Amendment 50

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

Decision Document

June 2021

Background

The most recent assessment of the Red Porgy stock in the South Atlantic 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. The South Atlantic 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 (BSIA). 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.

The Council received notification from NMFS (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 such notification, 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.

During the March 2021, meeting, the Committee reviewed, modified, and approved actions and the range of alternatives under each action. The Committee provided the following guidance to the IPT:

- Request the IPT discuss possibly adding an alternative for catch level that reflects rebuilding at T_{min} (ACL = 0). Add discussion to the amendment to explain the apparent disconnect between the projected catch levels under rebuilding projections and the recommended ABC (similar situation noted for snowy grouper) and the role of recruitment.
- Incorporate reference to "annual" OY to Action 2 and its alternatives.
- Remove Action 4 (revision of the recreational ACT) for Red Porgy (since an action was included in Amendment 49 to consider removing the recreational ACT for all species for which it has been specified under the Snapper Grouper FMP).
- Modify alternatives for a recreational vessel limit to include 6, 12, and 18 fish per vessel.
- Include an alternative that explores options for different vessel limits for headboats for analysis and discussion.
- Remove action to consider modification to commercial accountability measures.
- Direct the IPT to develop an alternative to modify recreational accountability measures to incorporate multi-year (3 years or longer) running averages.
- Direct IPT to explore use of geometric mean vs arithmetic mean for triggering recreational accountability measures.

Management actions in this amendment

Action 1: Establish a rebuilding plan for Red Porgy
Action 2: Revise the Red Porgy total annual catch limit and annual optimum yield
Action 3: Revise the Red Porgy sector allocations and sector annual catch limits
Action 4: Modify Red Porgy commercial trip limits
Action 5: Modify Red Porgy recreational management measures
Sub-Action 5a. Bag and vessel limits
Sub-Action 5b. Recreational fishing season
Action 6: Modify Red Porgy recreational accountability measures
(*Note: actions addressing recreational ACT and commercial AMs were removed*).

Amendment timing

September 2020	Review options paper and provide guidance to staff
December 2020	Review draft amendment and approve for scoping
Feb 3 & 4, 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 or at Sept Council meeting?	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

Purpose and Need

Purpose for Action

The *purpose* of this fishery management plan amendment is to ~~revise the rebuilding schedule~~, establish a rebuilding plan, set an acceptable biological catch, sector allocations and annual catch limits ~~and recreational annual catch target~~ for South Atlantic Red Porgy based on the results of the most recent stock assessment, and modify management and accountability measures.

Need for Action

The *need* for this fishery management plan amendment is to end overfishing of South Atlantic Red Porgy, rebuild the stock, and achieve optimum yield while minimizing, to the extent practicable, adverse social and economic effects.

Committee Action:

REVIEW PURPOSE AND NEED STATEMENTS, MODIFY IF NEEDED AND APPROVE

Acceptable Biological Catch and Overfishing Limit

The SSC reviewed the Red Porgy stock assessment (SEDAR 60 2020) at their April 2020 meeting. 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 showed a declining trend throughout the time series and has been below the recruitment levels corresponding to MSY for most of the past three decades.

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

Table 1. South Atlantic Red Porgy OFL and ABC recommendations (in pounds and numbers of fish) based on management starting in 2022 (SEFSC, September 2020). NOTE: Catch levels in numbers of fish were included in the SSC's recommendations; hence, they are provided here for completeness.

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. Establish a rebuilding plan for Red Porgy

Purpose of Action: The latest stock assessment (SEDAR 60 2020) indicated the stock is undergoing overfishing and remains overfished. Action is needed because the Red Porgy stock did not rebuild by the end of 2017 under the previous rebuilding plan. The Council has two years from when it receives notification from the National Marine Fisheries Service, to implement a new rebuilding plan. The plan must be implemented by June 2022.

Alternative 1 (No Action). The South Atlantic Red Porgy stock is overfished and undergoing overfishing. The Red Porgy stock in the South Atlantic was under an 18-year rebuilding plan that was expected to rebuild the stock by the end of 2017. Red Porgy did not rebuild by the end of 2017.

Alternative 2. Establish the rebuilding plan to equal the shortest possible time to rebuild in the absence of fishing mortality ($\mathbf{T_{min}}$). This would equal 11 years with the rebuilding period ending in 2032. 2022 would be Year 1.

Alternative 3. Establish the rebuilding plan to equal $\mathbf{T_{min}}$ **+ one generation**. This would equal 18 years with the rebuilding period ending in 2040. 2022 would be Year 1.

Alternative 4. Establish the rebuilding plan to equal $\mathbf{T_{min}}$ **times two**. This would equal 22 years with the rebuilding period ending in 2044. 2022 would be Year 1.

Alternative 5. Establish the rebuilding plan 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** 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.

Discussion:

- Under **Alternative 2**, the Red Porgy annual catch limit (ACL) would be zero. This alternative assumes that fishing mortality is zero and discards are eliminated. Therefore, it can be expected that under this scenario rebuilding will take longer than 11 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.

- Under **Alternative 3**, the generation time for Red Porgy is approximately 7 years (N. Klibanski, SEFSC 2020).

- **Alternative 5** is based on the maximum time allowed for rebuilding (T_{max}). Assumed catch levels under this scenario exceed the current recommendation for ABC. 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.

Defining the Range of Alternatives for Rebuilding

Guidance on how to define the upper and lower bounds of a rebuilding timeframe are specified in the National Standard 1 (NS 1) of the National Standard Guidelines (https://www.fisheries.noaa.gov/national/laws-and-policies/national-standard-guidelines).

