SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL

SCIENTIFIC AND STATISTICAL COMMITTEE

SSC Meeting Report

October 15-17, 2018

Town & Country Inn
Charleston, SC

VERSION
FINAL

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SAFMC PUBLIC COMMENT PROCESS

Written comment:

Written comment on SSC agenda topics is to be distributed to the Committee through the Council office, similar to all other Council briefing materials. Written comment to be considered by the SSC shall be provided to the Council office no later than one week prior to an SSC meeting. For this meeting, the deadline for submission of written comment is 12:00 pm Monday, October 8, 2018. Submit written comments to:

SAFMC – SSC Comments
4055 Faber Place Drive
Suite 201
North Charleston, SC 29405

Verbal comment:

Two opportunities for comment on agenda items will be provided at set times during SSC meetings. The first will be at the beginning of the meeting, and the second near the conclusion. Those wishing to comment should indicate such in the manner requested by the Chair, who will then recognize individuals to provide comment.

An opportunity for comment on specific agenda items will also be provided as each item comes up for discussion. Comments will be taken after all the initial presentations are given and before the SSC starts the discussion of the agenda topic. As before, those wishing to comment should indicate such in the manner requested by the Chair, who will then recognize individuals to provide comment. All comments are part of the record of the meeting.

1. INTRODUCTION

1.1. Documents

Agenda
Attachment 1. Minutes of the May 2018 meeting
Attachment 2. Minutes of the May 2018 SARIMA webinar

1.2. Action

- Introductions
- Review and Approve Agenda
  - *Agenda approved*
- Approve Minutes
  - *Minutes from May 2018 meeting approved with one correction*
    - *On page 175 during comments by Churchill Grimes, the word "non-secular" should be replaced by "non-sequitur."*
  - *Minutes of SARIMA webinar approved*

2. PUBLIC COMMENT

The public will be provided an opportunity to comment on SSC agenda items as they are being discussed during the meeting. Comments will be taken after any initial presentations are given on a particular topic, but before the SSC begins their discussion of the topic. There will also be an opportunity for comment at the start and end of the meeting. Those wishing to make comment should indicate their desire to do so to the Committee Chair.

3. SEDAR ACTIVITIES

3.1. Documents

Attachment 3. SEDAR Projects Update
Attachment 4. Prelim Scope Work 2020 Assessments
Attachment 5. Golden Tilefish Standard Assessment ToRs
Attachment 6. Snowy Grouper Update Assessment ToRs

3.2. Overview

Updates on individual SEDAR projects can be found in Attachment 3. The SEDAR projects highlighted below are those where the SSC is being asked to address specific action items.

SEDAR 68 South Atlantic and Gulf of Mexico Scamp, Research Track

A Scamp Research Track assessment was preliminarily scheduled to start the first quarter of 2018. At their May 2017 meeting, the SEDAR Steering Committee delayed the start of the Scamp Research Track assessment until 2019 due to the Research Track process not being adequately described. A Scamp planning team webinar was scheduled for September 28, 2018 to

develop a project schedule and Terms of Reference for review and approval by the Gulf and South Atlantic Council's, but it has been delayed due to the impacts of Hurricane Florence. The Scamp Planning Team webinar has been rescheduled for the week of October 8, 2018 and the preliminary ToRs and schedule will not be available for the SSC is to review at this meeting. The ToRs and schedule for Scamp will need to be reviewed and approved prior to the Committee's Spring meeting, through email or a webinar meeting.

SEDAR 66 South Atlantic Golden Tilefish, Standard Assessment

Golden Tilefish was last assessed as an update, including data through 2014. A standard assessment is scheduled to start in 2019, exact timing TBD. Planning for this project is getting underway. The SSC is asked to review the ToRs for golden Tilefish (Attachment 5) and recommend changes or additions, as appropriate. When reviewing the most recent golden Tilefish Update assessment, the SSC provided feedback on issues to consider for the next assessment. These included exploring changes in selectivity and the use of multiple selectivity blocks for the longline fleet; exploring the use of multiple likelihood functions in fitting the age and length composition data; and exploring perceived changes in recruitment. A potential new data source, CRP Bottom Longline Survey to Augment Fishery Independent Reef Fish Data Collection in Deepwater Snapper Grouper, was identified for consideration. A NOAA FATE project exploring the effect of environmental factors on fishery independent CPUE indices and simulation test alternative methods for incorporating that information in Tilefish was also identified as a potential new data source but may not be available for use in this assessment. The SSC will be asked to identify representation for this assessment after the schedule is developed.

