

Amendment 51 to the Snapper Grouper Fishery Management Plan of the South Atlantic Region

Catch Level Adjustments and Allocations for Snowy Grouper



Public Hearing Document
September 2022

Background

The update to SEDAR 36 was completed in 2020. This assessment included revised estimates for recreational catch from the Marine Recreational Information Program (MRIP) based on the Fishing Effort Survey (FES). The assessment showed that the South Atlantic snowy grouper stock is overfished and is experiencing overfishing. The Council received the results of the assessment and the Scientific and Statistical Committee's (SSC) catch level recommendations in March 2021 and began work on a plan amendment to adjust catch levels.

NMFS notified the Council on June 10, 2021, that management action is necessary for snowy grouper as the stock is undergoing overfishing and remains overfished. NMFS recommended

that the Council end overfishing of snowy grouper and continue stock rebuilding based on the results of SEDAR 36 Update.

Assessment Link: http://sedarweb.org/docs/suar/2020_SEDAR36U_SAR_November2020.pdf

Fishery Overview: https://safmc-shinyapps.shinyapps.io/SA_FisheryDataSnowyGrouper/

Table 1. Summary of the assessment, rebuilding plan, and amendment milestone history.

Background Overview		
SEDAR History	Stock Status	
Assessment	Overfished	Overfishing
SEDAR 4 (2006)	X	X
SEDAR 36 (2013)	X	
SEDAR 36 Update (2020)	X	X
Current Rebuilding Plan		
Timeframe	Terminal Year	
34 yrs.	2039	
Amendment Action Schedule		
Assessment results reviewed	Mar-21	
Direction to start Amendment	Mar-21	
NMFS Letter Received	June 10 th , 2021	

Proposed management changes in this amendment

- Adjust catch levels (acceptable biological catch and annual catch limit) and revise annual optimum yield
- Revise sector allocations
- Modify the recreational season
- Modify the recreational accountability measures

Tentative amendment timing

March 2021	Reviewed SEDAR 36 Update results and direct staff to begin a plan amendment
September 2021	Review options paper and provide guidance to staff
October 2021	Obtain input from AP

December 2021	Review AP comments, review preliminary analyses, and approve for scoping
March 2022	Review scoping comments and make needed modifications
April 2022	Obtain input from AP
June 2022	Review modifications to the amendment, AP comments, select preferred alternatives, and approve for public hearings
July/August 2022	Conduct public hearings
September 2022	Review public hearing comments and approve all actions
December 2022	Review final draft amendment and consider approval for formal review

Council action at previous meeting

- **Purpose and Need:** Accepted the addition of OFL in the Purpose statement
- **Action 3 (Commercial trip limit):** Moved action to the Considered but Rejected Appendix
- **Action 4 (Recreational Season):** Selected Alternative 2 (May 1- Jun 30) as the preferred alternative
- **Action 5 (Recreational Accountability Measures):** Selected Alternative 3 (no in-season closure, uncoupling post season AM from total ACL) as the preferred alternative
- Approved the amendment for public hearings with the plan of two webinar hearings and an in-person hearing during the September Council meeting

Purpose and Need Statements

The *purpose* of this fishery management plan amendment is to set an overfishing limit, acceptable biological catch level, revise the annual catch limits, annual optimum yield, and sector allocations for South Atlantic snowy grouper based on the results of the most recent stock assessment and modify recreational management measures and accountability measures.

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

Proposed Actions

1. Revise the overfishing limit, acceptable biological catch, annual catch limit and annual optimum yield for snowy grouper to reflect the new overfishing limit and updated acceptable biological catch recommendations

Purpose of Action

The snowy grouper total annual catch limit (ACL) is being revised to incorporate the new acceptable biological catch (ABC) recommendations of the SSC, based on the SEDAR 36 (2020) stock assessment, as well as the updated recreational landings from the Marine Recreational Information Program’s (MRIP) Fishing Effort Survey (FES).

Alternative 1 (No Action). The total annual catch limit and annual optimum yield for snowy grouper are **equal to the current** acceptable biological catch level (218,848 pounds whole weight, 185,464 pounds gutted weight). The current acceptable biological catch and overfishing limit are inclusive of recreational estimates from the Marine Recreational Information Program’s Coastal Household Telephone Survey.

Preferred Alternative 2. The total annual catch limit and annual optimum yield for snowy grouper is equal to the **updated** acceptable biological catch level. The updated acceptable biological catch level and overfishing limit are inclusive of recreational estimates from the Marine Recreational Information Program’s Fishing Effort Survey.

Alternative 3. The total annual catch limit and annual optimum yield for snowy grouper is equal to 95% of the updated acceptable biological catch level. The updated acceptable biological catch level and overfishing limit are inclusive of recreational estimates from the Marine Recreational Information Program’s Fishing Effort Survey.

