SSC Reports
March 2022 SAFMC Meeting

SSC Report
Full Council – Session 1
March 2022 SAFMC Meeting

SSC_Oct2021_Report_FINAL.pdf

Report of SSC Meeting
October 27-29, 2021

SSC Recommendations for Comprehensive ABC CR Amendment

1. Remove Classifications 4 and 5 from Level 1 Tier 1. If stock is assessed, it has reliable catch data. See page 10.

Table 3. ABC Control Rule proposed through **Action 1-Alternative 3**. Parenthetical values in Level 1 indicate (1) the maximum adjustment value for a dimension; and (2) the adjustment values for each tier within a dimension.

Level 1 – Assessed Stocks	
Accepted probability of overfishing (P*) initially set by the Council between 30% and 50%. Adjustments below are subtracted from this initial value.	
Tier	**Tier Classification and Methodology to Compute ABC**
1. Assessment Information (10%)	1. Quantitative assessment provides estimates of exploitation and biomass; includes MSY-derived benchmarks. (0%) 2. Reliable measures of exploitation or biomass, no MSY benchmarks, proxy reference points. (2.5%) 3. Relative measures of exploitation or biomass, absolute measures of status unavailable. Proxy reference points. (5%) ~~4. Reliable catch history. (7.5%)*~~ ~~5. Scarce or unreliable catch records. (10%)*~~

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SSC Recommendations for Comprehensive ABC CR Amendment

2. SSC continue to work in collaboration with Council and Advisory Panel members to make any necessary updates to the risk rating scores.
   - Value in transparency
   - Logistics not explicit in amendment
3. Added language to clarify how the risk tolerance P* translates to a probability of rebuilding for overfished stocks (1-P*). See highlighted text on pages 4-6 and 11.

SSC Recommendations for Comprehensive ABC CR Amendment

4. SSC continues to support Alternative 2 because:
   - Biomass and stock risk rating are included in the Council's setting of P*
   - Alternative 3 provides less clear guidelines to justify selection of P*
5. SSC recommends Alternative 2 'alternate' method for scoring risk tolerance:
   - Scoring system would rank all overall risk scores and divide them into equal thirds (to the nearest 0.1)
   - Categorize stocks as high, medium, or low risk.

SSC Recommendations for Comprehensive ABC CR Amendment

6. SSC maintains that scientific uncertainty encompasses both assessment uncertainty and biological uncertainty.
7. All recommendations that the SSC provided in previous meetings remain unchanged.