Regarding how to determine the minimum time for rebuilding a stock (T_{min}), NS 1 specifies that *"T_{min} means the amount of time the stock or stock complex is expected to take to rebuild to its maximum sustainable yield (MSY) biomass level in the absence of any fishing mortality. In this context, the term "expected" means to have at least a 50 percent probability of attaining the B_{msy}, where such probabilities can be calculated. The starting year for the T_{min} calculation should be the first year that the rebuilding plan is expected to be implemented."* For Red Porgy, according to projections from SEDAR 60, the minimum predicted time for Red Porgy to rebuild in the absence of any fishing mortality under long-term average recruitment is 11 years, thus T_{min} is specified as being 11 years (**Alternative 2**).

With T_{min} corresponding to greater than 10 years, NS 1 provides guidance to define the maximum time for rebuilding a stock (T_{max}) as follows; *"If T_{min} for the stock or stock complex exceeds 10 years, then one of the following methods can be used to determine T_{max}: (i) T_{min} plus the length of time associated with one generation time for that stock or stock complex* (**Alternative 3**)*; (ii) The amount of time the stock or stock complex is expected to take to rebuild to B_{msy} if fished at 75 percent of MFMT* (**Alternative 5**)*; or (iii) T_{min} multiplied by two* (**Alternative 4**)*."*

The rebuilding timeframe based on T_{min} is **Alternative 2** and the range of potential rebuilding timeframes based on T_{max} is captured in **Alternatives 3** through **5**. Year 1 for all the rebuilding timeframes would be 2022.

Summary of Biological Effects:

- **Alternative 1 (No Action)** would have adverse effects on the stock as Red Porgy is overfished and currently without a rebuilding plan and is not a viable alternative because it is not based on BSIA.

- **Alternatives 2** through **5** are based on the BSIA and would likely have beneficial effects to the Red Porgy stock as they would establish a timeframe for rebuilding the stock.

- The rebuilding timeframe under **Alternative 2** is projected to rebuild the Red Porgy stock in the least amount of time; therefore, it can be expected that future biological benefits may accrue soonest, followed by **Alternative 3**, **Alternative 4**, and **Alternative 5**.

Summary of Economic Effects:

- A rebuilding plan does not impose direct economic effects, as it does not directly constrain harvest or fishing effort.

- Implied economic benefits would be highest under **Alternative 2**, followed by **Alternative 3**, **Alternative 4**, **Alternative 5**, and **Alternative 1 (No Action)**, which is not a viable alternative.

Summary of Social Effects:

- Although establishing a rebuilding plan is an administrative action, the timeframe would determine the severity of the management measures necessary to rebuild the Red Porgy resource within the allotted period.

- Long-term benefits would be experienced soonest under **Alternative 2**, followed by **Alternative 3**, **Alternative 4**, **Alternative 5**, and **Alternative 1 (No Action)**. Alternatively, fewer short-term negative effects on fishing communities would be seen under **Alternative 1 (No Action)**, followed by **Alternative 5**, **Alternative 4**, **Alternative 3**, and **Alternative 2**.

Committee Action:

SELECT PREFERRED ALTERNATIVE.

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

Purpose of Action: The SSC has recommended a new ABC based on results of SEDAR 60 (2020) and the total annual catch limit and annual optimum yield must be adjusted accordingly. The Council cannot set the total annual catch limit above their SSC's recommended ABC.

Alternative 1 (No Action). The current total annual catch limit and annual optimum yield for Red Porgy are equal to the acceptable biological catch (328,000 pounds whole weight/315,384 lbs gutted weight).

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

Year	Total ACL (lbs ww)
2022	75,000
2023	81,000
2024	87,000
2025	91,000
2026+	95,000

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

Year	Total ACL (lbs ww)
2022	67,500
2023	72,900
2024	78,300
2025	81,900
2026+	85,500

Alternative 4. Revise the total annual catch limit and annual 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)
2022	60,000
2023	64,800
2024	69,600
2025	72,800
2026+	76,000

Alternative 5. Revise the total annual catch limit and annual optimum yield for Red Porgy and set equal to zero. The 2022 annual catch limit and annual optimum yield would remain in place until modified.

Discussion:

- Per the guidance provided at 50 CFR §600.310(f)(4)(iv), the Council has chosen to specify optimum yield (OY) for Red Porgy on an annual basis and set it equal to the ACL.

- The Council selected **Alternative 2** as preferred to facilitate subsequent analyses. Preliminary analyses for other actions are based on catch levels under this alternative.

- **Alternative 5** would set the ACL equal to zero. This alternative would be necessary if **Alternative 2** is selected as preferred in Action 1 (rebuilding plan). Selecting this alternative as preferred would require changes to the remaining actions in this amendment.

Summary of Biological Effects:

- **Alternative 1 (No Action)** is not a viable alternative because it is not based on BSIA.

- **Alternative 5** (ACL = 0) would have long term biological benefits in terms of ending overfishing and allowing the age structure of the stock to improve and benefit recruitment. However, this alternative would result in the highest level of discards and thus negative biological impacts to the stock.

Summary of Economic Effects:

Total

- Economic effects would greatly depend on the year examined; however, based on cumulative estimated reductions in recreational consumer surplus (CS) and commercial producer surplus (PS), it is estimated that net economic benefits would change by -$1,604,028, -$1,632,820, -$1,661,612, and -$1,860,426 on average annually from **Alternatives 2 (Preferred)**, **3**, **4**, and **5**, respectively.

Commercial

- **Alternatives 2 (Preferred)** through **5** would result in a decrease in economic benefits from reducing commercial landings of Red Porgy. Based on the information provided in the draft amendment, Red Porgy landings have resulted in average annual gross revenues of $237,755 over the past five years (2019$).