Alternative 4. The total annual catch limit and annual optimum yield for snowy grouper is equal to 90% of the updated acceptable biological catch level. The updated acceptable biological catch and overfishing limit are inclusive of recreational estimates from the Marine Recreational Information Program’s Fishing Effort Survey.

Table 2. ACL, OY, and ABC options of proposed **Action 1**.

Options	ABC, total ACL, annual OY	Recreational landings data used
Alternative 1 (No Action)	ACL=OY=current ABC	MRIP-CHTS
Preferred Alternative 2	ACL=OY=updated ABC	MRIP-FES
Alternative 3	ACL=OY=95% updated ABC	MRIP-FES
Alternative 4	ACL=OY=90% updated ABC	MRIP-FES

Table 3. The total ACL for snowy grouper under **Alternatives 1 (No Action) – 4** in gutted weight

Option	Pounds Gutted Weight			
	2023	2024	2025	2026*
Alternative 1 (No Action)**	185,464	185,464	185,464	185,464
Preferred Alternative 2***	119,654	121,272	122,889	122,889
Alternative 3***	113,956	115,208	116,745	116,745
Alternative 4***	107,959	109,145	110,600	110,600

Discussion:

- When compared to the average total landings from 2015-2019 (lbs gw, inclusive of MRIP FES recreational landings), the proposed ACLs for 2023 through 2027 from **Preferred Alternative 2** are roughly 60,000 lbs gw below average total landings (**Figure 2**).

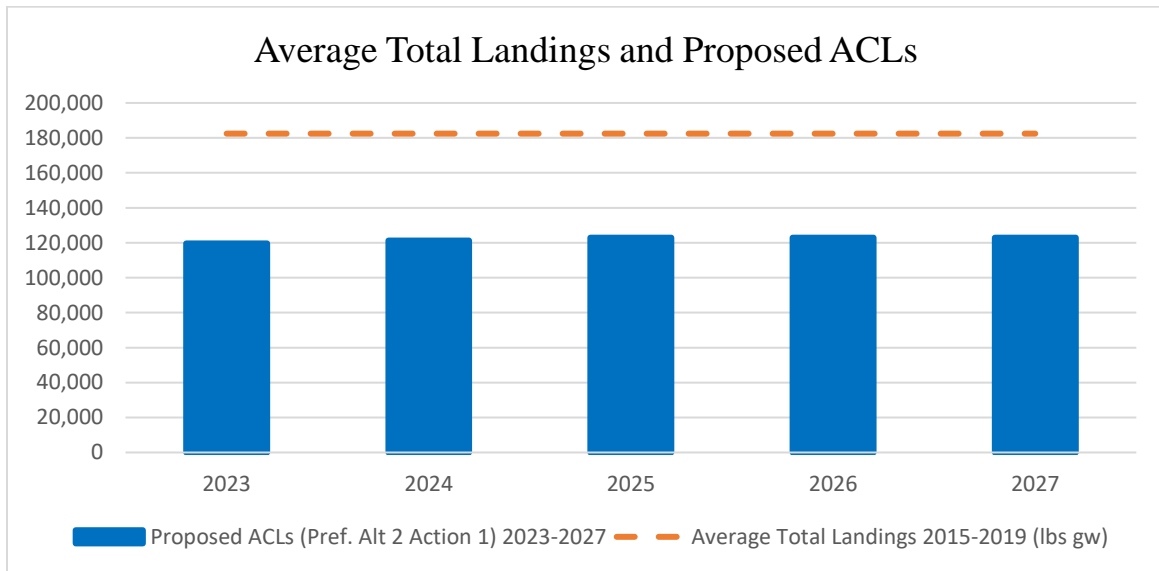


Figure 2. The comparison of the average total snowy grouper landings (inclusive of MRIP recreational MRIP FES landings) from 2015-2019 (orange) and the proposed ACLs (2023-2027) under **Preferred Alternative 2** for **Action 1** (blue).

- Historically, commercial landings have been higher than recreational landings, however in recent years commercial landings have decreased closer to recreational landings (**Figure 3**).

