428	22,828
2023	41,658	26,229	39,342	24,771
2024	44,744	27,772	42,256	26,228
2025	46,801	29,315	44,199	27,685
2026	48,859	30,344	46,142	28,656

Note: Discard mortality is higher for commercial sector (53% in SEDAR 60). Initial allocation was set at 50% commercial to minimize discard mortality.

Alternative 3. Remove sector allocations and manage under the total annual catch limit.

Year	Total ACL (lbs ww)	Total ACL (numbers)
2022	75,000	47,000
2023	81,000	51,000
2024	87,000	54,000
2025	91,000	57,000
2026	95,000	59,000

Note: catch levels assume Council selects ABC=ACL under Action 2.

Discussion:

- Allocations are being reviewed since the recreational landings stream changed in the new assessment. Landings estimates now use the new Fishing Effort Survey for the private component of the recreational fishery.

- Sector allocations for Red Porgy were implemented through Amendment 15B to the FMP (SAFMC 2009). An equal allocation was selected because it was closest to status quo at the time (2001-2003 landings were 51% recreational and 49% commercial). The Council discussed having to adjust the total allowable catch if the commercial sector was allocated greater than 50% due to higher commercial discard mortality.

- The allocation formula adopted through the Comprehensive ACL Amendment to the FMP (SAFMC 2011) has also been used to allocate the total ACL for some assessed species (i.e., golden Tilefish). However, the allocations formula was **not** used to revise Red Porgy sector allocations.

Action 4. Revise the Red Porgy recreational annual catch target

Alternative 1 (No Action). The Red Porgy recreational annual catch target is 117,555 pounds whole weight and is determined using the existing formula (annual catch target = recreational annual catch limit x (1-mean Proportional Standard Error over the previous 5 years)).

Alternative 2. Revise the Red Porgy recreational annual catch target based on a revised recreational annual catch limit and updated proportional standard error estimates for 2015-2019.

Year	Rec ACT (lbs ww)	Rec ACT (numbers)
2022	20,753	13,005
2023	22,413	14,112
2024	24,073	14,942
2025	25,180	15,772
2026	26,287	16,325

Note: the average PSE for 2015-2019 is 44.66%. Estimates based on rec ACL=50% (Alternative 1 of Action 3) of total ACL (Alternative 2 in Action 2).

Alternative 3. Remove the existing recreational annual catch target and do not specify a new recreational annual catch target for Red Porgy.

Discussion:

- The current Red Porgy recreational annual catch target (ACT) was based on the previous ACL values and exceeds the SSC recommended ABC for the stock.

- The Red Porgy ACT and formula were implemented through the Comprehensive ACL Amendment to the FMP (SAFMC 2011).

- Recreational ACTs are not currently used to trigger regulatory action in the South Atlantic and are not codified in the regulations.

Action 5. Modify Red Porgy management measures

- The current Red Porgy management measures may need to be modified since the revised catch level recommendations are less than previous catch levels.

- More restrictive harvest limits will likely be needed since both sectors' current catch exceed the recommended ABC.

- The Council requests AP recommendations on possible modifications to management measures.

Commercial

- Commercial landings of Red Porgy in the South Atlantic averaged 78% of the commercial ACL from 2015 through 2019 (**Table 2**).

Table 2. Commercial landings of Red Porgy from 2014 through 2019 and percentage of the commercial ACL landed each year.

Previous Landings (lbs ww)		Proposed ACLs (lbs ww)		
Year	**Landings**	**Year**	**ABC=ACL and Allocation is 50%**	**ABC=ACL and Allocation is 51.43%**
2019*	104,608	2022	37,500	38,573
2018	126,209	2023	40,500	41,658
2017	126,761	2024	43,500	44,744
2016	124,914	2025	45,500	46,801
2015	153,681	2025	47,500	48,859

Source: SEFSC Commercial ACL data (7/7/20)
* 2019 data are preliminary

- Current commercial regulations: 14-inch (total length) minimum size limit and trip limit of 60 fish from January 1 to April 30 and 120 fish from May 1 through December 31. Commercial ACL is allocated 30% to Jan-Apr and 70% to May-Dec (effective Feb 2020).

- The percent of trips harvesting Red Porgy from 2010 through 2019 shows greater than 50% of trips are estimated to have harvested less than 30 fish during a trip (**Figure 3**).