SSC Report To The Snapper Grouper Committee March 2022 SAFMC Meeting

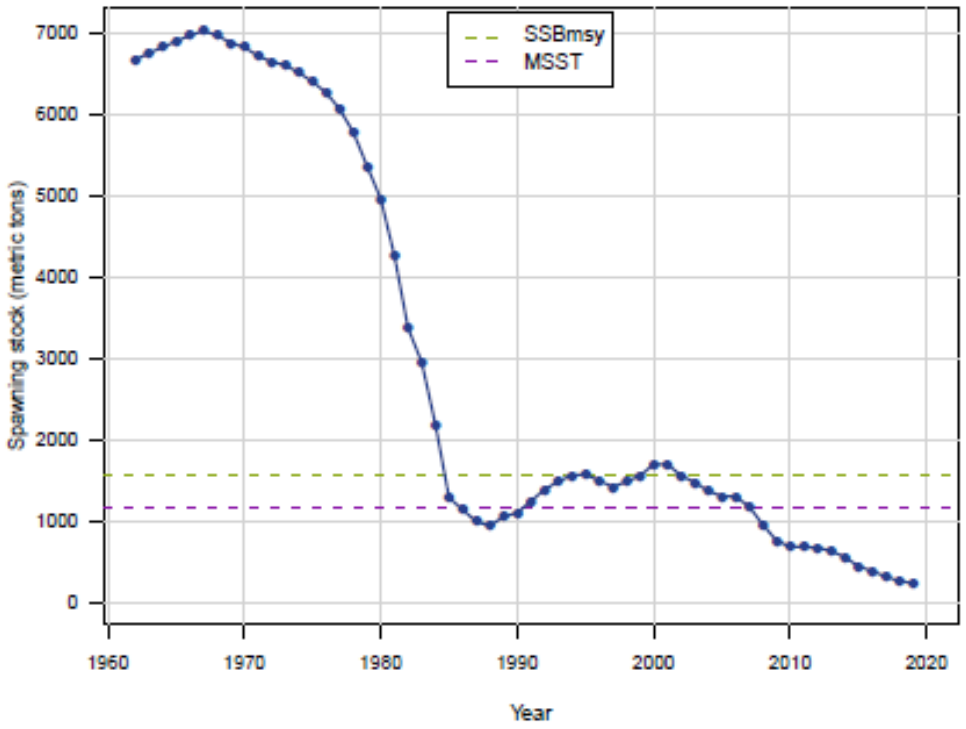
SSC_Feb2022_Report_FINAL.pdf

Report of SSC Meeting
February 11, 2022

SSC Review of SEDAR 71 Gag Grouper Projections

SSC continues to recommend fishing levels be set using a probability of rebuilding ($P_{rebuild}$) = 70%

1. Stock is grossly overfished and undergoing overfishing. SSB_{2019} well below minimum stock size threshold (SSB_{2019}/MSST=0.20).
2. The lower the F target adopted, the greater the chance of rebuilding.



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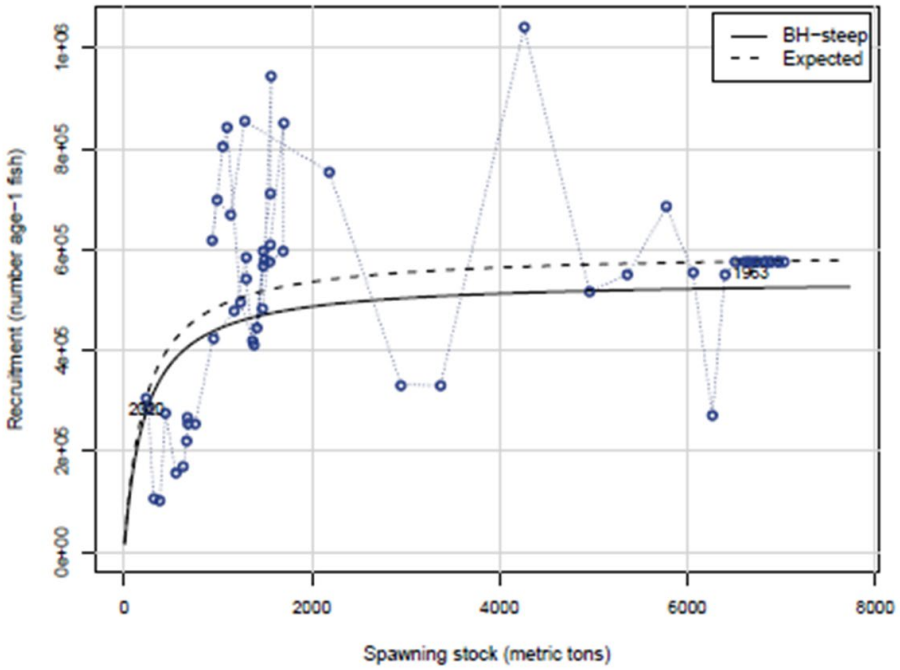
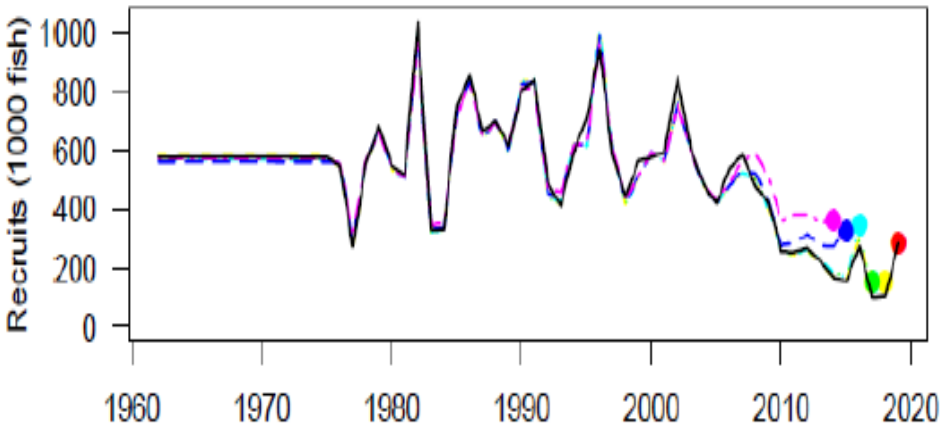
SSC Review of SEDAR 71 Gag Grouper Projections