SEDAR 36 South Atlantic Snowy Grouper, Update Assessment

Snowy Grouper was last assessed through a standard assessment (SEDAR 36), including data through 2012. An update assessment is scheduled to start in 2019, exact timing TBD. Planning for this project is getting underway. The SSC is asked to review the ToRs for Snowy Grouper (Attachment 6) and recommend changes or additions, as appropriate. During the review of SEDAR 36, the SSC had concerns over fixing the steepness parameter at the mode of the prior distribution developed by Shertzer and Conn (2012). The SSC felt that although the methodology may be scientifically sound, it can potentially result in less conservative management due to the resulting F_{MSY} estimate corresponding to $F_{26\%SPR}$. The SSC noted that this is an unusually low percentage SPR value for a long-lived, deepwater species and that values of $F_{30\%SPR}$ to $F_{40\%SPR}$ are more commonly used.

3.3. Action

- Provide guidance on current and upcoming projects as necessary
  - *Add table of current SSC members involved in currently scheduled assessments.*
  - *For all upcoming assessments, consider recommending inclusion of a ToR requesting a continuity run with the revised MRIP data, using the previous*

model, terminal year, and projection timeframe as was used in the last assessment for comparison of stock status.

- *Gives an idea on whether the management measures used were appropriate or not given that the numbers have changed.*

➢ *Recommend the SSC review the studies being included for consideration in upcoming assessments, that do not have data workshops to review such documents already incorporated into the assessment schedule and for which the SSC is the sole review body, in advance of receiving the assessment report.*

➢ *Gag: Explore how the identification issue with Black Grouper affects Gag.*

- Review the ToRs and schedule for Scamp and recommend changes or additions as appropriate.

➢ *Schedule joint webinar with subset of Gulf SSC to review ToRs and schedule for the Scamp Research Track.*

➢ *SSC members interested in participating in the Assessment Development Team:*

- *Marcel Reichert, Alexei Sharov*

➢ *SSC members interested in participating in Stock ID workshop March-July 2019:*

- *George Sedberry*

- Review the ToRs for golden Tilefish and recommend changes or additions as appropriate.

➢ *Recommend including "golden" in the title for Tilefish documents.*

- Review the ToRs for Snowy Grouper and recommend changes or additions as appropriate.

➢ *Recommend adding to ToRs exploring sensitivities to steepness values that bracket the corresponding SPR values above and below the 26% SPR estimated from the last assessment.*

- *During the previous assessment for Snowy Grouper, the SSC discussed concerns they had with the fixed steepness value resulting in an MFMT that corresponded to 26% SPR, which they felt was low when compared to similar species.*
- *Values of 30% to 40% SPR are considered more appropriate for such species and should be included in these sensitivities.*
- *The SSC has concerns about the F_{MSY} values coming from using a set steepness value and would like to explore alternative MFMT proxies.*

Table 1. SEDAR Projects Underway.

SEDAR Project	Assessment Type	SSC Representatives	Schedule Overview - please see individual project schedule for more details
SEDAR 58: Atlantic Cobia	Benchmark	Data Workshop: George Sedberry, Marcel Reichert	Webinar & In-person Workshop (Jan 14-18, 2019)
		Assessment Process: Jeff Buckel, Anne Lange	Webinars (April - Aug 2019)
		Review Workshop: Rob Ahrens (reviewer)	In-person Workshop (Sept 10-12, 2019)
SEDAR 59: South Atlantic Greater Amberjack	Standard	Panel: Anne Lange, Fred Serchuk	Webinars (May 2018 - March 2019)
SEDAR 60: South Atlantic Red Porgy	Standard	Panel: Scott Crosson, Marcel Reichert, George Sedberry, Fred Scharf	Webinars (June 2018 - April 2019) & In-person Workshop (Feb 5-7, 2019)
SEDAR 64: Southeastern Yellowtail	Benchmark	Data Workshop: George Sedberry, Marcel Reichert	Webinar and In-person Workshop (Feb 25-27, 2019)
		Assessment Process: Fred Serchuk, Anne Lange	Webinars (April - Aug 2019)
		RW: Amy Schueller, Alexei Sharov	In-person Workshop (Oct 8-10, 2019)

Table 2. Future SEDAR Projects - no Council appointments have been made yet; names below are SSC members who volunteered thus far.

