Comprehensive ABC Control Rule Amendment

Decision Document

March 2022 Council Meeting

Background

The South Atlantic Fishery Management Council (Council) Scientific and Statistical Committee (SSC) developed an acceptable biological catch (ABC) control rule (CR) in 2008, using uncertainty and risk traits to determine the acceptable risk of overfishing. The ABC CR is the method by which ABCs are set, ideally based on an overfishing limit (OFL) from a stock assessment but sometimes using data-limited methodology. The acceptable risk of overfishing is denoted as P-Star (P*) and is applied through assessment projections to develop the SSC's ABC recommendation. During consideration by the Council and development of the Comprehensive Annual Catch Limit (ACL) Amendment, the SSC added additional levels to the ABC CR to better address unassessed and data-limited stocks.

The ABC CR was implemented by the Council through the Comprehensive ACL Amendment that became effective in April 2012. The Comprehensive ACL Amendment amended fishery management plans (FMP) for Snapper Grouper, Dolphin Wahoo, Golden Crab, and Sargassum. A revision to the ABC CR for species managed under the Snapper Grouper FMP occurred in July 2015 when the Only Reliable Catch Stocks (ORCS) approach was added to the CR for select snapper grouper stocks, through Amendment 29.

In applying the ABC CRs, as specified in the Comprehensive ACL Amendment and Snapper Grouper Amendment 29, to different stocks and assessments from 2012 to 2016, the SSC began to express concerns that the rules lacked adequate resolution to distinguish differences in uncertainty levels across assessments, did not address continued developments in data poor assessment methods, and mixed uncertainty evaluation (an SSC role under the Magnuson-Stevens Fishery Conservation and Management Act (MSA)) and risk tolerance determination (a Council role under the MSA). Additionally, the existing CR does not provide a means to make use of 2020 revised guidelines for National Standard 1 (NS 1) that increased the flexibility available to regional fishery management councils for managing catch limits by

allowing carry-over of unharvested portions of the ACL and phasing in of catch level changes. While the addition of the ORCS approach to the ABC CR for select snapper grouper species represented some progress in addressing data poor assessment developments, it did not address the other ABC CR concerns or the revisions to the NS1 guidelines.

Actions in this amendment

- **Action 1.** Modify the Acceptable Biological Catch Control Rule
- **Action 2.** Allow phase-in of acceptable biological catch changes
- **Action 3.** Allow carry-over of unharvested portion of the annual catch limit
- **Action 4.** Modify framework procedures for the Snapper Grouper, Dolphin Wahoo, and Golden Crab FMPs

Proposed timing

Process Steps	**Dates**
Scoping webinar hearings	January 2019
Council reviews scoping comments, discuss wording of actions and alternatives	March 2019
Council reviews wording of actions and alternatives	March 2021
Council reviews wording of actions and alternatives and SSC comments	September 2021
Council reviews additional SSC input and updated action/alternative language and provides guidance for further development	**March 2022**
Approval for public hearings	June 2022
Public hearings	Summer 2022
Review public hearing comments and approve all actions/alternatives	September 2022
Final action to approve for secretarial review	December 2022

Purpose and need statement

Purpose for Actions

The purpose of this amendment is to revise the acceptable biological catch control rule by clarifying the incorporation of scientific uncertainty and management risk, modifying the approach used to determine the acceptable risk of overfishing, and prioritizing the use of stock rebuilding plans for overfished stocks. Additionally, this amendment will specify conditions and procedures for using carry-overs and phase-ins in setting catch limits, including modification of framework procedures to accommodate implementation of carry-overs when applicable.

Need for Actions

The need for this amendment is to ensure catch level recommendations are based on the best scientific information available, prevent overfishing while achieving optimum yield, and include flexibility in setting catch limits as allowed by the Magnuson-Stevens Fishery Conservation and Management Act, and particularly in accordance with the 2020 NMFS guidance on carry-over and phase-in provisions.

Council Action:

- REVIEW THE PURPOSE AND NEED STATEMENTS AND MODIFY AS NECESSARY.

Fishery Management Plans modified by this Comprehensive Amendment

- Snapper Grouper (Amendment 45)
- Dolphin Wahoo (Amendment 11)
- Golden Crab (Amendment 5)

Proposed Actions and Alternatives

Action 1 Modify the Acceptable Biological Catch Control Rule

SOME PARTS OF ACTION 1 DISCUSSION LANGUAGE ARE NOT PLANNED FOR DISCUSSION AT THE MARCH 2022 MEETING BUT ARE INCLUDED IN THE APPENDIX FOR REFERENCE.

NOTE: Each alternative includes a general description of the proposed ABC CR (with reference to a descriptive table[s]), associated risk tolerance policy, and application of the CR to overfished stocks. Sub-alternatives may be added to alternatives and are not mutually exclusive. Current ABC values will not change for any species through this action and its alternatives within this amendment. Rather, the new control rule will be prospectively applied through future management actions related to setting catch limits.

Alternative 1 (No Action). The acceptable biological catch for included species will continue to be specified as per the control rule specified by the Comprehensive Annual Catch Limit Amendment for the Dolphin Wahoo and Golden Crab Fishery Management Plans (**Appendix-Table A1**) and Amendment 29 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region (**Appendix-Table A2**).

- **Control Rule: Appendix-Table A1** and **Appendix-Table A2**
- **Risk Tolerance:** The accepted risk of overfishing is determined by the acceptable biological catch criteria evaluated by the Scientific and Statistical Committee.
- **Overfished Stocks:** Standard application of the acceptable biological catch control rule to overfished stocks undergoing rebuilding is not specified.