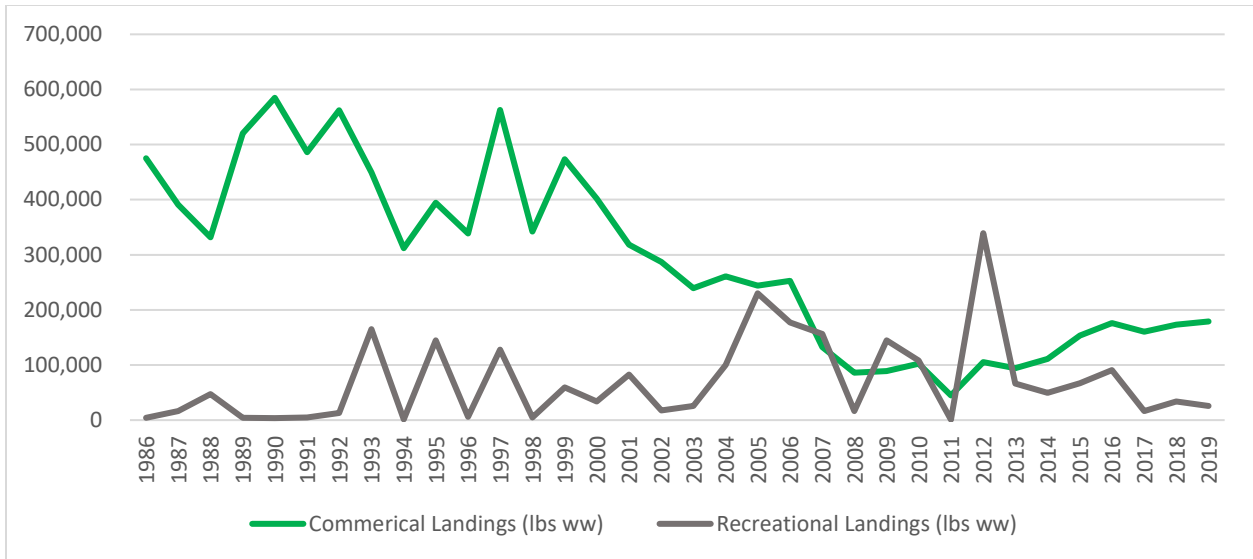


Figure 3. Commercial (green) and recreational MRIP FES (gray) landings in pounds whole weight from 1986 to 2019.

Summary of Biological Effects:

- Ranking (highest potential biological benefit to lowest):
 1. **Alternative 4**
 2. **Alternative 3**
 3. **Preferred Alternative 2**
- Additional considerations:
 - **Alternative 1 (No Action)** is not a viable alternative.
 - Lower total ACLs (**Alternative 3** and **Alternative 4**) could result in increased regulatory discards.
 - Lower ACLs (**Preferred Alternative 2**) could result in earlier closures, however both sectors currently have AMs in place.

Summary of Economic Effects:

- Ranking (highest potential economic benefit to lowest):
 1. **Preferred Alternative 2**
 2. **Alternative 3**
 3. **Alternative 4**
- Additional considerations:
 - ACLs that allow more fish to be landed can result in increased positive economic effects if harvest increases without notable effects on the stock.
 - **Preferred Alternative 2** is estimated to result in a decrease in net economic benefit for both sectors due to a decrease in harvest from current levels.

Summary of Social Effects:

- Ranking (highest potential social benefit to lowest):
 1. **Preferred Alternative 2**

2. **Alternative 3**
 3. **Alternative 4**
- Additional considerations:
 - The ACL of a stock does not have a direct social effect, rather the likelihood of the ACL being exceeded, and the AM being triggered is what would have an effect.
 - In general, a higher ACL would lower the chance of an AM being triggered.

2. Revise sector allocations and sector annual catch limits for snowy grouper

Purpose of Action

Allocations need to be reviewed since the recreational landings stream changed in the new assessment (SEDAR 36). Recreational landings are now estimated using data from the Fishing Effort Survey (FES) rather than the Coastal Household Telephone Survey (CHTS).

Alternative 1 (No Action). Retain the current commercial sector and recreational sector allocations as 83% and 17%, respectively, of the revised total annual catch limit for snowy grouper.

Preferred Alternative 2. Allocate 87.55% of the revised total annual catch limit for snowy grouper to the commercial sector and 12.45% of the revised total annual catch limit for snowy grouper to the recreational sector.

Alternative 3. Allocate 73.36% of the revised total annual catch limit for snowy grouper to the commercial sector and 26.64% of the revised total annual catch limit for snowy grouper to the recreational sector.

Table 5. Allocation alternatives for proposed **Action 2**. Sector ACLs are based on the Total ACL from Preferred Alternative 2 for Action 1.

Option	Commercial/recreational allocation	Basis for allocation
Alternative 1 (No Action)	83%/17%	Average landings from 1986-2005 used in Reg. Amendment 20 that incorporated CHTS recreational landings
Preferred Alternative 2	87.55%/12.45%	Updated Average landings from 1986-2005 incorporating MRIP FES recreational landings
Alternative 3	73.36%/26.64%	Comp ACL Amendment Allocation Formula that uses $(0.5 * \text{landings from 1986 to 2008}) + (0.5 * \text{landings from 2006 to 2008})$.

Table 6. The commercial and recreational sector allocations for snowy grouper based on Preferred Alternative 2 for Action 1. Recreational allocations in numbers of fish were determined using an average weight from 2016-2018 from SEDAR 36 Update (8.93 lbs gw). The commercial season is split into two seasons: Season 1 (January 1 – June 30) receives 70% of the total ACL; Season 2 (July 1 – December 31) receives 30% of the total ACL. *The 2026 ACL would remain in place until modified.