SEDAR Project	Assessment Type	SSC Representatives	Schedule Overview - please see individual project schedule for more details
SEDAR 66: South Atlantic Golden Tilefish	Standard	Panel: need volunteers	Exact schedule TBD; preliminary schedule includes Webinars (~ late spring 2019 - winter 2020) & In-person Workshop (Jan 2020)
SEDAR 68: South Atlantic & Gulf of Mexico Scamp	Research Track	Stock ID: George Sedberry	Exact schedule TBD; preliminary schedule includes Stock ID webinars (Spring 2019); Data webinars (summer 2019 - Jan 2020) and in-person workshop (late Oct/Nov 2019); Assessment webinars (spring/summer 2020); Review workshop (~Oct 2020)
		Assessment Development Team: Marcel Reichert, Alexei Sharov	
		Other DW Participants:	
		Other AW Participants	
		RW:	

4. REVIEW OF FLORIDA FWCC STUDY

4.1. Documents

Attachment 7. FL FWCC Study Presentation
Attachment 8. FL FWCC Study Report

4.2. Presentation

Study Overview: Dr. Heather Christiansen, FL FWCC

4.3. Overview

At their May 2018 meeting, the SSC reviewed several methodologies for setting an ABC for Red Snapper in the South Atlantic. During the discussion some new information was brought to the attention of the Committee. A study had recently been completed and submitted by FL FWCC, which looked at the size-selectivity of different survey gear types for Red Snapper in South Atlantic waters (Attachment 8). The basic conclusion of the study suggested that the selectivity of the Chevron traps may not be flat-topped, which is contrary to the assumption made in SEDAR 41. The study also suggests that the selectivity of the Chevron traps is not the same as the selectivity of the videos, which is also an assumption made in SEDAR 41 and why the Chevron trap and video indices were combined into a single CVID index. Since the Interim Analysis (IA), which was the Committee's preferred methodology for setting the ABC for Red Snapper, relies on these selectivity patterns, along with age and length composition data, to project the appropriate catch levels the conclusions of this study could have a significant impact on the estimates of ABC for Red Snapper.

However, the results of this study were not available to the Red Snapper ABC Workgroup and the analytical team at the time of conducting the IA. Also, this study had not been peer reviewed and the Committee was unable to deem the FWCC study as BSIA at that time. Therefore, the SSC requested that this study be brought back at this meeting for a thorough review in order for the Committee to decide on its potential impacts to the Red Snapper ABC and upcoming assessment.

4.4. Action

- Review the findings of this study, discuss the uncertainties associated with those findings, and determine if they are the best scientific information available.
  - *The SSC only reviewed the Red Snapper portion of this report.*
  - *The SSC agrees this is a well-designed, well executed study with valid analyses.*
    - *The study doesn't give direct estimates of size selectivity curves. It provides an estimate of relative selectivities because it compares between gears and is assuming the stereo camera system (Stereo -BRUV) captures the true population.*
  - *Results suggest that the Chevron traps and the videos may have different size selectivities.*

- *The study findings indicate that the selectivity curve for the Chevron traps is not flat-topped; however, the extent of the doming of the curve cannot presently be determined.*
- *As the video survey only provides size, not age information, the study only provided information on size selectivity, not age selectivity, which is one of the uncertainties in this study.*
- *It is possible to convert video size data to age data using age-length keys of growth curve parameters and a growth transition matrix from size to age bin, but this introduces uncertainty especially given the fast growth rate of Red Snapper early in life.*
- *The SSC recommends continuing the research in looking at the differences in the selectivity patterns between Chevron traps and video gear, as well as looking at the actual selectivity pattern of Chevron traps and videos.*
- *The SSC recommends attempting to look at age selectivity, as well as size selectivity, of the different gears.*
- *The SSC recommends that a follow-up study address the regional issues present in this study (e.g., inshore/offshore differences in length distributions and potential impact of the study sites being located in Florida only).*
- *The SSC recommends that the results of this study be considered in upcoming assessments for Red Snapper. Although the SSC did not review the other aspects of this study, results may be relevant for other species evaluated in this study.*

- Discuss recommendations for including these findings into the Interim Analysis for Red Snapper.
  - *The SSC does not recommend including these findings in the Interim Analysis (IA) at this time because this would require a change in treatment of the survey data (see next 2 bullets). The IA is dependent on the benchmark assessment, so any changes would have to be incorporated into the assessment before they could be included in the IA.*
  - *The SSC recommends re-evaluating if different selectivities can be used within the combined Chevron trap/video (CVID) index or whether the Chevron traps and the video should continue to be combined as a single CPUE index given the differences in selectivity found in this study.*
  - *The SSC recommends re-evaluating the shape of the SERFS Chevron trap selectivity curve (flat-topped vs. dome-shaped).*
  - *The SSC recommends a Standard assessment be conducted to address the issues presented here.*
  - *The ABC recommendation from the May 2018 SSC meeting still stands.*

5. UPDATE ON SEFSC RESEARCH EFFORTS

5.1. Documents

None.

5.2. Overview

The Committee will be updated on research projects currently ongoing within the SEFSC, with a particular focus on those directly affecting stock assessments.

5.3. Action

- No specific actions required.