Alternative 2. Specify an acceptable biological catch control rule for the Dolphin Wahoo, Golden Crab, and Snapper Grouper Fishery Management Plans that categorizes stocks based on the available information and scientific uncertainty evaluation and incorporates the Council's risk tolerance policy (described below) through an accepted probability of overfishing (P*) value. When possible, the Scientific and Statistical Committee will determine the overfishing limit and characterize its uncertainty based on, primarily, the stock assessment or, secondarily, the Scientific and Statistical Committee's expert opinion. The overfishing limit and its uncertainty would then be used to derive and recommend the acceptable biological catch, based on the risk tolerance specified by the Council.

- **Control Rule: Table 1**
- **Risk Tolerance:** The Council will specify the risk tolerance based on the stock biomass level and a stock risk rating provided by the Scientific and Statistical Committee. Default P* levels according to stock biomass levels and stock risk ratings are defined in **Table 2**.
- **Overfished Stocks:** For overfished stocks, the Council will specify a stock rebuilding plan, considering recommendations from the Scientific and Statistical Committee and fishery management plan advisory panel, which will determine the acceptable biological catch while the rebuilding plan is in effect. Per requirements of the Magnuson-Stevens Act, the probability of success for rebuilding plans (1-P*) must be at least 50%.

Sub-Alternative 2a. Set the boundary between the high biomass and moderate biomass levels at 110% B_{MSY}, and set the boundary between moderate biomass and low biomass levels at the midpoint between 110% B_{MSY} and the minimum stock size threshold.

Sub-Alternative 2b. Allow the Council to deviate from the default risk tolerance (accepted probability of overfishing) by up to 10% for an individual stock, based on its expert judgment, new information, or recommendations by the Scientific and Statistical Committee or other expert advisors. Risk tolerance may not exceed 50%.

Sub-Alternative 2c. Assign unassessed (Category 4) stocks to the moderate biomass level unless there is a recommendation from the Scientific and Statistical Committee that justifies a different level.

Sub-Alternative 2d. When requested by the Council, the Scientific and Statistical Committee will specify the acceptable biological catch for up to 5 years as both a constant value across years and as individual annual values for the same period of years.

Alternative 3. Specify an acceptable biological catch control rule for the fishery management plans for Dolphin Wahoo, Golden Crab, and Snapper Grouper that is consistent with the current control rules, modified such that the Council will set an initial accepted probability of overfishing between 30% and 50%, based on their risk tolerance, and the Scientific and Statistical Committee will adjust this value as defined in Tiers 1 and 2 of Level 1. Levels 2 through 5 will also be replaced with the process for evaluating acceptable biological catch for unassessed stocks recommended by the Scientific and Statistical Committee.

- **Control Rule: Table 3**
- **Risk Tolerance:** Tiers 3 and 4 of Level 1 will be deleted, and the Council will specify an initial P* between 30% and 50%, considering advice from the Scientific and Statistical Committee and fishery management plan's advisory panel. This initial P* will be reduced according to adjustments defined in Tiers 1 (Assessment Information) and 2 (Uncertainty Characterization) of the current control rule. The adjusted P* will then be applied to derive acceptable biological catch.
- **Overfished Stocks:** For overfished stocks, the Council will specify a stock rebuilding plan, considering recommendations from the Scientific and Statistical Committee and fishery management plan's advisory panel, that will determine the acceptable biological catch while the rebuilding plan is in effect. Per requirements of the Magnuson-Stevens Act, the probability of success for rebuilding plans (1-P*) must be at least 50%.

  Sub-Alternative 3a. When requested by the Council, the Scientific and Statistical Committee will specify the acceptable biological catch for up to 5 years as both a constant value across years and as individual annual values for the same period of years.

DISCUSSION:

- Stock assessments often include projections of future removals, which are used to derive OFL under the current ABC Control Rule. These projections are run many times, such that the results of each projection include robust estimates of variables like landings or population size, as well as measures of uncertainty.

- To derive the OFL, projections are run with a 50% probability of overfishing occurring (i.e., P*=50%). To derive the ABC, projections are run with P* set at 50% or less (based on adjustments to the P* from the ABC Control Rule). To derive ABC for a rebuilding plan, the probability of rebuilding (1-P*) must be 50% or greater.
- All **Action 1** alternatives would maintain these methods for deriving ABC using P* and OFL. Alternatives consider different approaches and responsibilities for characterizing scientific (assessment or OFL) uncertainty in various scenarios and deriving P* (accepted management risk).

Action 1-Alternative 2

Table 1. Acceptable biological catch control rule proposed in **Action 1-Alternative 2**.

Category	Criteria	ABC Determination
Category 1	Stock is assessed; scientific uncertainty is adequately incorporated	The P* is applied to the assessment information to derive ABC.
Category 2	Stock is assessed; scientific uncertainty is not adequately evaluated or some assessment outputs may be lacking.	The SSC will adjust the measures of uncertainty, P* will then be applied to the assessment information.
Category 3	The stock is assessed; scientific uncertainty is not adequately evaluated and cannot be addressed by adjusting the available uncertainty measures.	The SSC will develop uncertainty measures as necessary to apply the P* to the available assessment information. Alternatively, the SSC may apply a direct buffer to the overfishing limit (or an overfishing limit proxy) to derive the ABC.
Category 4	No formal stock assessment accepted to provide OFL and ABC recommendations (reviewed through SEDAR or SSC).	OFL and ABC will be developed according to the strategy proposed by the SSC's Data-Limited Working Group (Append WG Report). The SSC will attempt to estimate OFL and its uncertainty using available data, applicable methods, and expert judgement. If an OFL and its uncertainty are defined, the SSC will apply P* to derive ABC. If an OFL is unable to be defined, the SSC will directly recommend an ABC. The process of updating OFLs and ABCs for unassessed stocks will occur over time as directed by the Council. The current OFL and ABC for unassessed species and species complexes will be maintained until updated levels are recommended by the SSC and approved by the Council.