- Overall, approximately 161 vessels harvested Red Porgy on average each year from 2015 through 2019.

- The average annual gross revenue for these vessels was $68,079 (2019$) per vessel during 2015-2019. **Alternatives 2 (Preferred)** through **5** are expected to result in a

change in annual gross revenue per vessel of -$985, -$1,036, and -$1,086, and $1,489 in the first year of implementation (2022) under each alternative, respectively (2019$).

- In terms of percent of gross revenue per vessel, this is estimated to result in a change of -1.45%, -1.52%, %1.60, and -2.19%.

- Total short-term economic benefits for commercial vessels would be highest under **Alternative 1 (No Action)**, followed by **Alternative 2 (Preferred)**, **Alternative 3**, **Alternative 4**, and **Alternative 5**.

Recreational

- Given the variability in ACL by year, the economic effects depend on the year examined. In the first year of implementation (2022) it is estimated that CS would change by -$1,554,327, -$1,578,020, -$1,601,714, and $1,759,737 from **Alternatives 2 (Preferred)**, **3**, **4** and **5**, respectively.

- Total short-term economic benefits for the recreational sector would be highest under **Alternative 1 (No Action)**, followed by **Alternative 2 (Preferred)**, **Alternative 3**, **Alternative 4**, and **Alternative 5**.

Summary of Social Effects:

- Depending on the sector allocations chosen in Action 3, there may be some years in which landings would exceed their respective ACL and AMs would be triggered resulting in some negative effects on recreational fishermen and for-hire and commercial businesses that target Red Porgy.

- In general, a higher ACL would lower the chance of triggering an AM and result in the lowest level of negative effects on fishing communities.

- **Alternative 5** could be controversial resulting negative social effects on recreational anglers, for-hire businesses, retail businesses, and commercial vessels, especially those business who rely on Red Porgy to cover operating expenses.

- **Alternative 2** (**Preferred)** would be the most beneficial for fishermen, followed by **Alternative 3**, **Alternative 4** and **Alternative 5**. As stated above, **Alternative 1 (No Action)** is not a viable alternative because it is not based on BSIA.

Committee Action:

- REVIEW RANGE OF ALTERNATIVES. APPROVE/DISAPPROVE ADDITION OF ALTERNATIVE 5 (ACL = 0).
- CLARIFY UNITS TO SPECIFY CATCH LEVELS (WHOLE AND GUTTED WEIGHT?) FOR THIS AND SUBSEQUENT ACTIONS.
- CONFIRM PREFERRED

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

Purpose of Action: The Council's Allocations Trigger Policy states the Council will review sector allocations upon completion of a stock assessment. In addition, recreational landings estimates have been revised to adopt the new Fishing Effort Survey methodology. This action allows the Council to consider how to allocate the total ACL between the commercial and recreational sectors from 2022 onwards under the revised catch levels.

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 annual catch limit 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 (lbs ww)			Recreational ACL (lbs ww)
	Total	Season 1 quota	Season 2 quota	
2022	164,000	49,200	114,800	164,000
2023	164,000	49,200	114,800	164,000
2024	164,000	49,200	114,800	164,000
2025	164,000	49,200	114,800	164,000
2026	164,000	49,200	114,800	164,000

Alternative 2. Apply the current allocation percentages to the revised total annual catch limit. The Red Porgy total annual catch limit is allocated 50% to the commercial sector and 50% to the recreational sector. The commercial annual catch limit 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 (lbs ww)			Recreational ACL (lbs ww)
	Total	Season 1 quota	Season 2 quota	
2022	37,500	11,250	26,250	37,500
2023	40,500	12,150	28,350	40,500
2024	43,500	13,050	30,450	43,500
2025	45,500	13,650	31,850	45,500
2026	47,500	14,250	33,250	47,500

Alternative 3. Apply the current allocation formula: Annual catch limit = ((mean landings 2006-2008)*0.5)) + ((mean landings 1986-2008)*0.5) to the revised total annual catch limit. 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 (lbs ww)			Recreational ACL (lbs ww)
	Total	Season 1 quota	Season 2 quota	
2022	38,573	11,572	27,001	36,428
2023	41,658	12,497	29,161	39,342
2024	44,744	13,423	31,321	42,256
2025	46,801	14,040	32,761	44,199
2026	48,859	14,658	34,201	46,142

Alternative 4. Remove sector allocations and manage under the total annual catch limit.

Year	Total ACL (lbs ww)
2022	75,000
2023	81,000
2024	87,000
2025	91,000
2026	95,000

Discussion:

- **Alternative 1 (No Action)** was revised since March 2021 to reflect the current sector ACLs; hence the numbering of alternatives under this action has been revised accordingly.

- **Alternative 1 (No Action)** is not a viable alternative since it would not be based on BSIA.

- If the Council were to remove sector allocations (**Alternative 4**), action to revise the current accountability measures (commercial and recreational) would be required. The current accountability measures are based on the sector ACLs (in addition to the combined ACL).

Summary of Biological Effects:

- Biological effects are not expected to vary between **Alternative 1 (No Action)** and **Alternative 2**, since the allocation percentages would be identical and do not affect the total ACL specified in Action 2.

- **Alternative 3** would allocate a slightly higher percentage to the commercial sector. Because the commercial sector tends to harvest Red Porgy from deeper water than the recreational sector, it is possible that a higher allocation to the commercial sector would increase overall discard mortality.

- Removing sector allocations, as proposed under **Alternative 4**, would have the potential of allowing commercial harvest to increase above 50%, thus resulting in negative biological effects.