6. SOUTHEAST REEFFISH SURVEY UPDATE

6.1. Documents

Attachment 9. MARMAP/SEAMAP-SA Reef Fish Survey Trends Update
Attachment 10. SEFIS Summary Report

6.2. Presentation

MARMAP/SEAMAP-SA Reef Fish Survey Trends Update: Dr. Wally Bubley, SC DNR

6.3. Overview

The Committee will receive an update on the MAARMAP/SEAMAP-SA Reef Fish Survey sampling efforts and results through 2017 (Attachment 9). The SEFIS video survey sampling summary (Attachment 10) was provided to satisfy the added priority to the South Atlantic Research Plan that an update of the SEFIS video survey index be provided to the Committee and the Council with the goal of addressing sampling effort and findings for assessed species, much as the current MARMAP/SEAM-SA Reef Fish Survey trends report does.

6.1. Action

- No specific actions required.
  - *The SSC would like to note that the SEFIS overview did not provide an update to the video index, as was its stated intent.*

7. MRIP DATA REVISIONS REVIEW

7.1. Documents

Attachment 11. Background Materials
Attachment 12. MRIP Calibration Effects
Attachment 13. Landings Trends
Attachment 14. SSC Workgroup Approach

7.2. Presentation

MRIP Data Overview: Dr. Mike Errigo, SAFMC

7.3. Overview

Traditionally, recreational fishing effort data have been collected by NOAA Fisheries through the Coastal Household Telephone Survey (CHTS). The CHTS utilizes a list-assisted, random digit dialing (RDD) telephone survey approach to contact residents of coastal county households and collect information on fishing activities that occurred within a two-month reference period (wave). A 2006 review by the National Research Council (NRC) noted that the CHTS design suffers from inefficiency due to the low rate of saltwater angler participation among the general population, as well as potential coverage bias due to the survey's limitation to coastal county residences and landline-based telephone numbers. In addition, response rates to the survey have declined considerably over the past decade, increasing the potential for nonresponse bias.

An alternative to the CHTS is to identify and contact anglers through a dual-frame mail survey design. MRIP initially tested the feasibility of a dual-frame mail survey design in NC in 2009 and conducted a follow-up study aimed at enhancing response rates and the timeliness of responding in NC and LA in 2010. The methodology is described in Andrews et al Mail Survey Method (Attachment 11). These previous pilot tests were very informative and provided the basis for a revised design. The revised design again uses a mail questionnaire to collect data from households, but also addresses weaknesses identified in the prior studies. This is the design that has been implemented fully in 2018 and is now known as the Fishing Effort Survey (FES) and fully in use today. The methodology is also described in 2012 FES Pilot Review and Comments (Attachment 11). The pilot showed that the overall response rate from the FES was over 40% compared with just over 14% for the CHTS. For estimates of effort, the FES estimated 6.1 times as much effort in Shore mode as the CHTS and 2.6 as much effort in the Private Boat mode as the CHTS overall (2012 FES Pilot Review and Comments, Attachment 11).

The sizable differences in effort estimates suggested a calibration would be necessary to switch from using the CHTS to the FES. After 3 years of side-by-side running of both surveys, a calibration model was developed, and peer reviewed in June of 2017 (Report of FES Calibration Model and FES Calibration Review Report, Attachment 11). This model was used to calibrate all the effort data back to the beginning of the MRIP time series, which is 1981.

At the same time, MRIP has been working on developing a calibration model for the updated Access Point Intercept Survey (APAIS) design, which was implemented in 2013 (APAIS Calibration Approach, Attachment 11). The calibration model was peer reviewed in March 2018, after collecting over 3 years of data to inform the calibration model. Both calibrations were

applied to the MRIP data simultaneously, each having a different type and magnitude of effect (Briefing on MRIP Transition SA SSC, Attachment 11).

The change from the original APAIS design and the CHTS over to the new APAIS design and the FES, along with the subsequent calibrations of the original data back to the beginning of the time series, have had varying effects on the recreational catches (Attachments 12 and 13). In most cases, the catches have increased due to the increased estimates of effort from the FES survey (Attachment 12). There have also been changes to the catch trends for some species due to either a differential change over time in the effort estimates or changes in the proportion of the catch coming from the charter fleet (which is not affected by the change to the FES survey). The differential change in effort over time has been attributed to decreases in response rates to the CHTS and what has been called the "Wireless Effect". The Wireless Effect is the phenomenon of more and more people completely abandoning land lines in favor of using mobile phones only for communication, which are not sampled by the CHTS. This has had a secondary effect of causing the average age of the sampled population to become significantly older than that of the actual population, presumably because older people are more likely to still have a land line than younger people are.