Year	Total ACL (lbs gw)	Commercial ACL (lbs gw)			Recreational ACL (numbers of fish)
		Total	Season 1	Season 2	
Alternative 1 (No Action), 83% commercial/ 17% recreational					
2023	119,654	99,313	69,518	29,794	2,278
2024	121,272	100,656	70,459	30,197	2,309
2025	122,889	101,999	71,399	30,599	2,339
2026*	122,889	101,999	71,399	30,599	2,339
Alternative 2, 87.55% commercial/ 12.45% recreational					
2023	119,654	104,757	73,330	31,427	1,668
2024	121,272	106,174	74,322	31,852	1,691
2025	122,889	107,589	75,313	32,277	1,713
2026*	122,889	107,589	75,313	32,277	1,713
Alternative 3, 73.36% commercial/ 26.64% recreational					
2023	119,654	87,778	61,445	26,333	3,570
2024	121,272	88,965	62,276	26,690	3,618
2025	122,889	90,151	63,106	27,045	3,666
2026*	122,889	90,151	63,106	27,045	3,666

Discussion:

- The commercial sector has been consistently harvesting at or above the sector ACL. The recreational sector has been harvesting below its current ACL but will likely be restricted by the new sector ACL under all alternatives.
- When compared to the average commercial landings from 2015-2019 (lbs gw) the proposed commercial ACLs for 2023 through 2027 from **Preferred Alternative 2** are roughly 32,000 lbs gw below average landings (**Figure 4**).

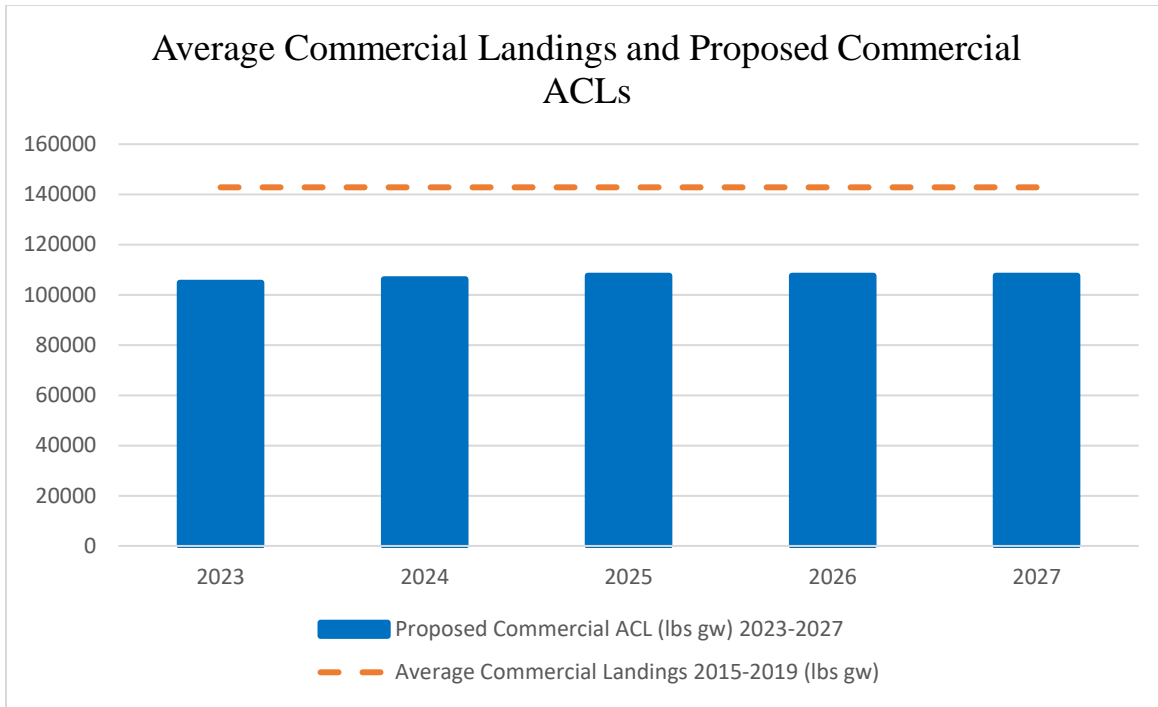


Figure 4. Average commercial landings (lbs gw) from 2015-2019 (orange) compared to the proposed commercial ACLs (blue) from **Preferred Alternative 2** from **Action 2**. Note that the updated commercial ACL is the total ACL for both season 1 and season 2.

- When compared to the average recreational landings from 2015-2019 (numbers of fish calibrated to FES) the proposed recreational ACLs for 2023 through 2027 from **Preferred Alternative 2** are roughly 3,300 fish below average landings (**Figure 5**).