Under **Action 1-Alternative 2**, the ABC will be derived by applying P* to a stock projection analysis for assessed stocks or an OFL estimated using alternative methods for unassessed stocks, when possible. If an OFL cannot be estimated, the SSC will derive the ABC directly.

For **Action 1-Alternative 2**, the Council, with advice from the SSC and AP, will evaluate management risk for each stock through a stock risk rating. Stock risk ratings include information currently used in the Productivity and Susceptibility Analysis (PSA), but also incorporate socio-economic and environmental attributes. These recommendations will be revisited when new information becomes available (for example, a new stock assessment). The Council will then specify the risk rating as low, medium, or high risk of overfishing. A higher risk of overfishing would indicate that risk tolerance (the accepted probability of overfishing) should be lower. These stock risk ratings, along with relative biomass levels, will be used to determine the Council's default risk tolerance for each stock.

The SSC has developed a proposed evaluation method for these ratings based on information currently used in the Productivity and Susceptibility Analysis, but also incorporating socio-economic and environmental attributes. Stock risk ratings would be evaluated with respect to three types of attributes: Biological, Human Dimension, and Environmental. Within each type, are specific attributes that can inform risk of overfishing:

- Biological:
  - Estimated natural mortality
  - Age at maturity
- Human Dimension:
  - Ability to regulate fishery
  - Potential for discard losses
  - Annual commercial value
  - Recreational desirability
  - Social concerns
- Environmental:
  - Ecosystem importance
  - Climate change
  - Other environmental variables

For time-varying or qualitative attributes, risk ratings were designed to address long-term effects. While short-term effects may influence managers' use of flexibility within the ABC Control Rule, ratings are intended to inform the long-term sustainability of the stock and fishery. Short-term effects that diverge from long-term effects can be noted for Council consideration on a case-by-case basis as P* is determined. Short-term effects are also evaluated for each amendment as part of the National Environmental Policy Act (NEPA) analyses. **Definitions for short-term and long-term effects have not been determined.** Suggestions from the October 2020 meeting include short-term as the projection time frame or (for overfished stocks or those experiencing overfishing) the projected time period for reference points to be achieved.

After specific attributes are evaluated on a scale of high (1), medium (2), or low (3) risk, ratings will be averaged by type, and ratings for each type will be averaged for an overall stock risk rating. The SSC has recommended that attribute ratings be averaged without weighting, with no penalty for unknown attributes, and with a default type rating of moderate. In October 2021, the SSC reviewed preliminary attribute ratings for each stock and recommended a scoring system that would rank all overall risk scores and divide them into equal thirds (to the nearest 0.1) to

categorize stocks as high, medium, or low risk. The SSC also reviewed a pilot comparison of P* values for several species under each Action 1 alternative.

The stock risk rating and stock biomass would be used together to derive P*, according to **Table 2**. For example, a stock with high biomass and medium stock risk rating would have a P* of 45%. This would be lower than the OFL, in accordance with MSA. The SSC can recommend the Council reconsider the stock risk rating. This could happen, for example, with the emergence of new scientific studies or new information discovered through a stock assessment.

Table 2. Summary table of default risk tolerance levels based on stock risk ratings and biomass levels, proposed in **Action 1-Alternative 2**.

Stock Risk Rating	Council's Default Risk Tolerance: accepted risk of overfishing (P* values)		
	High Biomass Biomass exceeds B_{MSY} (or 110% B_{MSY} per Sub-Alternative 2a)	**Moderate Biomass** Biomass is ABOVE the midpoint between B_{MSY} and MSST	**Low Biomass** Biomass is below the midpoint between B_{MSY} and MSST
low	45%	45%	40%
medium	45%	40%	30%
high	40%	30%	20%

- The ABC can be increased via greater risk tolerance from the Council (higher P*) OR less uncertainty in the projection results (i.e., a narrower distribution) determined by the SSC.
- The ABC can be decreased via lower risk tolerance from the Council (lower P*) OR more uncertainty in the projections results (i.e., a wider distribution) determined by the SSC.

<u>Steps for Stock Risk Rating Use for Assessed Stocks under **Action 1-Alternative 2**</u>
Before an Operational Assessment:

- SSC and AP recommend risk levels for attributes that contribute to the stock risk rating to the Council. The most current attribute ratings and overall stock risk rating will be shown and feedback will be requested on whether any changes are necessary to depict the current state of the stock and fishery.
    - Preliminary stock risk ratings will be included in this amendment. Preliminary recommendations will be used to inform future risk determinations but will not impact ABCs that are already in place.
    - Estimates for biological attributes, including natural mortality and age at maturity, should be available from the most recent research track assessment. These values typically would not change prior to the operational assessment, but additional Council review of changes to these values and effects on the overall risk rating can be accommodated on a case-by-case basis.
    - AP input can be gathered as part of Fishery Performance Reports conducted before each assessment.
- The Council reviews SSC and AP recommendations and determines the stock risk rating.

During an Operational Assessment:

- P* will be derived using an estimate of relative biomass and the Council's stock risk rating, according to **Table 2**.
- Projection analyses will be run using P*=50% and the P* value defined by **Table 2** to derive estimates of OFL and ABC.

Stock Risk Ratings for Unassessed Stocks

- If **Action 1-Alternative 2** is implemented, the SSC will work through groups of unassessed stocks to determine ABC recommendations.
- Prior to the SSC developing an ABC recommendation for a group of unassessed stocks, the SSC and AP will provide input on stock risk rating attributes and the Council will determine stock risk rating, similar to the process described for assessed stocks.
- When possible, OFL will be defined and the standard ABC control rule applied. However, in cases where OFL cannot be defined and the SSC recommends ABC directly, the SSC will describe in their report how they considered the Council's stock risk rating in developing their recommendations.