Table 2. Red Porgy commercial and recreational landings, 2015-2019. Recreational landings in FES currency

	Commercial Landings			Recreational Landings		
Year	**Landings**	**ACL**	**% of ACL**	**Landings**	**ACL**	**% of ACL**
2019	82,844	164,000	50.5	45,821	164,000	27.9
2018	114,192	164,000	69.6	387,053	164,000	236.0
2017	116,774	164,000	71.2	145,645	164,000	88.8
2016	118,152	164,000	72.0	581,889	164,000	354.8
2015	146,549	164,000	89.4	162,639	164,000	99.2

Source: NMFS SERO. Updated May 2021.

Summary of Economic Effects:

- Under **Alternative 1 (No Action)** and **Alternative 2**, sector allocations would remain at 50 percent of the total ACL for each sector resulting in total economic benefits being derived to both the commercial and recreational sectors. There would be no change in net economic benefits.

- Under **Alternative 3**, the commercial sector would receive an additional 1,072 lbs ww of Red Porgy, while the recreational sector would receive 1,072 lbs ww less. The economic effects of this alternative would depend on the year examined, but in the first year of implementation (2022), the expected change in net economic benefits would be -$6,213.

- The economic effects of **Alternative 4** would be highly dependent upon the changes to sector specific management measures that restrict harvest of Red Porgy. Projections on the use of the ACL by sector are not currently available. In comparison to **Alternative 1 (No Action)**, net economic benefits will be derived for the sector that is able to harvest more than 50 percent of the total ACL.

Summary of Social Effects:

- Under **Alternative 3**, there would be a slight decrease in the recreational percentage compared to **Alternative 1 (No Action)** and **Alternative 2**, which could have some negative social effects if recreational fishermen have a negative perception of this change due to the slight decrease in fishing opportunity and concerns about long-term social effects, especially if future actions further decreased harvest opportunities.

- **Alternative 4** may have few social effects unless the ACL is met early and a closure is implemented. Such a closure could initiate concern if a particular sector was responsible for the closure, but both would be held accountable for any closures and overages and would experience a loss of fishing opportunity. Without individual sector accountability, there could be increased conflict between sectors.

Committee Action:

- REVIEW RANGE OF ALTERNATIVES UNDER ACTION 3 AND MODIFY AS NECESSARY
    - RETAIN ALTERANTIVE 4 AND BRING BACK ACTION TO MODIFY COMMERCIAL ACCOUNTABILITY MEASURES?
- SELECT PREFERRED ALTERNATIVE

Action 4. Modify Red Porgy commercial ~~management measures~~ trip limits

Purpose of Action: Because the Red Porgy total ACL is being adjusted to address the recent stock assessment and resulting stock status, the Council can adjust management measures to address overfishing and constrain harvest to the proposed commercial ACL. The Council has only considered modifying the commercial trip limit is and is not considering modifications to other commercial management measures.

Alternative 1 (No Action). The commercial trip limit for Red Porgy in the South Atlantic exclusive economic zone is 60 fish from January 1 through April 30 and 120 fish from May 1 through December 31.

Alternative 2. Reduce the commercial trip limit for Red Porgy from January 1 – April 30 to:

2a. 15 fish per trip
2b. 20 fish per trip
2c. 30 fish per trip
2d. 45 fish per trip

Alternative 3. Reduce the commercial trip limit for Red Porgy from May 1 – December 31 to:

3a. 15 fish per trip
3b. 20 fish per trip
3c. 30 fish per trip
3d. 45 fish per trip
3e. 60 fish per trip

Discussion:

NOTE: Commercial landings were updated recently and analyses have not yet been updated.

- Commercial landings of Red Porgy in the South Atlantic averaged ~71% of the commercial ACL from 2015 through 2019.

- From 2015 through 2019, greater than 50% of trips are estimated to have harvested less than 30 fish during a trip.

- Predicted percent reductions in landings from proposed trip limit alternatives are shown in **Table 3.**

Table 3. The predicted percent change in landings per trip 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)	Predicted Change in Landings per Trip
60	45	-15%
60	30	-35%
60	20	-52%
60	15	-62%

Current Trip Limit (# of Red Porgy)	Potential Trip Limit (# of Red Porgy)	Predicted Change in Landings per Trip
120	60	-25%
120	45	-36%
120	30	-51%
120	20	-64%
120	15	-71%

- Predicted landings with 95% confidence interval based on data from 2017 through 2019 with the current trip limits are shown in **Figure 1.**

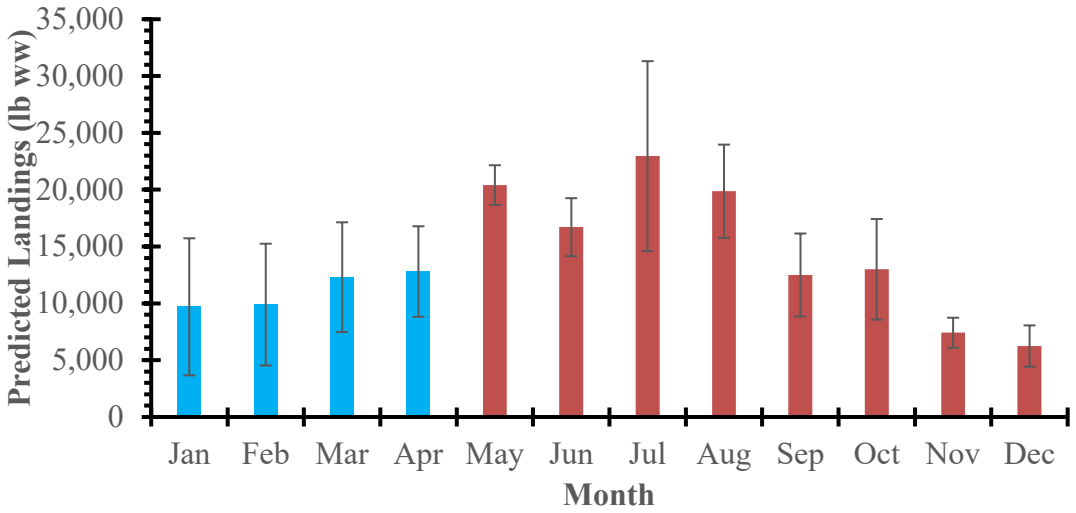

Figure 1. The predicted monthly Red Porgy landings (lbs ww) based current trip limits and 95% confidence interval. Source: SEFSC Commercial ACL file [October 9, 2020; March 15, 2021].