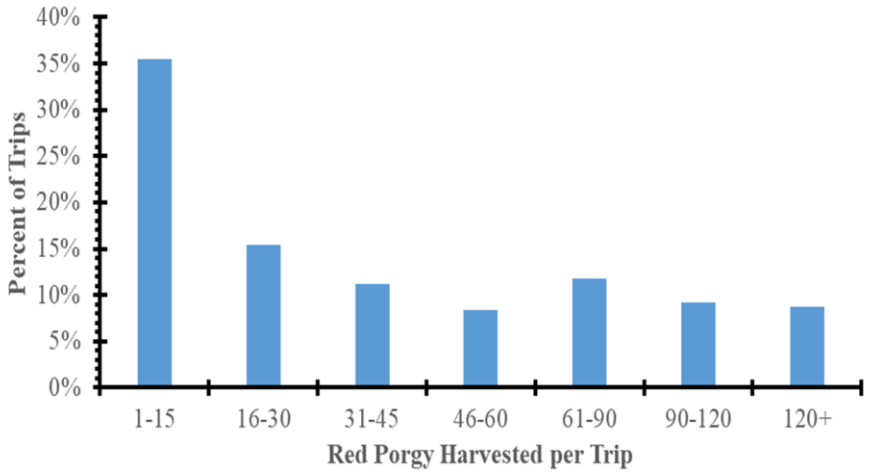

Figure 3. Percent of commercial trips (n=13,096) harvesting Red Porgy (numbers of fish) by bin (category) from 2010 through 2019.

- The estimated reductions from projected landings for potential trip limits are shown in **Table 3.**

Table 3. Predicted percent change in landings from either the 60-Red Porgy (January-April) or 120-Red Porgy (May-December) trip limits.

Current Trip Limit (# of Red Porgy)	Potential Trip Limit (# of Red Porgy)	Change in Landings
60	45	-16%
60	30	-36%
60	15	-63%
120	60	-25%
120	45	-37%
120	30	-52%
120	15	-72%

- Predicted landings with 95% confidence interval based on data from 2017 through 2019 with the current trip limits are shown in **Figure 4.**

- Jan-March landings were backfilled using mean 2017-2019 May landings using the mean ratio of May landings to January-April landings from 1986-1999 (the final year the fishery was open January-April until 2020).

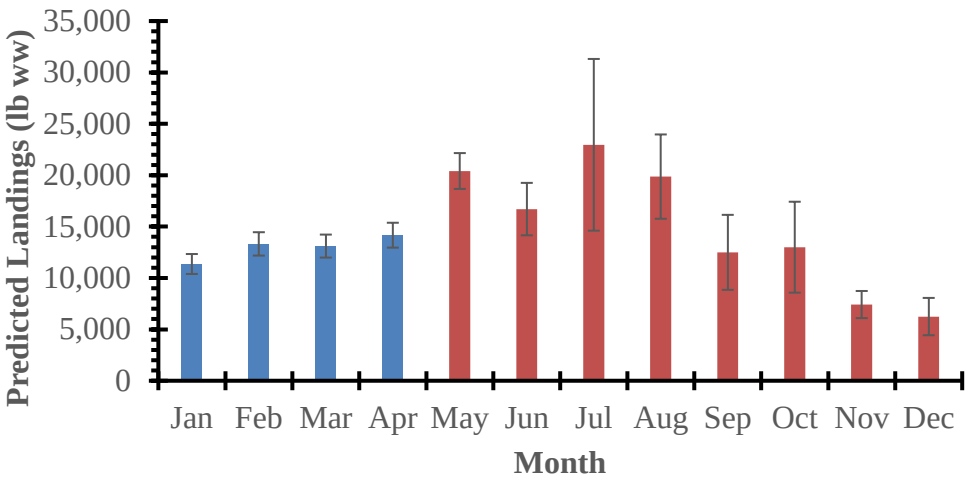

Figure 4. Predicted monthly Red Porgy landings (lb ww) with 95% confidence interval based on data from 2017 through 2019 with the current trip limits. The values for January through April (blue) are projected values since landings were not allowed during these months until 2020.
Source: SEFSC Commercial ACL file [August 21, 2020].

Discussion Questions:

- If two months are added together, the sum is close to the new ACLs for most month combinations. What does the AP find most important: season length or trip limit? Or a combination of both? Which months should be avoided if a seasonal closure is implemented?

- Are there additional management measures that should be considered for the commercial sector?

Recreational

- Recreational landings of Red Porgy in the South Atlantic from 2015 through 2019 are shown in **Table 4**.

Table 4. Recreational landings (lbs ww) of Red Porgy from 2014 through 2019.

Previous Landings (lbs ww)		Proposed ACLs (lbs ww)		
Year	**Landings**	**Year**	**ABC=ACL and Allocation is 50%**	**ABC=ACL and Allocation is 48.57%**
2019	45,821	2022	37,500	36,428
2018	387,053	2023	40,500	39,342
2017	145,645	2024	43,500	42,256
2016	581,889	2025	45,500	44,199
2015	162,639	2026	47,500	46,142

Source: SEFSC (7/14/20).
Note: Dataset includes headboat landings. Estimates are calculated from the current MRIP-FES survey.