3. High uncertainty in recruitment
   - Both rebuilding projections ($P_{rebuild}$ = 60% and 70%) reliant upon stock-recruitment relationship being accurate for forecasting future stock productivity.





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SSC Review of SEDAR 71 Gag Grouper Projections

- Essential to monitor and assess gag recruitment from 2021+ to ensure recruitment levels assumed in the projections are actually achieved.
- Changes in regulations to protect larger fecund females or larger males (and/or balanced sex ratios) could help to increase the probability of improved recruitment and stock rebuilding.
- The SSC recommends that the Council maintain its rebuilding plan until the next assessment when its impact on the stock and the accuracy of $P_{rebuild}$ projections can be evaluated.

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SSC Review of SEDAR 71 Gag Grouper Projections

What are the potential consequences of adopting $P_{rebuild}$ of 60% over the SSC-recommended $P_{rebuild}$ of 70%?

- Adopting a $P_{rebuild}$ of 70% is more likely to ensure successful rebuilding:
  1. Median SSB is projected to be nearly 100mt (~10%) higher within five years (2027) of the start of management and more than 300mt (>16%) higher after ten years
  2. Lower bound of projected SSB higher = higher probability of improved SSB even under the worst case recruitment conditions.

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SSC Review of SEDAR 71 Gag Grouper Projections

- Three fishing seasons will have elapsed between 2019 (assmt terminal year) and when management action is taken, during which fishing mortality continued to exceed sustainable levels.
- Current projections used to estimate $P_{rebuild}$ do not account for variability in fishing mortality (F).
- It is unclear if the projected fishing mortalities are attainable given changes that are likely to occur in the fishery in response to management action (e.g., changes in discard mortality).

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SSC Review of SEDAR 71 Gag Grouper Projections

- Cost-benefit analysis could be conducted to determine economic impacts of changes in landings for each $P_{Rebuild}$ scenario
  - Future value of projected landings under the 70% rebuilding scenario across the 10-year rebuilding timeframe is 86% of the value of future landings under the 60% rebuilding scenario.
  - Prebuild = 70% scenario has reduced uncertainty in the landings.
    - Expected landings under Prebuild = 70% are more likely to be realized than those under Prebuild = 60%.
    - The expected landings for each scenario should be multiplied by the probability of rebuilding.

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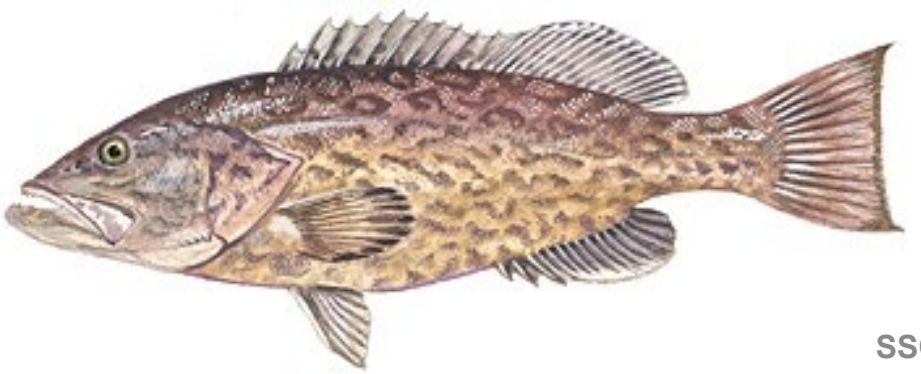
SSC Review of SEDAR 71 Gag Grouper Projections

- Cost-benefit analysis could be conducted to determine economic impacts of changes in landings for each $P_{Rebuild}$ scenario
  - Reduction in supply may also lead to an increase in ex-vessel price which would also help offset the decrease in gross landings.
  - Projected gain in harvest between the two rebuilding scenarios may not be sufficient to account for the additional uncertainty in recruitment. The short-term economic gains from adopting a Prebuild = 60% may prevent the stock from rebuilding faster.