The SSC is asked to review the effects of the calibrations to catches of species managed by the South Atlantic Council and identify if there are any patterns to the changes and what may be causing those patterns. Trends of particular concern to the Committee should be highlighted so that further investigation may be conducted. If there are stocks the Committee would like to investigate further, the SSC is asked to identify those and develop a process for conducting those investigations.

These newly calibrated catches change the time series of data used when developing ABC recommendations for unassessed stocks managed by the Council (Attachment 13). This has potentially large consequences to those ABCs because the SSC used catch-based methods to develop those recommendations. Therefore, the SSC is asked to evaluate the effects of the changes to the recreational catches from these calibrations with respect to setting ABCs for unassessed species. In order for the SSC to apply the same ABC Control Rule decisions to the stocks now, they would have to confirm several key pieces of information:

- Does the stock still fall within the same Control Rule Tier? (ORCS vs. Decision Tree)
- Is the reference period still a viable time period to use?
- Is the landings trend similar to what it was originally?
- If an ORCS stock, does the stock still fall within the same exploitation category?

The SSC is asked to discuss a procedure for tackling this demanding task. Since any new ABC from the Committee will not be able to be implemented without the Council first addressing sector allocations, there is some time for this task. However, the Council will most likely want the SSC to have final recommendations at their Spring meeting, if not earlier. Therefore, this may require work outside of the normal SSC meeting times, suggesting it may be a suitable candidate for the workgroup approach (Attachment 14).

7.4. Action

- Review the calibrated MRIP effort and catch estimates for all SAFMC stocks.
  - Identify any stocks that the SSC would like to investigate in further detail and develop a process for conducting such investigations.
    - *Red Porgy*
      - *Red Porgy was in a category of the MRIP calibration not having much of an effect on the catch, along with other species of very low intercept rates. However, Red Porgy has a fairly high rate of intercepts compared to all the other species in this category, which does not follow the pattern.*
      - *Examine potential causes of this observed pattern in the lack of effect of the MRIP calibrations on the catch of Red Porgy given the large number of intercepts.*
    - *Black Sea Bass*
      - *Examine potential cause of large increase in discards in recent years*
      - *Possibly incorporate into upcoming revision webinar*
    - *Look at sources of info to help interpret pattern*
      - *MRIP intercept data*
      - *Effort expansion data*
    - *Add an evaluation of the calibrated MRIP estimates and how using them vs. the old estimates will affect the assessment or analysis as a ToR for all upcoming assessments and analyses.*
  - Identify any general patterns in the calibrated estimates that may indicate new or increased biological, social, or economic concerns that the Council should be aware of.
    - *Will the lag in delivery time of MRIP estimates for a Wave using the mail data increase as compared to the delivery time observed in the past using the telephone data?*
      - *If so, in-season monitoring may be more difficult, and Council may want to consider increasing the buffer between ACL and ABC for species that are at risk of overages*
      - *The SSC recommends staff ask MRIP to address this issue of lag time and its effects on management.*
    - *Some of the problems the SSC identified in the original MRIP estimates remain the same as the original dataset (e.g., low number of intercepts for certain species of interest to the Council, low offshore intercepts, etc.)*
    - *The increase in the effort expansion due to the MRIP catch calibration may be exacerbating the problems seen with the original MRIP catch spikes.*
      - *Spikes in the original MRIP data are amplified and often the low points around them are not increased proportionally to the increase seen in the spike, magnifying the difference.*

- *The SSC has discussed in the past how much (or little) data (e.g., number and location of intercepts) and variability is acceptable for use in assessments and for ACL monitoring.*
- *The SSC noted that an increase in recreational effort may have occurred when "baby boomers" entered the fishery and recommends looking further into the "baby boomer" effect. This effort may increase in near future and there may be data from other studies available to look at this.*

➢ *Intrasector differences in new MRIP estimates may cause interpretation and allocation conflict issues for Council.*

- *FES changes in Private and Shore modes, not Charter or Headboat modes*
- *The changes caused by switching to the FES from the CHTS only affect the Private and Shore modes, not the Charterboat and Headboat modes. Conflict within the recreational sector may arise between modes about who should get a bigger piece of the increase from the FES calibration.*

o Review the calibrated MRIP data with respect to changes to the ABC recommendations for unassessed stocks.

➢ *The SSC recommends reviewing the years used for the ORCS/Decision Tree (99-08) ABC recommendations.*

- *Evaluate the appropriateness of these years in light of the changes in the MRIP data due to the recent calibrations.*

- Discuss the procedure for updating the ABC recommendations for unassessed stocks.