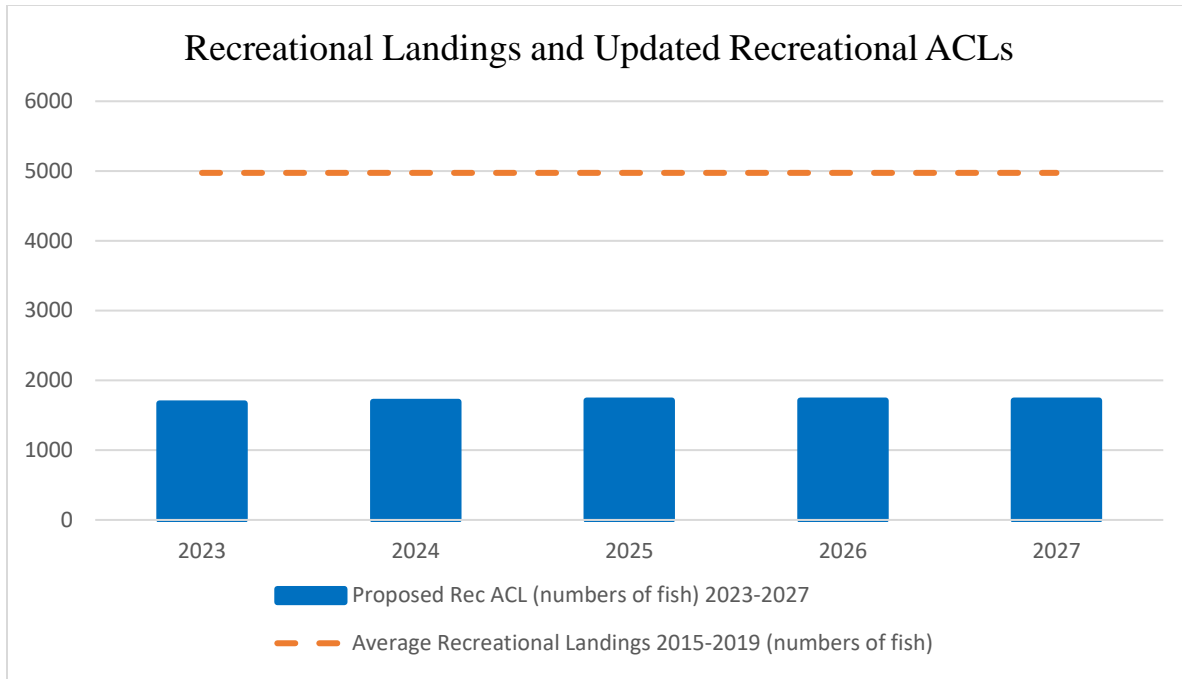


Figure 5. Average recreational landings (numbers of fish calibrated to FES) from 2015-2019 (orange) compared to the proposed recreational ACLs (blue) from **Preferred Alternative 2** from **Action 2**.

Summary of Biological Effects:

- Ranking (highest potential biological benefit to lowest): **Alternative 1 (No Action)**, **Preferred Alternative 2**, and **Alternative 3**. No significant biological difference between alternatives expected.
- Additional things to consider:
 - When considering discards, any sector that receives a lower sector ACL could have increased discards. **Preferred Alternative 2** decreases the sector ACL for the recreational sector so recreational discards could increase.

Summary of Economic Effects:

- Commercial Ranking (highest potential commercial economic benefit to lowest):
 1. **Preferred Alternative 2**
 2. **Alternative 1 (No Action)**
 3. **Alternative 3**
- Additional considerations:
 - All of the commercial ACLs will be constraining harvest based on 5-year average landings.
- Recreational Ranking (highest potential recreational economic benefit to lowest):
 1. **Alternative 3**
 2. **Alternative 1 (No Action)**
 3. **Preferred Alternative 2**
- Additional considerations:

- All of the recreational ACLs will be constraining harvest based on 5-year average landings.
- Total estimated net economic ranking (highest potential of net economic benefits to lowest):
 1. **Alternative 3**
 2. **Alternative 1 (No Action)**
 3. **Preferred Alternative 2**

Summary of Social Effects:

- Commercial Ranking (highest social benefit to lowest):
 1. **Preferred Alternative 2**
 2. **Alternative 1 (No Action)**
 3. **Alternative 3**
- Recreational Ranking (highest social benefit to lowest):
 1. **Alternative 3**
 2. **Alternative 1 (No Action)**
 3. **Preferred Alternative 2**

3. Modify the snowy grouper recreational season

Purpose of Action

An approximately 43% reduction in harvest is needed to achieve the updated catch levels for snowy grouper. Modifications to the recreational season are being considered to help constrain recreational harvest to these reduced catch levels.

Alternative 1 (No Action). The recreational snowy grouper season is May 1 to August 31.

Preferred Alternative 2. The recreational snowy grouper season is May 1 to June 30.

Alternative 3. The recreational snowy grouper season is July 1 to August 30.

Table 7. A summary of the alternatives for **Action 4**. Recreational harvest would be *open* during these times.