- Predicted season length for the commercial sector under a range of trip limits and assuming the total ACL is set at the recommended ABC for 2022 (Preferred Alternative 2 in Action 2) and current sector allocations are retained (Alternative 2 in Action 3) is shown in **Table 4**.

Table 4. The projected 2022 closure date of Red Porgy by season with different trip limit options and 95% confidence interval (CI). Note that 30% of the ACL (37,500 lbs ww) is allocated to the January-April season (Season 1) and 70% to the May-December season (Season 2).

Season	ACL (lbs ww)	Trip Limit (# of Red Porgy)	Closure Date	Season Length (95% CI)
1	11,250	60 - Current	Feb 5	Jan 23 – Mar 13
1	11,250	45	Feb 11	Jan 27 – Mar 22
1	11,250	30	Feb 22	Feb 3 – Apr 6
1	11,250	20	Mar 10	Feb 15 – Apr 27
1	11,250	15	Mar 25	Feb 25 – No Closure
2	26,250	120 - Current	Jun 11	Jun 7 – Jun 17
2	26,250	60	Jun 27	Jun 21 – Jul 5
2	26,250	45	Jul 6	Jun 30 – Jul 19
2	26,250	30	Jul 23	Jul 13 – Aug 13

Season	ACL (lbs ww)	Trip Limit (# of Red Porgy)	Closure Date	Season Length (95% CI)
2	26,250	20	Aug 20	Jul 31 – Oct 3
2	26,250	15	Sept 27	Aug 24 – Dec 30

- An interactive tool to explore the effect of proposed trip limits can be accessed here: https://safmc-shinyapps.shinyapps.io/SERO_SG50_DecisionTools/

Committee Action:

- CONSIDER THE AP'S COMMENTS AND SELECT PREFERRED ALTERNATIVE

Action 5. Modify Red Porgy recreational management measures

Sub-Action 5a. Bag and vessel limits

Purpose of Action: A reduction in the recreational bag limit is being considered to address overfishing and constrain recreational harvest to the proposed recreational ACL. The Council also wanted to consider vessel limits for the private and charter modes and the headboat mode independently of each other and in combination.

Note: More than one alternative can be selected as preferred.

Alternative 1 (No Action). The recreational bag limit for Red Porgy in the South Atlantic exclusive economic zone is 3 per person per day, or 3 per person per trip, whichever is more restrictive. There are no vessel limits in place for Red Porgy.

Alternative 2. Reduce the recreational bag limit for Red Porgy to:

2a. 1 fish per person per day, or 1 fish per person per trip, whichever is more restrictive.

2b. 2 fish per person per day, or 2 fish per person per trip, whichever is more restrictive.

Alternative 3. Establish a recreational vessel limit for **private recreational and charter vessels** for Red Porgy as:

3a. 6 fish per vessel per day or per trip, whichever is more restrictive.

3b. 12 fish per vessel or per trip, whichever is more restrictive.

3c. 18 fish per vessel or per trip, whichever is more restrictive.

Alternative 4. Establish a vessel limit for **headboats** for Red Porgy as:

4a. 20 fish per vessel.

4b. 40 fish per vessel.

4c. 60 fish per vessel.

Discussion:

- A headboat is defined as *a federally-permitted for-hire vessel that participates in the Southeast Region Headboat Survey (SRHS), and a vessel in the SRHS meets all or a combination of the following criteria: 1) is licensed to carry 15 or more passengers, 2) fishes in federal waters or state and adjoining waters for federally-managed species, and 3) charges primarily per angler (by the head).*

- A charter vessel is defined as *a federally permitted for-hire fishing vessel that does not participate in the SRHS.*

- For Alternatives 3 and 4: Since there is one permit for both Charter/Headboat (CH/HB) the alternatives could apply to:
  - permitted charter vessel operating as a charter vessel,
  - permitted charter vessel operating as a headboat, or
  - permitted headboat operating as a headboat.

- The definitions above were applied to the data in order to conduct analyses as there is no way to differentiate by permit. This is problematic because the "definitions" do not match.

- 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 2015 through 2019 (**Figure 2**).