Action 1-Alternative 3

For **Action 1-Alternative 3**, the ABC will be derived by applying P* to a stock projection analysis for assessed stocks or an OFL estimated using alternative methods for unassessed stocks, when possible. If an OFL cannot be estimated, the SSC will derive the ABC directly.

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%)*
2. Uncertainty Characterization (10%)	1. Complete. Key determinant – uncertainty in both assessment inputs and environmental conditions are included. (0%) 2. High. Key determinant – reflects more than just uncertainty in future recruitment. (2.5%)

	3. Medium. Uncertainties are addressed via statistical techniques and sensitivities, but full uncertainty is not carried forward in projections. (5%) 4. Low. Distributions of F_{MSY} and MSY are lacking. (7.5%)* 5. None. Only single point estimates; no sensitivities or uncertainty evaluations. (10%)*
Level 2 – Unassessed Stocks	
OFL and ABC will be developed according to the strategy proposed by the SSC's Data-Limited Working Group (Append WG Report). The SSC will attempt to estimate OFL and its uncertainty using available data, applicable methods, and expert judgement. If an OFL and its uncertainty are defined, the SSC will apply P* to derive ABC. If an OFL is unable to be defined, the SSC will directly recommend an ABC. The process of updating OFLs and ABCs for unassessed stocks will occur over time as directed by the Council. The current OFL and ABC for unassessed species and species complexes will be maintained until updated levels are recommended by the SSC and approved by the Council.	

*In October 2021, the SSC recommended removal of Level 1, Tier 1, Classifications 4 and 5 and redistribution of the percentages to the remaining classifications.

SSC Recommendations:

NOTE: THE FOLLOWING LIST OF SSC RECOMMENDATIONS IS NOT COMPREHENSIVE AND ONLY INCLUDES RECOMMENDATIONS CONCERNING TOPICS SCHEDULED FOR DISCUSSION AT THE MARCH 2022 COUNCIL MEETING. A FULL LIST OF RECOMMENDATIONS AND FEEDBACK WILL BE INCLUDED IN THE DRAFT AMENDMENT.

- The SSC supported modifying the ABC CR as described in **Action 1-Alternative 2**.
- The SSC did not support designing the ABC CR solely around data or assessment categories or levels and recommended that the treatment of uncertainty was a more robust and useful categorization approach.
- The SSC recommends addressing circumstances when the Council can remand, or ask the SSC to reconsider, an ABC recommendation, and developing rules or guidelines to address ABC remands.
- The SSC supports varying risk tolerance by biomass levels and considering the PSA risk categories for assigning stock risk ratings.
- The SSC recommends including preliminary risk ratings in the draft amendment, and finalizing those ratings once the amendment is approved.
- The SSC recommends evaluating risk ratings as part of each stock assessment, and also when necessary to address new information that becomes available for a stock.
- The SSC recommends considering social and economic considerations when evaluating risk tolerance. Fishery Performance reports may be useful to identify factors.
- The SSC supports specifying rebuilding probabilities and considering stock risk categories.
- Both assessment uncertainty and biological uncertainty need to be considered in establishing the P*.

New SSC Feedback from October 2021

Full October 2021 SSC Report

- The SSC recommends that the SSC continue to work in collaboration with Council and Advisory Panel members to make any necessary updates to the risk rating scores. This process has great value in its transparency, but the logistics of how changes would be made should be described more explicitly in the document.
- The SSC recommends that language be included in the amendment to clarify how the risk tolerance P* translates to a probability of rebuilding for overfished stocks (1-P*).
- The SSC continues to support Alternative 2 because biomass and stock risk rating are included in the Council's setting of P*, whereas Alternative 3 provides less clear guidelines to justify selection of P*. In addition, the SSC recommends using the 'alternate' method for scoring criteria of the risk tolerance analysis used in Alternative 2, as mentioned above.
- The SSC maintains that scientific uncertainty encompasses both assessment uncertainty and biological uncertainty in our understanding of the stock (i.e., our ability to quantify a stock's life history, fisheries, etc.).
- The SSC commends Council staff for providing clear examples of how scientific uncertainty and management risk would be separated and how this would be used in setting a P*.
- Regarding Alternative 3: Table [3], Level 1 needs to be adjusted. The SSC suggests that 4 and 5 be removed as those would fall under the unassessed stock categories. Once removed, the percentages would be redistributed among remaining 3 Tiers.

Council Action:

- CONSIDER SSC RECOMMENDATIONS FOR SPECIFYING THE STOCK RISK RATING METHODOLOGY (ALTERNATIVE 2) AND REVISING ALTERNATIVE 3. DISCUSS THE PROCESS FOR DEFINING AND USING STOCK RISK RATINGS WITHIN THE ABC CONTROL DEFINED BY ACTION 1-ALTERNATIVE 2.

(Action 2 is not being addressed at this meeting, but current language, including minor modifications since last considered, is shown in the Appendix)

Action 3 Allow carry-over of unharvested portion of the annual catch limit

Note: Current ABC values will not be changed for any species within this amendment. Rather, these carry-over elements related to the new control rule will be prospectively applied through future management actions related to setting catch limits. The sub-actions and related alternatives would apply to the preferred control rule alternative adopted from Action 1.

Sub-Action 3.1. Establish criteria specifying circumstances when an unharvested portion of the originally specified sector ACL can be carried over from one year to increase the available harvest in the next year. Carry-overs may not be delayed, and only amounts from the originally specified sector ACL may be carried over. Multiple alternatives and sub-alternatives may be selected under this Sub-Action.

Alternative 1 (No Action). Do not establish provisions to allow the carry-over of annual catch limits.