Alternative	Season Waves	Season Dates
Alternative 1 (No Action)	waves 3 and 4	May 1 - August 31
Preferred Alternative 2	wave 3 only	May 1 - June 30
Alternative 3	wave 4 only	July 1 - August 31

Discussion:

- The current recreational season for snowy grouper is May 1st through August 31st and recreational harvest is limited to one snowy grouper per vessel per day.
- The annual recreational landings of snowy grouper have been less than 10,000 fish every year from 2010 to 2019 except 2012 when landings were over 60,000 fish¹.
- It was noted in Regulatory Amendment 20 (2015) that most recreational landings, particularly in Monroe County, FL, occurred in May or June. An analysis of recent 3 years (2017-2019) of MRIP FES landings follow this trend with the exception of 2018 when recreational landings were highest in July and August. Projected landings are expected to peak in May and August (**Figure 6**).

¹ Note that the SERO ACL Monitoring webpage does not include snowy grouper landings from Monroe County, FL which were included in the landings stream as part of SEDAR 36 (2013) and SEDAR 36 Update (2020).

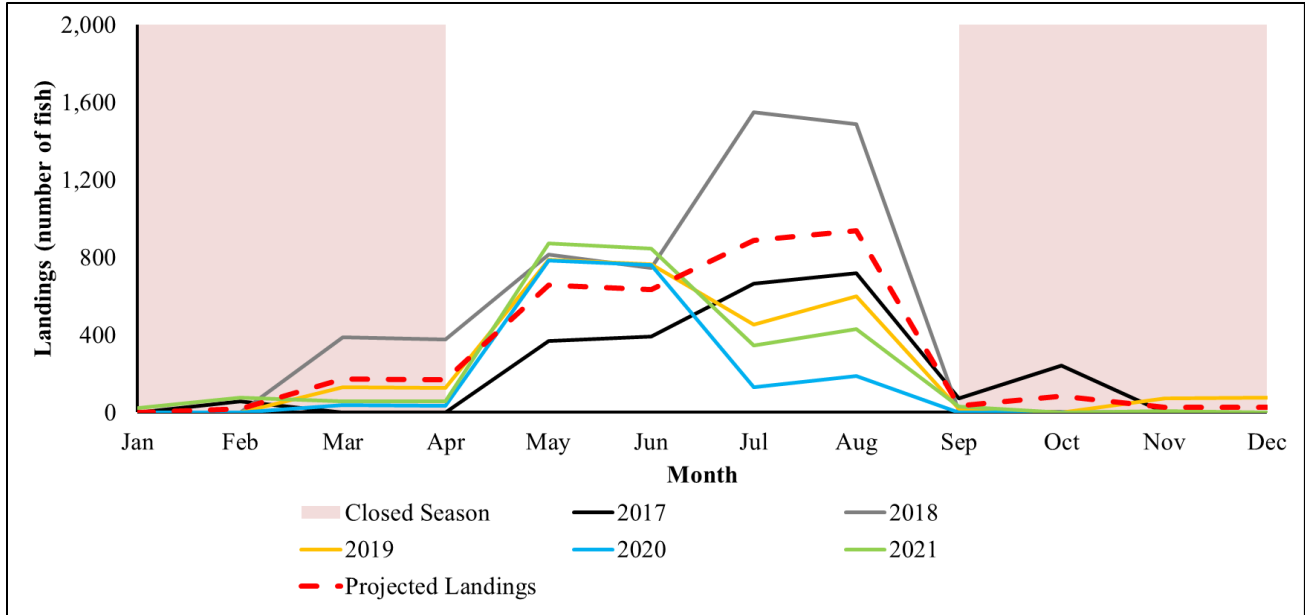


Figure 6. South Atlantic snowy grouper recreational landings by month from 2017-2019 and projected landings. All of the landing projections assume no landings between January 1 - April 30 and September 1 – December 31 for the season closure. Source: SEFSC MRIP FES Recreational ACL Database [March 17, 2022].

Summary of Analyses:

- A preliminary analysis of the recreational season was conducted using landings from 2015-2019 and 2017-2019 (**Table 8**). Based on these landings a predicted season length was determined for Preferred Alternative 2 from Action 2 (**Table 9**). See Appendix G for full range of alternatives from Action 2.
- Because of the variability and uncertainty of the recreational landings data, season lengths vary depending on which historical range is analyzed.

Table 8. Average number of snowy grouper landed by the recreational sector by wave from the South Atlantic based on a three-year average (2017 to 2019) and a five-year average (2015 to 2019). Landings include trips reported from Monroe County, FL. The confidence interval was developed based on the standard deviation of the three years.