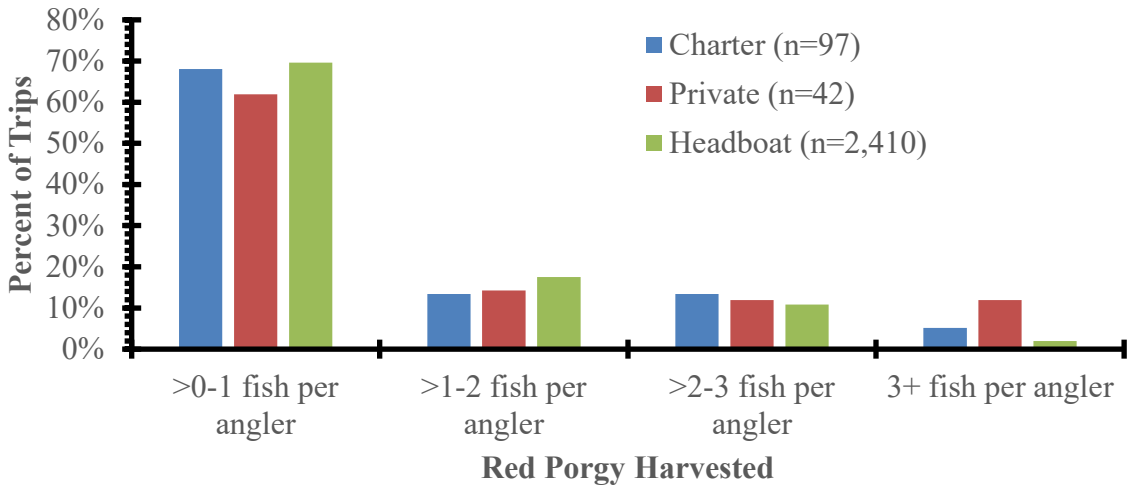

Figure 2. The percent of trips harvesting Red Porgy for private, charter, and headboat modes by bin from 2015 through 2019.
Sources: MRIP-FES survey data available at https://www.fisheries.noaa.gov/recreational-fishing-data/recreational-fishing-data-downloads. SRHS CRNF file [July 10, 2020].

- The impact of **bag limits** varied by mode: the largest reductions were observed in the private mode with smaller reductions observed in the charter and headboat modes (**Table 5**).

Table 5. The percent reduction in Red Porgy landings by for each potential bag limit by mode and overall with 95% confidence interval. Note the total percent reduction is weighted by the contribution of each mode's landings to overall Red Porgy landings.

Mode	2-Red Porgy bag limit	1-Red Porgy bag limit
Charter	4% (2-8%)	12% (7-23%)
Private	10% (4-17%)	32% (21-42%)
Headboat	6% (5-7%)	28% (27-30%)
Overall	9% (4-12%)	29% (22-36%)

- Analyses for proposed **vessel limits** could only examine catch per trip and not per person per day due to data limitations. The number of Red Porgy caught on a given trip was collected by MRIP and the SRHS using data from 2015 through 2019 (**Figure 3**).

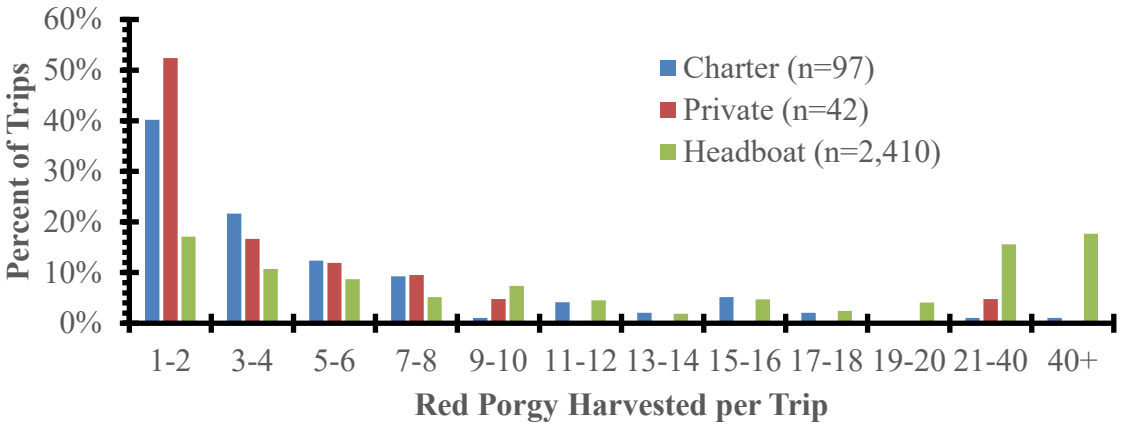

Figure 3. The percent of trips harvesting Red Porgy for private, charter, and headboat modes by trip bin from 2015 through 2019.
Sources: MRIP-FES survey data available at https://www.fisheries.noaa.gov/recreational-fishing-data/recreational-fishing-data-downloads. SRHS CRNF file [July 10, 2020].

- **Table 6** provides the percent reductions for **private and charter vessel** limits of 6, 12 and 18-fish per trip with the three different bag limit options. **Table 7** provides the percent reductions for **headboat vessel** limits of 20, 40 and 60-fish per trip with the three different bag limit options.

Table 6. The percent change in Red Porgy **private and charter landings** for each potential vessel limit and bag limit combination. Note that the combined percent change is weighted by the contribution of each mode's landings to overall Red Porgy landings. Green cells indicate a small decrease while red cells indicate a larger decrease in predicted landings.

Vessel Limit	18-fish			12-fish			6-fish		
Bag Limit	**3-fish**	**2-fish**	**1-fish**	**3-fish**	**2-fish**	**1-fish**	**3-fish**	**2-fish**	**1-fish**
Charter	-3%	-7%	-16%	-14%	-16%	-24%	-37%	-38%	-40%
Private	<1%	-10%	-32%	<1%	-10%	-32%	-8%	-12%	-32%
Charter & Private Combined	<1%	-10%	-29%	-2%	-11%	-31%	-12%	-16%	-33%

Table 7. The percent change in Red Porgy **headboat** landings for each potential vessel limit and bag limit combination.