➢ *The committee felt it needed some dedicated time for this.*

➢ *There was some concern about how the new ABC CR affects setting ABCs for unassessed stocks. This needs to be evaluated to avoid making several ABC recommendations, each which may need management changes.*

➢ *The Committee recommends forming an SSC Workgroup to do preparatory work for a workshop to discuss ABC recommendations prior to the Spring 2019 SSC meeting.*

➢ *The Committee recommends involving the SEFSC in the process. It may be good to reach out to others, such as former SSC members who were involved in the original ABC recommendations of these stocks.*

➢ *With the guidance of the SEFSC, review the proposed alternative methods for setting ABCs for unassessed stocks and incorporate these into the new ABC CR as appropriate.*

- *What is an appropriate catch statistic for unassessed stocks in the Decision Tree (e.g. 3rd highest year of landings)?*
- *Consult Carruthers analysis*

- *Evaluate assumptions from Carruthers analysis and Decision Tree approach*

- *Investigate variance of landings estimates*
  - *How does that figure into setting ABCs?*
  - *How to track ACLs?*
- *Discuss if some species can be designated Ecosystem Component species and would therefore not need an ABC.*
- *Workgroup members:*
  - *SSC: Carolyn Belcher, Jeff Buckel, Eric Johnson*
  - *Workgroup leader?*
  - *Invitees: Steve Cadrin*
  - *SEFSC: Erik Williams*
- *The SSC recommends contacting neighboring SSC's (e.g. via Luiz Barbieri and John Boreman) to see how they are approaching this.*

8. MRIP ASSESMENT REVISIONS

8.1. Documents

Attachment 15. MRIP Revision Assessments Report
Attachment 16. MRIP Revision Assessments Overview Presentation*

8.2. Presentation

Revision Assessments Overview: Dr. Erik Williams, SEFSC

8.3. Overview

Due to the changes in the MRIP catch data described in the previous Agenda item, stocks with assessments will need to have their assessments revised using the newly calibrated MRIP data to update their catch level recommendations. Presented here is a report (Attachment 15) containing the revised assessments for four recently assessed South Atlantic species: Blueline Tilefish, Red Grouper, Vermilion Snapper, and Black Sea Bass.

Blueline Tilefish

A benchmark assessment for Atlantic Blueline Tilefish (SEDAR 50) was completed in October 2017, with data through 2015. Due to a large spatio-temporal change in how the fishery operated in the latter part of the assessment and the fact that age determination was too uncertain to be used in the assessment, the Blueline Tilefish stock had to be assessed as two separate units and by different assessment methods for each unit. This unique approach to assessing this stock made it impossible to determine stock status at this time.

Some of the biggest concerns for this stock were the lack of data and the splitting of the recreational data at Cape Hatteras (where the 2 units were split). There were very few intercepts of Blueline Tilefish, resulting in odd landings and discard spikes in the data. One such data point,

charter discards from NC for 2007, was so out of line with the surrounding data that it was replaced with the average of the surrounding years.

The unit south of Cape Hatteras was assessed using an age aggregated Production Model and the ABC for that portion of the stock was determined using traditional projections with OFL recommended at $F=F_{MSY}$ and ABC at P*=0.3 through 2020.

A workgroup of both South Atlantic and Mid-Atlantic SSC members was formed to develop a method for determining an ABC for the unit north of Cape Hatteras and developing a means of splitting that ABC between the South Atlantic and Mid-Atlantic jurisdictions. The OFL and consequently ABC was determined using Mean Length estimators from the DLMTool. A pilot trawl survey was used to allocate that ABC between the South Atlantic and Mid-Atlantic. The ABC was determined as being at P*=0.125 and the MAFMC:SAFMC split was determined to be 56%:44%. The SSC recommended this ABC for no longer than 3 years.

Table 3. OFL and ABC of Blueline Tilefish in South Atlantic waters from the original SEDAR 50 in pounds whole weight.

Year	South Hatteras		North Hatteras		Total South Atlantic	
	OFL	ABC	OFL	ABC	OFL	ABC
2018	230,000	172,000	103,985	78,980	333,985	250,980
2019	227,000	175,000	103,985	78,980	330,985	253,980
2020	225,000	178,000	103,985	78,980	328,985	256,980

Red Grouper

A SEDAR standard stock assessment for South Atlantic Red Grouper (SEDAR 53) was completed in February 2017, with data through 2015, that indicated the stock was overfished and undergoing overfishing. The results of the assessment showed that rebuilding would not be possible by 2020, which is the terminal year of the current rebuilding plan, even with no fishery present (F=0) and the stock would likely take until at least 2030 to rebuild at F=0. The SSC reviewed SEDAR 53 at their April 2017 meeting and stated that the assessment is based on the best scientific information available.