Three-year Average (2017-2019)			
Wave	Average	Confidence Interval	Average Number Per Month
Jan-Feb	20	0 - 598	10
Mar-Apr	342	0 - 806	11
May-Jun	1,290	0 - 3,120	645
Jul-Aug	1,824	938 - 2,710	912
Sep-Oct	116	0 - 270	58
Nov-Dec	0	0 - 126	0
Five-year Average (2015-2019)			
Wave	Average	Confidence Interval	Average Number Per Month
Jan-Feb	351	0 - 1,372	176
Mar-Apr	395	0 - 1,256	198
May-Jun	2,354	0 - 5,520	1,177
Jul-Aug	1,674	138 - 3,210	837
Sep-Oct	45	0 - 230	23
Nov-Dec	30	0 - 163	15

Table 9. The projected South Atlantic snowy grouper recreational landings (number of fish) and closure dates expected for each alternative of Action 4 using a **three-year (2017-2019)** and **five-year (2015-2019) average** recreational landings baseline. **The recreational ACL options considered here assume sector allocations of 12.45% recreational and 87.55% commercial (Preferred Alternative 2 of Action 2).** Source: SEFSC MRIP FES Recreational ACL Database [March 17, 2022].

Alternative 1 (No Action): May 1 – August 31			
Year	Recreational ACL (numbers of fish)*	3-Year Average Baseline	5-Year Average Baseline
		Waves Open	Waves Open
2023	1,668	> 2 waves (aprx. 74 days)	< 1 wave (aprx. 43 days)
2024	1,691	> 2 waves (aprx. 74 days)	< 1 wave (aprx. 43 days)
2025	1,713	> 2 waves (aprx. 75 days)	< 1 wave (aprx. 44 days)
2026	1,713	> 2 waves (aprx. 75 days)	< 1 wave (aprx. 44 days)
Alternative 2: Wave 3 Option (May 1 – June 30)			
Year	Recreational ACL (numbers of fish)*	3-Year Average Baseline	5-Year Average Baseline
		Waves Open	Waves Open
2023	1,668	~ 1 wave (aprx. 61 days)	< 1 wave (aprx. 43 days)
2024	1,691	~ 1 wave (aprx. 61 days)	< 1 wave (aprx. 43 days)
2025	1,713	~ 1 wave (aprx. 61 days)	< 1 wave (aprx. 44 days)
2026	1,713	~ 1 wave (aprx. 61 days)	< 1 wave (aprx. 44 days)
Alternative 3: Wave 4 Option (July 1 – Aug 31)			
Year	Recreational ACL (numbers of fish)*	3-Year Average Baseline	5-Year Average Baseline
		Waves Open	Waves Open
2023	1,668	slightly < 1 wave (aprx. 56 days)	~ 1 wave (aprx. 60 days)
2024	1,691	slightly < 1 wave (aprx. 57 days)	~ 1 wave (aprx. 61 days)
2025	1,713	slightly < 1 wave (aprx. 58 days)	~ 1 wave (aprx. 61 days)
2026	1,713	slightly < 1 wave (aprx. 58 days)	~ 1 wave (aprx. 61 days)

Summary of Biological Effects:

- Ranking (highest potential biological benefit to lowest):
 1. **Preferred Alternative 2** and **Alternative 3** (same season lengths)
 2. **Alternative 1 (No Action)**
- Additional considerations:
 - A shorter season would result in a decrease in fishing mortality and therefore greater biological benefit.
 - From 2015-2019 landings were highest May through August.
 - A shorter season could result in higher discards, especially as fishermen continue to target blueline tilefish.

Summary of Economic Effects:

- Ranking (highest potential economic benefit to lowest):
 1. **Alternative 1 (No Action)**
 2. **Preferred Alternative 2** and **Alternative 3**

- Additional considerations:
 - A longer recreational season leads to increased economic benefits.
 - If the ACL is not fully harvested it can lead to fewer short-term economic benefits.

Summary of Social Effects:

- Ranking (highest potential social benefit to lowest):
 - 1. Alternative 1 (No Action)**
 - 2. Preferred Alternative 2 and Alternative 3**
- Additional considerations:
 - A longer season provides greater short-term social benefits, but biological benefits to a shorter season provide long-term social benefits.
 - Social benefits will vary among different communities based on participation in the fishery.

4. Modify the snowy grouper recreational accountability measures

Purpose of Action

Due to the needed reduction in catch levels, the Council is considering a revision to the recreational accountability measures (AMs). In addition, the trigger for the AMs may be revised through this action.

Alternative 1 (No Action). If recreational landings reach or are projected to reach the recreational annual catch limit, recreational harvest of snowy grouper is closed for the remainder of the fishing year, regardless of stock status, unless National Marine Fisheries Service determines that no closure is necessary based on the best scientific information available.

If recreational landings exceed the recreational annual catch limit, then during the following fishing year recreational landings will be monitored for a persistence in increased landings. If the total annual catch limit is exceeded and snowy grouper are overfished, the length of the recreational fishing season and the recreational annual catch limit are reduced by the amount of the recreational annual catch limit overage.

Alternative 2. For the snowy grouper recreational sector, National Marine Fisheries Service will annually announce the recreational fishing season start and end dates in the *Federal Register* and by other methods, as deemed appropriate. The fishing season will start on **(date)** and end on the date National Marine Fisheries Service projects the recreational annual catch limit will be met.