Alternative 2. Allow carry-over of the unharvested portion of a sector's annual catch limit if the stock status is known, the stock is neither overfished nor experiencing overfishing, an overfishing limit for the stock is defined, and

Sub-Alternative 2a. the stock biomass exceeds the midpoint between the B_{MSY} and MSST biomass levels (or proxies of these levels).

Sub-Alternative 2b. that fishery sector has experienced a regulatory closure due to landings being projected to exceed that sector's annual catch limit at least once in the previous 3 years.

Sub-Alternative 2c. the sum of total landings for all sectors over the previous 3 years is less than the sum of the total annual catch limits over those same years.

Alternative 3. Do not allow carry-over of the unharvested portion of the annual catch limit if

Sub-Alternative 3a. ABC decreases are being phased-in.

Sub-Alternative 3b. there is no in-season accountability measure in place for that stock and sector.

Sub-Action 3.2. Specify limits on how much of the unharvested portion of a sector annual catch limit may be carried over from one year to increase the sector annual catch limit in the next year.

Alternative 1 (No Action). No carry-over provisions are currently in place for the Snapper Grouper, Dolphin Wahoo, or Golden Crab Fishery Management Plans.

Alternative 2. Allow carry-over of the unharvested portion of a sector's annual catch limit. The acceptable biological catch and the total annual catch limit may be temporarily increased to allow this carry-over but may not exceed the overfishing limit or the total annual catch limit plus the carried over amount, whichever is less.

Multiple eligible sectors may use carry-over in the same year. Sector-specific amounts being carried over will be allocated entirely to the sector from which they came unless the sum of the specified total annual catch limit and all sector-specific amounts that could be carried over exceeds the overfishing limit. If the sum of the specified total annual catch limit and all sector-specific amounts that could be carried over exceeds the overfishing limit, the difference between the temporary acceptable biological catch and

the specified total annual catch limit will be allocated according to sector allocation percentages defined in the fishery management plan.

Alternative 3. Allow carry-over of the unharvested portion of a stock's annual catch limit. The acceptable biological catch may be temporarily increased to allow this carry-over but may not exceed the overfishing limit, the total annual catch limit plus the carried over amount, or the total annual catch limit plus 25% of the sector annual catch limit, whichever is least.

Multiple eligible sectors may use carry-over in the same year. Sector-specific amounts being carried over will be allocated entirely to the sector from which they came unless the sum of the specified total annual catch limit and all sector-specific amounts that could be carried over exceeds the overfishing limit. If the sum of the specified total annual catch limit and all sector-specific amounts that could be carried over exceeds the overfishing limit, the difference between the temporary acceptable biological catch and the specified total annual catch limit will be allocated according to sector allocation percentages defined in the fishery management plan.

Council Action:

- CONSIDER ACTION 3 LANGUAGE IN DISCUSSION OF ACTION 4.

Action 4 Modify framework procedures for the Snapper Grouper, Dolphin Wahoo, and Golden Crab FMPs

NOTE: Action 4 was added to this amendment to address implementation of carry-overs. This approach was taken to more specifically define the process of carry-over implementation within the FMPs' framework procedures. Current ABC values will not be changed for any species within this amendment.

Sub-Action 4.1. Modify Section I of the Snapper Grouper Framework Procedure to include a framework process to approve carry-overs.

Alternative 1 (No Action). Do not modify the Snapper Grouper Fishery Management Plan framework procedure.

Alternative 2. Modify the Snapper Grouper Fishery Management Plan framework procedure by adding the following language to Section I:

Single season adjustments to ABCs and ACLs that would allow carry-over of unused amounts of a sector ACL, according to the existing ABC Control Rule(s) and ACLs that have been approved by the Council and implemented pursuant to the FMP, may be made through this framework procedure. This process is authorized as follows:

a. When specifying an ABC and ACL for a stock, or through specific action on an existing ABC and ACL, the Council will determine whether carry-over will be authorized, if annual conditions cause a stock ACL or sector ACL to qualify for carry-over. In doing so, the Council will consider potential need for, and benefits of, carry-over for stocks that could become eligible according to criteria specified in the ABC control rule. The Council will also determine the duration of time when the specified ABC and ACL are effective. An amendment or framework that specifies carry-over for a stock will include analysis of the relevant biological, economic, and social information necessary to meet the criteria and guidance of the existing ABC Control Rule.
    i. To support potential carry-over justification, a Term of Reference will be added for stock assessments to project the maximum amount of landings beyond the ABC that could be carried over in one year while not resulting in overfishing nor the stock becoming overfished within the projection period.
b. Following the conclusion of each fishing year, staff will notify the Council if any stocks and sectors for which carry-over is approved qualify based on the previous year's landings, potentially using preliminary landings estimates.
c. If a sector qualifies for carry-over according to specifications of the ABC and annual landings meeting criteria specified in the ABC control rule, NOAA Fisheries will enact carry-over of eligible landings from the previous year.
d. If the Council chooses to deviate from the criteria and guidance of the effective ABC control rule, this abbreviated process would not apply.

Sub-Action 4.2. Modify the Dolphin Wahoo Fishery Management Plan framework procedure to include a framework process to approve carry-overs.

Alternative 1 (No Action). Do not modify the Dolphin Wahoo Fishery Management Plan framework procedure.