Vessel Limit	60-fish			40-fish			20-fish		
Bag Limit	**3-fish**	**2-fish**	**1-fish**	**3-fish**	**2-fish**	**1-fish**	**3-fish**	**2-fish**	**1-fish**
Headboat	-22%	-24%	-34%	-34%	-35%	-41%	-54%	-54%	-57%

- An interactive tool to explore the effect of proposed bad and vessel limits can be accessed here: https://safmc-shinyapps.shinyapps.io/SERO_SG50_DecisionTools/

Summary of Biological Effects:

- Biological benefits would be highest under **Sub-alternative 2a** as a 1-fish bag limit is predicted to result in less harvest. However, given the distribution of the recreational catch and a reduction to the recreational ACL a reduction in the bag limit would have negligible biological benefits to the stock.

- If the proposed bag limit reductions were to increase discarding of Red Porgy, however, biological effects on the stock could be negative.

Summary of Economic Effects:

- Anglers tend to land two or fewer Red Porgies on a single trip. Retaining the current bag limit or setting vessel limits that allow more than an average of 2 fish per person (**Sub-alternatives 3c** and **4c**) are expected to have minimal economic effects on a trip.

- Reducing the bag limit at 1 fish per person (**Sub-alt 2b**) or implementing vessel limits that would restrict harvest at or near one fish per day (**Sub-alts 2a**, **3a**, and **4a**) would have noticeably larger negative economic effects on a trip-level.

- Since the revised recreational sector ACL is expected to be fully harvested regardless of a reduction in the bag limit or implementing vessel limits, the total net economic effects are likely similar among the alternatives.

Summary of Social Effects:

- In general, the social effects of modifying the recreational bag or vessel limit would be a trade-off between longer seasons under lower bag limits, and the negative effects on recreational fishing opportunities because the bag limit is too low.

- While **Alternative 2**, **Alternative 3**, and **Alternative 4** would limit recreational fishing opportunities for Red Porgy and change the recreational fishing experience, the season would also likely be longer because the rate of harvest would be slower.

- **Alternative 1 (No Action)** would be the most beneficial in the short-term but could detract from measures to rebuild the Red Porgy stock.

- The most restrictive recreational limits (**Sub-alts 2a**, **3a** and **4a**) may eliminate recreational fishing opportunities for for-hire and private recreational.

- Less restrictive recreational limits (**Sub-alts 2b**, **3c** and **4c** and **Alternative 1**) would improve benefits to the recreational sector and associated businesses but would also substantially shorten the fishing season under a reduced ACL.

Committee Action:

- CONSIDER AP'S FEEDBACK, REVIEW RANGE OF ALTERNATIVES FOR SUB-ACTION 5A, MODIFY AS NECESSARY, AND APPROVE.
- SELECT PREFERRED ALTERNATIVE

Sub-Action 5b. Recreational fishing season

Purpose of Action: To constrain recreational harvest to the proposed recreational ACL and avoid an in-season closure for that sector, the Council is considering establishing a recreational fishing season for Red Porgy in the South Atlantic.

Alternative 1 (No Action). There is no recreational fishing season for Red Porgy. Recreational harvest is allowed year-round until the recreational annual catch limit is met or is projected to be met.

Alternative 2. Establish a recreational fishing season for Red Porgy; harvest would be allowed during **January through April**.

Alternative 3. Establish a recreational fishing season for Red Porgy; harvest would be allowed during **May through June**.

Alternative 4. Establish a recreational fishing season for Red Porgy; harvest would be allowed during **July through August**.

Discussion:

- An interactive tool to explore the effect of a proposed recreational season can be accessed here: https://safmc-shinyapps.shinyapps.io/SERO_SG50_DecisionTools/

Summary of Biological Effects:

- **Alternative 1 (No Action)** and **Alternative 2** could impart adverse biological effects to spawning Red Porgy. Red Porgy spawn from January through May and spawning activity peaks from January through March. However, recreational landings on average are highest in the summer months.

- **Alternatives 3** and **4** would allow harvest of Red Porgy during one MRIP wave. These two sub-alternatives would allow fishing during months of highest recreational fishing effort, highest predicted Red Porgy landings, and could reduce regulatory discards.

- **Alternatives 3** and **4** would also prohibit harvest during the Red Porgy spawning season, thus protecting spawning fish.

Summary of Economic Effects:

- **Alternative 1 (No Action)** can help ensure that the ACL is harvested each year and all associate economic benefits from that harvest to recreational anglers is incurred.

- Establishing a fishing season helps increase predictability of the time period in which harvest would be allowed thus creating economic benefit if harvest during the spawning season is curtailed (**Alternatives 3** and **4**).

- There is the potential for **Alternatives 2**, **3**, and **4** to have lower economic benefits than **Alternative 1 (No Action)** if the ACL is not fully harvested during the established season.

Summary of Social Effects:

- Generally, access to Red Porgy for recreational participants will depend on the season length specified. **Alternative 2** proposes a four-month season, while **Alternatives 3** and **4** propose two-month seasons. However, recreational participation in the Red Porgy portion of the snapper grouper fishery has been historically low during January-April.

- **Alternatives 3** and **4** would allow access when participation has been highest and prohibit harvest during the Red Porgy spawning season. These alternatives would contribute to rebuilding goals and the sustainability of the stock and impart long-term social benefits.

Committee Action:

- CONSIDER AP'S INPUT, REVIEW RANGE OF ALTERNATIVES FOR SUB-ACTION 5B, MODIFY AS NECESSARY, AND APPROVE.
- SELECT PREFERRED ALTERNATIVE

Action 6. Modify Red Porgy Recreational Accountability Measures

Purpose of Action: Because of the needed reduction in catch levels, the Council is considering a revision to the recreational accountability measure (AM) that would be more effective than the current AM in keeping catch at the proposed recreational ACL. In addition, the trigger for the AM may be revised through this action.

Note that language of alternatives has been simplified for discussion.