In June 2017, after SEDAR 53 was reviewed by the SSC, the Council requested that the Southeast Fishery Science Center (SEFSC) produce rebuilding projections for Red Grouper based on SEDAR 53. The Council's SSC reviewed four rebuilding projections produced by the SEFSC at their October 2017 meeting. The projections were based on fishing mortality rates of F_{MSY} and $F_{Rebuild}$, each with long-term expected recruitment and low recruitment scenarios. Due to poor recruitment trends for the stock in recent years, the SSC recommended the projections at F_{MSY} and the low recruitment scenario for the overfishing limit, and projections for $F_{Rebuild}$ under the low recruitment scenario for the ABC, for the short term (next 5 years). The SSC noted that recruitment could increase in the future and become consistent with long-term levels that the stock is predicted to produce.

Table 4. Red Grouper OFL and ABC projections at low recruitment scenario from the original SEDAR 53 in pounds whole weight.

Year	OFL	ABC
2018	183,000	139,000
2019	191,000	150,000
2020	202,000	162,000
2021	212,000	176,000
2022	223,000	189,000

Vermilion Snapper

The SSC reviewed the Standard assessment for Vermilion Snapper prepared through SEDAR 55 at their May 2018 meeting. SEDAR 55 was completed in April 2018, with data through 2016, and found that the Vermilion Snapper stock in the South Atlantic was neither overfished nor undergoing overfishing. The SSC did comment on several uncertainties, such as the headboat index dropping dramatically in 1992, when there is a management change, and most likely not tracking the population abundance as it did prior to that time. Also, there was an issue fitting the CVID index, especially at the end of the time series, due to a disconnect between the age comps from the CVID index and those from the landings. The SSC recommended projections for the OFL at $F=F_{MSY}$ and for the ABC at P*=0.4 for no more than 5 years.

Table 5. Vermilion Snapper OFL and ABC projections from the original SEDAR 55 in pounds whole weight.

Year	OFL	ABC
2019	1,810,000	1,579,000
2020	1,614,000	1,478,000
2021	1,486,000	1,408,000
2022	1,412,000	1,362,000
2023	1,371,000	1,336,000

Black Sea Bass

The SSC reviewed the Standard assessment for Black Sea Bass prepared through SEDAR 56 at their May 2018 meeting. SEDAR 56 was completed in April 2018, with data through 2016, and found that the Black Sea Bass stock in the South Atlantic was neither overfished nor undergoing overfishing. However, the SSC noted that the terminal Spawning Stock Biomass (SSB) was only slightly above Minimum Stock Size Threshold (MSST) and trending downward. Recruitment (R) was also trending downward in the last few years.

The SSC commented on several uncertainties for Black Sea Bass. In the terminal year of the assessment, the total fishing mortality of all fleets had a selectivity pattern that differed from all other years in the time series with apical F at age 3, which was significantly lower than all other years in the time series. Looking at a different F metric, other than apical F, may give a very different picture of what is happening in this fishery. Apical F changes to different ages as selectivity changes through time. An F metric that is insensitive to changes in selectivity may

show a different pattern in the exploitation history of this fishery than what is seen by using apical F.

The SSC also mentioned the lack of all fishery-dependent indices at the end of the time series, where the fishery-independent index indicated the largest changes have occurred in population size. Also, that the selectivity of the Chevron trap vs. the video index may differ, especially under situations of high R.

The SSC did have concern over which R was to be used for projections. The R estimated from the Stock-Recruitment relationship was significantly higher than the realized R in the latter part of the assessment, especially since the terminal SSB was so close to the MSST. Ultimately, the SSC recommended using the average R from 1991 to the terminal year for projections to determine the ABC. The OFL was recommended as standard projections at $F=F_{MSY}$. The ABC was recommended as projections using the R pattern from 1991 to the terminal year with a P*=0.375. These values should be in place for no longer than 3 years.

Table 6. Black Sea Bass OFL and ABC projections from the original SEDAR 56 in pounds whole weight.

Year	OFL	ABC
2019	818,000	760,000
2020	718,000	669,000
2021	703,000	643,000

8.4. Action

General SSC Recommendations

- Are the revised assessments recommended as Best Scientific Information Available?
  - *Given the level of analyses and the degree of peer review, the Committee concurred with the findings of the National Marine Fisheries Service and the peer reviewers that the new MRIP estimates are BSIA.*
  - *Would like to see some evaluation of the impact low levels of sampling have when changes in MRIP estimates (derived from FCAL/ACAL scaling vectors) result in a major change in stock status or model diagnostics.*
    - *These MRIP estimates did not go through a data workshop, as had the MRFSS data before being included in the previous assessments. It is possible a data review would have resulted in modifications of some estimates, as occurred with the MRFSS estimates.*
    - *Although the same intercept data as was used as in the past (i.e., number of samples unchanged), the revised effort data that resulted in a new time series of landings/catch may have amplified the effects of low intercepts in some cases.*
  - *The information provided in the Revision Assessments did not allow the SSC to evaluate if the new MRIP estimates may warrant data decisions that differ*

from previous SEDARs or if estimates of key parameters and model inputs have been affected by the change.