Alternative 2. Modify the Dolphin Wahoo Fishery Management Plan framework procedure by adding the following language:

Single season adjustments to ABCs and ACLs that would allow carry-over of unused amounts of a sector ACL, according to the existing ABC Control Rule(s) and ACLs that have been approved by the Council and implemented pursuant to the FMP, may be made through this framework procedure. This process is authorized as follows:

a. When specifying an ABC and ACL for a stock, or through specific action on an existing ABC and ACL, the Council will determine whether carry-over will be authorized, if annual conditions cause a stock ACL or sector ACL to qualify for carry-over. In doing so, the Council will consider potential need for, and benefits of, carry-over for stocks that could become eligible according to criteria specified in the ABC control rule. The Council will also determine the duration of time when the specified ABC and ACL are effective. An amendment or framework that specifies carry-over for a stock will include analysis of the relevant biological, economic, and social information necessary to meet the criteria and guidance of the existing ABC Control Rule.
    i. To support potential carry-over justification, a Term of Reference will be added for stock assessments to project the maximum amount of landings beyond the ABC that could be carried over in one year while not resulting in overfishing nor the stock becoming overfished within the projection period.
b. Following the conclusion of each fishing year, staff will notify the Council if any stocks and sectors for which carry-over is approved qualify based on the previous year's landings, potentially using preliminary landings estimates.
c. If a sector qualifies for carry-over according to specifications of the ABC and annual landings meeting criteria specified in the ABC control rule, NOAA Fisheries will enact carry-over of eligible landings from the previous year.
d. If the Council chooses to deviate from the criteria and guidance of the effective ABC control rule, this abbreviated process would not apply.

Sub-Action 4.3. Modify the Golden Crab Fishery Management Plan framework procedure to include a framework process to approve carry-overs.

Alternative 1 (No Action). Do not modify the Golden Crab Fishery Management Plan framework procedure.

Alternative 2. Modify the Golden Crab Fishery Management Plan framework procedure by adding the following language:

Single season adjustments to ABCs and ACLs that would allow carry-over of unused amounts of a sector ACL, according to the existing ABC Control Rule(s) and ACLs that have

been approved by the Council and implemented pursuant to the FMP, may be made through this framework procedure. This process is authorized as follows:

a. When specifying an ABC and ACL for a stock, or through specific action on an existing ABC and ACL, the Council will determine whether carry-over will be authorized, if annual conditions cause a stock ACL or sector ACL to qualify for carry-over. In doing so, the Council will consider potential need for, and benefits of, carry-over for stocks that could become eligible according to criteria specified in the ABC control rule. The Council will also determine the duration of time when the specified ABC and ACL are effective. An amendment or framework that specifies carry-over for a stock will include analysis of the relevant biological, economic, and social information necessary to meet the criteria and guidance of the existing ABC Control Rule.
    i. To support potential carry-over justification, a Term of Reference will be added for stock assessments to project the maximum amount of landings beyond the ABC that could be carried over in one year while not resulting in overfishing nor the stock becoming overfished within the projection period.
b. Following the conclusion of each fishing year, staff will notify the Council if any stocks and sectors for which carry-over is approved qualify based on the previous year's landings, potentially using preliminary landings estimates.
c. If a sector qualifies for carry-over according to specifications of the ABC and annual landings meeting criteria specified in the ABC control rule, NOAA Fisheries will enact carry-over of eligible landings from the previous year.
d. If the Council chooses to deviate from the criteria and guidance of the effective ABC control rule, this abbreviated process would not apply.

- **Action 4** addresses the process by which catch limits would be temporarily adjusted to accommodate carry-over. This process would be incorporated into the framework procedures for each of the Snapper Grouper, Dolphin Wahoo, and Golden Crab FMPs.
- Under existing procedures, the Council could ask the SSC to consider recommending a temporary, higher ABC to accommodate carry-over. This approach is not particularly efficient, given the timing of Council and SSC meetings and the need to implement carry-overs within a fishing year based on landings from the previous year.
- Under **Alternative 2** in **Sub-Actions 4.1-4.3**, single season adjustments to ABCs and ACLs to accommodate carry-overs would occur automatically for stocks for which: 1) the SSC has recommended be eligible for potential carry-over when recommending the ABC, 2) the Council has decided be eligible for potential carry-over when specifying the ABC and ACL, and 3) annual conditions have fulfilled criteria specified in Action 3.
    - This procedure would not require additional public, SSC, or advisory panel comment, as comments relevant to the ABC being approved with potential for carry-over would be part of the development process for the amendment or framework in which the ABC and ACL are specified.

Council Action:

- REVIEW ACTION 4 AND ITS REVISIONS. DISCUSS AND PROVIDE GUIDANCE TO MODIFY AS NEEDED.

Appendix.

Additional Action 1 Discussion Language

Action 1-Alternative 1

Table A1. Acceptable biological catch control rule specified by the Comprehensive Annual Catch Limit Amendment for the Snapper Grouper, Dolphin Wahoo and Golden Crab Fishery Management Plans. 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 at 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%)
2. Uncertainty Characterization (10%)	1. Complete. Key determinant – uncertainty in both assessment inputs and environmental conditions are included. (0%) 2. High. Key determinant – reflects more than just uncertainty in future recruitment. (2.5%) 3. Medium. Uncertainties are addressed via statistical techniques and sensitivities, but full uncertainty is not carried forward in projections. (5%) 4. Low. Distributions of F_{MSY} and MSY are lacking. (7.5%) 5. None. Only single point estimates; no sensitivities or uncertainty evaluations. (10%)
3. Stock Status (10%)	1. Neither overfished nor overfishing. Stock is at high biomass and low exploitation relative to benchmark values. (0%) 2. Neither overfished nor overfishing. Stock may be in close proximity to benchmark values. (2.5%) 3. Stock is either overfished or overfishing. (5%) 4. Stock is both overfished and overfishing. (7.5%) 5. Either status criterion is unknown. (10%)