- Current recreational regulations: 14-inch (total length) minimum size limit and 3 Red Porgy per person/day or 3 per/person/trip, whichever is more restrictive.

- Red Porgy recreational landings by two-month wave and predicted future landings are shown in **Figure 5**. Future landings were determined from taking an average of the three most recent years of complete data, as the most recent data are assumed to be the best approximation of future harvest.

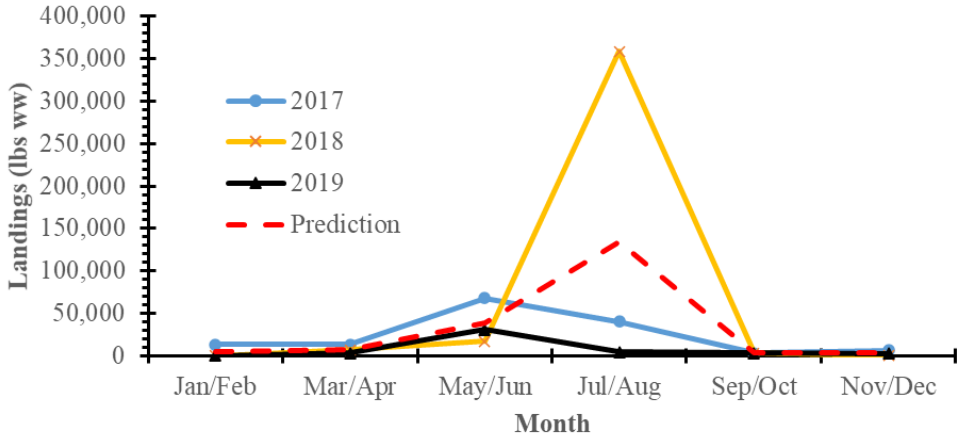

Figure 5. South Atlantic Red Porgy recreational landings by two-month wave and predicted future landings. Source: SEFSC MRIP FES Recreational ACL Dataset [September 16, 2020].

- The number of Red Porgy caught per angler on a given trip was collected by Marine Recreation Information Program (MRIP) and the Southeast Region Headboat Survey (SRHS) using data from 2017 through 2019 and is shown in **Figure 6**.

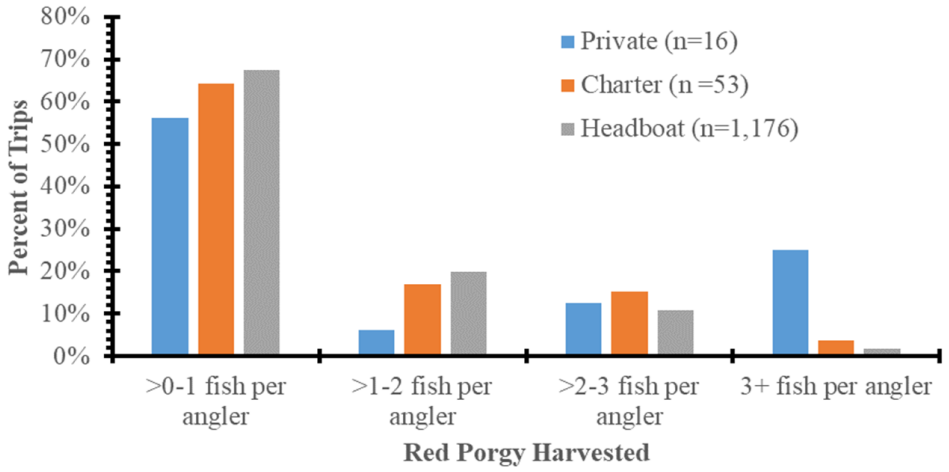

Figure 6. South Atlantic Red Porgy recreational landings by two-month wave and predicted future landings by bin from 2017 through 2019. Source: SEFSC MRIP FES Recreational ACL Dataset [September 16, 2020].

- **Table 5** shows the percent change in Red Porgy landings by for each potential bag limit by mode and overall. Note that the total percent change is weighted by the contribution of each mode's landings to overall Red Porgy landings.

Table 5. The percent change in Red Porgy landings by for each potential bag limit by mode and overall.

Mode	2-Red Porgy bag limit	1-Red Porgy bag limit
Charter	-6.3%	-20.2%
Private	-14.2%	-30.1%
Headboat	-5.5%	-28.2%
Overall	-11.5%	-28.1%

Discussion Questions:

- Based on proposed reductions, the recreational season may only span a single two-month wave. When would be the best time to implement a recreational season for Red Porgy?
- Is it more important to keep a certain bag or vessel limit or longer season?
- Are there additional changes in management that should be considered for the recreational sector?