Alternative 1 (No Action).
In-Season:
If landings reach or are projected to reach the recreational ACL:

- Close harvest of Red Porgy for the remainder of the fishing year, regardless of stock status, unless NMFS determines that no closure is necessary based on BSIA.

Post-Season:
If landings exceed the recreational ACL:

- Monitor landings for a persistence in increased landings during the following fishing year.

If landings exceed the total ACL and Red Porgy are overfished:

- Reduce the length of the recreational fishing season and the recreational ACL by the amount of the recreational overage.

Alternative 2. NMFS will announce the recreational fishing season start and end dates each year. The fishing season will start on (Council selected date) and end when NMFS projects the recreational ACL will be met.

Alternative 3.
Trigger when ACL does not change from year to year:

- Use a single year of landings, beginning with the most recent year available, then a two-year average, then a three-year average, and thereafter a progressive running three-year average to trigger the recreational accountability measure.

Trigger when ACL changes annually:

- If the arithmetic mean (**Sub-alternative 3a**[1]) or the geometric mean (**Sub-alternative 3b**[2]) of landings exceeds the recreational ACL:

[1] The arithmetic mean is calculated by adding the values of a set of numbers and then dividing the sum by the number of values in the set.
[2] The geometric mean is calculated by multiplying the values of a set of numbers and then taking the n^{th} root of the product, where n is equal to the number of values in the set.

AM: Reduce the length of the following season by the amount necessary to prevent the recreational ACL from being exceeded the following fishing year (unless NMFS determines that it is not necessary).

Discussion:

- Announcing the recreational season in the same year (**Alternative 2**) increases the administrative burden to the agency by requiring an in-season package annually.

- If a recreational season is specified under **Sub-action 5b** and the Council retains the current recreational AM (similar to blueline tilefish and snowy grouper), an action to revise the AM may not be needed in this amendment.

- **Alternative 3** proposes two ways to apply the AM: when the ACL changes from year to year and when the ACL remains constant (does not change from year to year). Per Action 2, the recreational ACL would change every year until 2026 and remain constant thereafter until modified.

- **Alternative 3** would likely have the least likelihood of being triggered. Depending on landings and whether a change to the sector ACL is put in place, this alternative could delay the AM from being implemented for several years, allowing the recreational sector to exceed its ACL in a single year. There is also no safeguard in place to prevent the total ACL from being exceeded for more than one year.

Summary of Biological Effects:

- **Alternative 1 (No Action)** includes an in-season AM and thus provides added protection against ACL overages than **Alternative 3**. However, the post-season AM to correct for an overage, should one occur, would be delayed by one year.

- The AM proposed under **Alternative 2** is currently in place for South Atlantic Black Sea Bass and has been successful at keeping the recreational sector to the ACL. In other fisheries, such as Gulf of Mexico recreational Red Snapper, this approach has shown the potential to lead to a derby mentality. However, because Red Porgy appears to be an incidentally harvested species, this derby mentality may not be realized in the South Atlantic.

- **Alternative 3** be the least likely to be triggered, as it uses a three-year mean that would reset when the sector ACL is changed.

Summary of Economic Effects:

- **Alternative 1 (No Action)** is the most stringent of the AMs being considered, thus it would likely result in the greatest potential for short-term negative economic effects but long-term economic benefits.

- **Alternative 2** would limit overall harvest of Red Porgy but could result in economic benefits that mitigate the short-term cost of the AM itself by allowing more time to adjust

to the changing harvest regulations. This could accelerate rebuilding of the Red Porgy stock which would result in long-term economic benefits.

- **Alternative 3** could result in short-term economic benefits for the recreational sector and long-term potential economic costs to fishery participants.

- Both **Sub-alternative 3a** and **3b** use three-year timelines for triggering an AM which could help mitigate the likelihood of a restrictive AM being put in place due to anomalies in the recreational data and would also allow the fishery to potentially continue to operate after a single year of particularly high landings that revert to long-term average levels the following year.

- Under **Alternative 3**, since there is no in-season AM to prevent or slow down landings in excess of the sector ACL or total ACL, there is the potential that a single year of extremely high recreational landings could influence the arithmetic mean (**Sub-Alternative 3a**), or to a lesser extent the three-year geometric mean (**Sub-Alternative 3b**) in such a way that a shortened recreational season would remain in place for multiple years until these long-term metrics would revert below the threshold for the AM trigger. Such a scenario, would lead to negative economic effects for the recreational sector relative to **Alternative 1 (No Action)**.

- In terms of potential short-term negative economic effects to the recreational sector, **Alternative 1 (No Action)** would have the highest potential negative economic effects, followed by **Alternative 2**, **Sub-alternative 3a**, and **Sub-alternative 3b**.

Summary of Social Effects:

- Reducing the season length (**Alternative 1 (No Action)** and **Alternative 3**) is anticipated to result in direct negative social effects associated with loss of access to the resource.

- Under **Alternative 2**, while the end date for the recreational season could shift each year, announcing at the beginning of the season would allow private anglers and for-hire businesses to plan their activities in advance.

- **Alternative 3** would modify the AM and the AM trigger. The AM trigger itself should not have any negative social effects but could impose negative effects indirectly if the trigger initiates management action that is unnecessary at the time or delays management action when it is necessary.

Committee Action:

- REVIEW RANGE OF ALTERNATIVES, MODIFY AS NECESSARY, AND APPROVE.
- SELECT PREFERRED ALTERNATIVE

- RECOMMEND APPROVAL FOR PUBLIC HEARINGS.

- PROVIDE GUIDANCE WHETHER VIA WEBINAR IN JULY OR AUGUST OR DURING THE SEPTEMBER 2021 COUNCIL MEETING