4. Productivity and Susceptibility Analysis (10%)	1. Low risk. High productivity, low vulnerability, low susceptibility. (0%) 2. Medium risk. Moderate productivity, moderate vulnerability, moderate susceptibility. (5%) 3. High risk. Low productivity, high vulnerability, high susceptibility. (10%)
Level 2 – Unassessed Stocks. Reliable landings and life history information available	
OFL derived from "Depletion-Based Stock Reduction Analysis" (DBSRA). ABC derived from applying the assessed stocks rule to determine the adjustment factor if possible, or from expert judgment if not possible.	
Level 3 – Unassessed Stocks. Inadequate data to support DBSRA	
ABC derived directly from "Depletion-Corrected Average Catch" (DCAC). Done when only a limited number of years of catch data for a fishery are available. Requires a higher level of "informed expert judgment" than Level 2.	
Level 4 – Unassessed Stocks.	
OFL and ABC derived on a case-by-case basis. Stocks with very low landings that show very high variability in catch estimates (mostly caused by the high degree of uncertainty in recreational landings estimates), or stocks that have species identification issues that may cause unreliable landings estimates. Use "decision tree": 1. Will catch affect stock? NO: Ecosystem Species (Council did this already, ACL Amend) YES: Go to 2 2. Will increase (beyond current range of variability) in catch lead to decline or stock concerns? NO: ABC = 3rd highest point in the 1999-2008 time series YES: Go to 3 3. Is stock part of directed fishery or is it primarily bycatch for other species? Directed: ABC = Median 1999-2008 Bycatch/Incidental: If yes, go to 4. 4. Bycatch. Must judge the circumstance: If bycatch in other fishery: what are trends in that fishery? What are the regulations? What is the effort outlook? If the directed fishery is increasing and bycatch of stock of concern is also increasing, the Council may need to find a means to reduce interactions or mortality. If that is not feasible, will need to impact the directed fishery. The SSC's intention is to evaluate the situation and provide guidance to the Council on possible catch levels, risk, and actions to consider for bycatch and directed components.	

Table A2. Acceptable biological catch control rule specified for Snapper Grouper by Amendment 29 to the Snapper Grouper Fishery Management Plan. 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 at 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%)
2. Uncertainty Characterization (10%)	1. Complete. Key determinant – uncertainty in both assessment inputs and environmental conditions are included. (0%) 2. High. Key determinant – reflects more than just uncertainty in future recruitment. (2.5%) 3. Medium. Uncertainties are addressed via statistical techniques and sensitivities, but full uncertainty is not carried forward in projections. (5%) 4. Low. Distributions of F_{MSY} and MSY are lacking. (7.5%) 5. None. Only single point estimates; no sensitivities or uncertainty evaluations. (10%)
3. Stock Status (10%)	1. Neither overfished nor overfishing. Stock is at high biomass and low exploitation relative to benchmark values. (0%) 2. Neither overfished nor overfishing. Stock may be in close proximity to benchmark values. (2.5%) 3. Stock is either overfished or overfishing. (5%) 4. Stock is both overfished and overfishing. (7.5%) 5. Either status criterion is unknown. (10%)
4. Productivity and Susceptibility Analysis (10%)	1. Low risk. High productivity, low vulnerability, low susceptibility. (0%) 2. Medium risk. Moderate productivity, moderate vulnerability, moderate susceptibility. (5%) 3. High risk. Low productivity, high vulnerability, high susceptibility. (10%)
Level 2 – Unassessed Stocks. Reliable landings and life history information available	
OFL derived from "Depletion-Based Stock Reduction Analysis" (DBSRA). ABC derived from applying the assessed stocks rule to determine the adjustment factor if possible, or from expert judgment if not possible.	

Level 3 – Unassessed Stocks. Inadequate data to support DBSRA
ABC derived directly from "Depletion-Corrected Average Catch" (DCAC). Done when only a limited number of years of catch data for a fishery are available. Requires a higher level of "informed expert judgment" than Level 2.
Level 4 – Unassessed Stocks. Only Reliable Catch Stocks.
OFL and ABC derived on a case-by-case basis. Apply ORCS approach using a catch statistic, a scalar derived from the risk of overexploitation, and the Council's risk tolerance level.
Level 5 – Unassessed Stocks.
OFL and ABC derived on a case-by-case basis. Stocks with very low landings that show very high variability in catch estimates (mostly caused by the high degree of uncertainty in recreational landings estimates), or stocks that have species identification issues that may cause unreliable landings estimates. Use "decision tree": 1. Will catch affect stock? NO: Ecosystem Species (Council did this already, ACL Amend) YES: Go to 2 2. Will increase (beyond current range of variability) in catch lead to decline or stock concerns? NO: ABC = 3rd highest point in the 1999-2008 time series YES: Go to 3 3. Is stock part of directed fishery or is it primarily bycatch for other species? Directed: ABC = Median 1999-2008 Bycatch/Incidental: If yes, go to 4. 4. Bycatch. Must judge the circumstance: If bycatch in other fishery: what are trends in that fishery? What are the regulations? What is the effort outlook? If the directed fishery is increasing and bycatch of stock of concern is also increasing, the Council may need to find a means to reduce interactions or mortality. If that is not feasible, will need to impact the directed fishery. The SSC's intention is to evaluate the situation and provide guidance to the Council on possible catch levels, risk, and actions to consider for bycatch and directed components.

Steps for Determining ABC for Assessed Stocks under **Action 1-Alternative 2**

Before an Assessment:

- SSC recommends stock risk rating to the Council (preliminary recommendations to be included in this amendment). Ratings will be reviewed by the SSC as needed and requested by the Council (e.g., between stock assessments, following observed changes in the fishery, etc.).
- Council evaluates risk rating attributes that are not dependent on assessment values, considering input from the SSC and AP (could align with or follow Fishery Performance Report process).

During an Assessment:

- P* will be derived using an estimate of relative biomass and the Council's stock risk rating, according to **Table 2**.
- Projection analyses will be run using P*=50% and the P* value defined by **Table 2** to derive estimates of OFL and ABC.