SSC Review of SEDAR 71 Gag Grouper Projections

Comment on any difficulties encountered in applying the ABC Control Rule, including any required information that is not available.

- There were no difficulties in setting P* using the ABC Control Rule.
- SSC looks forward to reviewing the recommendations of the Catch Level Projections Working Group at our April meeting



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SSC Review of SEDAR 71 Gag Grouper Projections

Recommend OFL based on $F=F_{MSY}$

ABC Control Rule applied:

- Tier I: 1 (0%) because steepness was estimated
- Tier II: 2 (2.5%) because uncertainty was carried forward in the projections, but environmental conditions were not explicitly included
- Tier III: 4 (7.5%) because the stock is both overfished and overfishing
- Tier IV: 3 (10%) because the stock has low productivity, high vulnerability, and high susceptibility
- Recommended total adjustment to the OFL of 20% = P* of 30%
- Recommended $P_{rebuild}$ = 70%

SSC-Recommended Catch Levels - $P_{Rebuild}$ of 70%

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Table 1. Gag recommendations using $\mathbf{P_{rebuild}}$ **= 70%.** Landings and discards are expressed in both numbers (1000s of fish) and gutted weight (1000s of lbs).

Criteria	Deterministic	Probabilistic
Overfished evaluation (SSB/SSB_{MSY})	0.15	0.14
Overfishing evaluation	2.15	2.27
MFMT (F_{MSY})	0.37	0.35
SSB_{MSY} (Units)	1563.9	1659.4
MSST (Units)	1172.9	1244.5
MSY (1000 lbs.)	1455.1	1453.5
ABC Control Rule Adjustment	20%	
P-Star	30%	
SSC recommended $P_{Rebuild}$	70%	
M	0.15	

OFL RECOMMENDATIONS				
Year	Landed (lbs gw)	Discard (lbs gw)	Landed (number)	Discard (number)
2023	367	42	36	10
2024	494	48	45	11
2025	605	54	53	13
2026	706	60	60	14
2027	808	64	68	15

ABC RECOMMENDATIONS				
Year	Landed (lbs gw)	Discard (lbs gw)	Landed (number)	Discard (number)
2023	176	19	17	5
2024	261	22	23	5
2025	348	26	29	6
2026	435	29	35	7
2027	525	32	41	7

Council Alternative - $P_{Rebuild}$ of 60%

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Table 2. Gag catch level recommendations using $P_{rebuild}$ = **60%.** Landings and discards are expressed in both numbers (1000s of fish) and gutted weight (1000s of lbs).

Criteria	Deterministic	Probabilistic
Overfished evaluation (SSB/SSB_{MSY})	0.15	0.14
Overfishing evaluation	2.15	2.27
MFMT (F_{MSY})	0.37	0.35
SSB_{MSY} (Units)	1563.9	1659.4
MSST (Units)	1172.9	1244.5
MSY (1000 lbs.)	1455.1	1453.5
Y at 75% F_{MSY} (1000 lbs.)		
$P_{Rebuild}$	60%	
M	0.15	

OFL RECOMMENDATIONS

Year	Landed (lbs gw)	Discard (lbs gw)	Landed (number)	Discard (number)
2023	367	42	36	10
2024	494	48	45	11
2025	605	54	53	13
2026	706	60	60	14
2027	808	64	68	15

ABC RECOMMENDATIONS

Year	Landed (lbs gw)	Discard (lbs gw)	Landed (number)	Discard (number)
2023	223	25	21	6
2024	323	28	29	7
2025	422	33	36	8
2026	518	37	42	9
2027	616	40	49	9