Preferred Alternative 3. Remove the current recreational in-season accountability measures. If recreational landings exceed the recreational annual catch limit, reduce the length of the following year's recreational fishing season by the amount necessary to prevent the recreational annual catch limit from being exceeded in the following year. However, the length of the recreational season will not be reduced if the Regional Administrator determines, using the best scientific information available, that it is not necessary.

Alternative 4. Retain the current recreational in-season accountability measures. If recreational landings exceed the recreational annual catch limit, reduce the length of the following year's recreational fishing season by the amount necessary to prevent the recreational annual catch limit from being exceeded in the following year. However, the length of the recreational season will not be reduced if the Regional Administrator determines, using the best scientific information available, that it is not necessary.

Table 14. A summary of accountability measures within each alternative for **Action 4**.

	In-Season AM		Post Season AM	
	Triggers	AM	Triggers	AM
Alternative 1 (No Action)	Recreational landings reach/projected to reach recreational ACL	Current recreational season closes	<ul style="list-style-type: none"> • Recreational landings exceed recreational ACL • Total ACL exceeded • Stock is overfished <p><i>*All 3 must occur for AM to take effect</i></p>	<ul style="list-style-type: none"> • Recreational ACL for the following year reduced by the recreational overage • Recreational season for the following year is reduced by the amount of the recreational overage
Alternative 2	NMFS will annually announce the recreational fishing season start and end dates			
Alternative 3	NONE		<p>Recreational landings exceed recreational ACL</p> <p><i>*no longer tied to total ACL and stock status</i></p>	<p>Recreational season for the following year is reduced by the amount necessary to prevent the recreational ACL from being exceeded</p>
Alternative 4	Recreational landings reach/projected to reach recreational ACL	Current recreational season closes	<p>Recreational landings exceed recreational ACL</p> <p><i>*no longer tied to total ACL and stock status</i></p>	<p>Recreational season for the following year is reduced by the amount necessary to prevent the recreational ACL from being exceeded</p>

Discussion:

- Snowy grouper currently has a recreational in-season accountability measure; however, this is not effective for constraining recreational landings to the ACL due to the relatively short season length and timeline of recreational data availability. Amendment 52, which is currently in development, has selected a preferred alternative that retains the in-season closure for blueline tilefish, similar to **Alternative 4**.
- For clarification, does the Council intend to remove the current AMs completely in **Alternative 2**?

Summary of Biological Effects:

- Ranking (highest potential biological benefit to lowest): It is difficult to rank these alternatives as they all contain attributes that would lead to biological benefits and adverse effects.
 - Alternative 1 (No Action):** has both an in-season and post-season AM but may not be most effective for a short recreational season.
 - Alternative 2:** would be functional for a short season but does not have a payback if the ACL is exceeded.

Preferred Alternative 3: removing the in-season AM could have adverse effects but the post-season would be more effective.

Alternative 4: would retain the in-season closure and adopt the more effective post-season AMs.

- Additional considerations:
 - A functional AM is critical as the AMs are likely to be triggered under updated harvest levels.

Summary of Economic Effects:

- Ranking (highest potential economic benefit to lowest):
 1. **Preferred Alternative 3**
 2. **Alternative 2**
 3. **Alternative 4**
 4. **Alternative 1 (No Action)**
- Additional considerations:
 - The most stringent AMs would likely result in the greatest potential for short-term negative economic effects but long-term benefits.

Summary of Social Effects:

- Ranking (highest potential social benefit to lowest): It is difficult to rank these alternatives as they all contain attributes that would lead to social benefits and adverse effects.

Alternative 1 (No Action): Could lead to inconsistent closure dates through the payback portion of the post season AM, provides long-term benefit of helping to prevent overages and correcting them if they occur.

Alternative 2: Season lengths/dates would vary year to year and would not provide a reopening opportunity, announcement would provide time for recreational fishermen to plan trips.

Preferred Alternative 3: No in-season closure would provide for increase fishing opportunities within the current season however the removal of the two post-season triggers could lead to a variable season year to year if ACL overages occur.

Alternative 4: The in-season closure could result in fewer fishing opportunities within the current fishing. The removal of the two post-season triggers could lead to a variable season year to year if ACL overages occur.
- Additional considerations:
 - Closures and season length/date variability can cause negative social effects, however functional AMs provided long-term social benefits as they help ensure sustainable harvest.

Literature Cited

Matter, Vivian M. and Matthew A. Nuttall. 2020. Recreational Survey Data for Snowy Grouper in the South Atlantic. 2020-SEDAR36U-WP01. SEDAR, North Charleston, SC. 21 pp

Kolmos, K. J., Wyanski, D. M., White, D. B., & Mikell, P. P. (2019). Temporal changes in the life history of Snowy Grouper (*Hyporthodus niveatus*) off North and South Carolina, and factors that influence spawning dynamics. *Fishery Bulletin*, 117(4), 308–321.

<https://doi.org/10.7755/fb.117.4.4>