Following an Assessment:

- SSC will review the stock assessment, including how well the assessment was able to incorporate uncertainty. Based on its review, the SSC will determine whether the assessment fits Category 1, 2, or 3.
    - If the assessment is Category 1 (SSC approves how the assessment accounts for uncertainty), the SSC will recommend OFL and ABC as projected by the assessment.
    - If the assessment is Category 2 (SSC determines data or methods accounting for uncertainty are inadequate but can be improved through adjustments to the assessment), the SSC will adjust uncertainty measures from the assessment based on expert opinion and assumptions and projections will be re-run under these conditions. P* would be applied to the re-run projections to derive ABC.
    - If the assessment is Category 3 (SSC determines data or methods accounting for uncertainty are inadequate and cannot be improved through adjustments to the assessment), the SSC will develop uncertainty measures based on expert opinion and assumptions and projections will be re-run under these conditions. P* would be applied to the re-run projections to derive ABC.
        - If uncertainty measures are unable to be developed, the SSC may derive and recommend a buffer between OFL and ABC.
- Based on the assessment and any follow-up analyses, the SSC will recommend ABC to the Council.

ABC for Unassessed Stocks

Under **Action 1-Alternative 2** (**Table 1**), unassessed stocks would be considered in Category 4. Under **Action 1-Alternative 3** (**Table 3**), unassessed stocks would be considered in Level 2. Under either of these alternatives, a standing work group of the SSC would be assembled and maintained to address deriving ABC for such stocks and complexes (groups of similar stocks that are managed together). ABC would preferentially be derived from an OFL estimated using available data and applicable methods (including data-limited assessment models). If OFL is

unable to be estimated with available data, the SSC may recommend ABC directly, based on applicable modeling methods or expert opinion.

Initially, due to the transition in recreational data from the Marine Recreational Information Program (MRIP) Coastal Household Telephone Survey (CHTS) to the MRIP Fishing Effort Survey (FES), the work group would progressively work through all unassessed stocks and complexes until all ABCs have been updated to reflect inclusion of MRIP FES data. Current ABCs would remain in effect until changed.

SSC Deviation from the ABC Control Rule (applies to all Action 1 Alternatives)

As noted in the National Standard 1 of the MSA, the SSC may provide an ABC that deviates from strict application of the approved ABC Control Rule if necessary to address scientific uncertainty, recruitment variability, declining population trends, or available information. If the SSC deviates from the ABC Control rule, it must provide a written explanation describing why the deviation was necessary, how the alternative ABC recommendation is derived, and how the alternative ABC prevents overfishing, addresses scientific uncertainty and the Council's specified risk tolerance level for the stock.

Action 2 Allow phase-in of acceptable biological catch changes

Note: Current ABC values will not be changed for any species within this amendment. Rather, these phase-in elements related to the new control rule will be prospectively applied through future management actions related to setting catch limits. The sub-actions and related alternatives would apply to the preferred control rule alternative adopted from Action 1.

Sub-Action 2.1. Establish criteria specifying when phase-in is allowed.

Alternative 1 (No Action). Do not establish provisions to allow the phase-in of acceptable biological catch changes.

Alternative 2. Allow phase-in of decreases when a new acceptable biological catch is less than X% of existing acceptable biological catch. Allow phase-in of increases to acceptable biological catch, as specified by the Council.

Option 1. X=60%

Option 2. X=70%

Option 3. X=80%

Alternative 3. Allow phase-in of increases to acceptable biological catch at any stock biomass level, as specified by the Council. Allow phase-in of decreases to acceptable biological catch only:

Option 1. if stock biomass exceeds the minimum stock size threshold.

Option 2. if the stock biomass is greater than the midpoint between the biomass that provides maximum sustainable yield and the minimum stock size threshold.

Sub-Action 2.2. Specify the approach for phase-in of acceptable biological catch changes.

Alternative 1 (No Action). No phase-in of acceptable biological catch changes is allowed.

Alternative 2. Phase-in acceptable biological catch decreases over no more than 3 years, as specified in **Table 6.** Acceptable biological catch increases may be phased-in as specified by the Council with advice from the SSC and AP.

Alternative 3. Phase-in acceptable biological catch decreases over no more than 2 years, as specified in **Table 6.** Acceptable biological catch increases may be phased-in as specified by the Council with advice from the SSC and AP.

Alternative 4. Phase-in acceptable biological catch decreases over 1 year, as specified in **Table 6.** Acceptable biological catch increases may be phased-in as specified by the Council with advice from the SSC and AP.

Table A3. Annual specifications for phase-in of decreases to acceptable biological catches over 3 years (**Sub-Action 2.2-Alternative 2**), 2 years (**Sub-Action 2.2-Alternative 3**), or 1 year (**Sub-Action 2.2-Alternative 4**).

	Specifications for Phase-Ins Over		
	3 Years	**2 Years**	**1 Year**
Year 1	Modified acceptable biological catch may not exceed the overfishing limit.	Modified acceptable biological catch may not exceed the overfishing limit.	Modified acceptable biological catch may not exceed the overfishing limit.
Year 2	Modified acceptable biological catch may not	Modified acceptable biological catch may not	Acceptable biological catch is based on revised

	exceed one-half the difference between the overfishing limit and the new acceptable biological catch recommendation.	exceed one-half the difference between the overfishing limit and the new acceptable biological catch recommendation.	projections that account for the phase-in during year 1.
Year 3	Modified acceptable biological catch may not exceed the original recommended year 3 acceptable biological catch (based on the projections and analyses that triggered the phase-in).	Acceptable biological catch is based on revised projections that account for the phase-in during years 1 and 2.	
Subsequent Years	Acceptable biological catch is based on revised projections that account for the phase-in during years 1-3.		