- *Previous data decisions may no longer be applicable.*
- *The SSC would like the opportunity to examine all typical outputs before making an ABC recommendation.*

➢ *The SCC requests additional information in the form of full output and diagnostics, and further recommends that this be discussed in a webinar.*

- *The webinar should be scheduled prior to the Spring SSC meeting*
- *During this webinar, the SSC will:*
  - *review the Revision Assessments and the additional information to make a recommendation about BSIA,*
  - *discuss what projections will be requested to formulate ABC recommendations.*

- What impact did the revised data have on measures of assessment uncertainty?

➢ *The revisions just used a scalar in catch; however, the trends in catch and discards changed for some species (e.g., BSB). The Committee may have a better idea of uncertainty after the additional information mentioned above is reviewed.*

➢ *Trend in discards may cause differences in proportions at age* because *the size/age composition of discarded fish often differ from those in the landings due to minimum size limits, etc.*

- *During the open season, discards mostly consist of smaller, younger fish. A trend in the discards changes the proportion of these younger fish in the population, therefore changing all the proportions at age. This can affect age compositions and apical F.*

➢ *The new PSEs are higher, but more realistic, for the historical data.*

- General Recommendations

➢ *The SSC recommends a consistent approach for using MRIP estimates in assessments.*

<u>Blueline Tilefish</u>

- Is the revised assessment recommended as Best Scientific Information Available?

➢ *The Committee was unable to make a recommendation on BSIA at this point (see recommendations above).*

➢ *The SSC requests an overview of the MRIP data decisions for Blueline Tilefish from SEDAR 50.*

➢ *Explore addressing the issue of using proxies to calculate the scaling vector for the calibrated Blueline Tilefish MRIP data.*

- What impact did the revised data have on measures of assessment uncertainty?
  - *There is increased uncertainty originating from the use of data from golden Tilefish and Snowy Grouper to calculate the scaling vector for Blueline Tilefish.*
  - *During the webinar the SSC will explore the decision to use an average ACAL/FCAL ratio for Monroe County.*
- Provide fishing level recommendations
  - Apply the ABC control rule and complete the fishing level recommendations table.
    - *SSC will address revisions to the ABC at the Spring SSC meeting following the webinar.*
  - Comment on any difficulties encountered in applying the Control Rule, including any required information that is not available.
  - Identify and justify any changes in the ABC control rule application and outcome (i.e. P* value) as a result of the revised assessment.
- General Recommendations
  - *Since this is a species that the Mid-Atlantic SSC made an ABC recommendation for also, we should reach out to the Mid-Atl. SSC and discuss the implications of the new MRIP estimates for the stock portion north of Cape Hatteras.*

Table 7. Revised Blueline Tilefish Recommendations (South of Hatteras only)

Criteria			Original	Revised
Overfished evaluation (SSB/MSST)			1.41	
SSB/SSB_{MSY}			1.06	
Overfishing evaluation ($F_{Current}$/MFMT)			0.92	
MFMT (F_{MSY})			0.146	
B_{MSY} (1,000 lbs. total biomass)			1,467	
MSST (1,000 lbs. total biomass, 75% B_{MSY})			1,100	
MSY (1,000 lbs.)			212	
ABC Control Rule Adjustment			20%	
P-Star			30%	
M (scalar for age-specific M)			0.17	
OFL RECOMMENDATIONS (Revised)				
Year	Landed LBS	Discard LBS	Landed Number	Discard Number
ABC RECOMMENDATIONS (Revised)				
Year	Landed LBS	Discard LBS	Landed Number	Discard Number

Red Grouper

- Is the revised assessment recommended as Best Scientific Information Available?
  - *The Committee was unable to make a recommendation on BSIA at this point (see recommendations above).*
- What impact did the revised data have on measures of assessment uncertainty?
  - *During the webinar the SSC will explore the decision to use an average ACAL/FCAL ratio for Monroe County*
  - *A large change in F resulted from a relatively small change in catch toward the end of the time series. The SSC will explore this change during the webinar evaluation.*
- Provide fishing level recommendations
  - Apply the ABC control rule and complete the fishing level recommendations table.
    - *SSC will address revisions to ABC at the Spring meeting following webinar.*

- Comment on any difficulties encountered in applying the Control Rule, including any required information that is not available.
- Identify and justify any changes in the ABC control rule application and outcome (i.e. P* value) as a result of the revised assessment.

Table 8. Revised Red Grouper Recommendations

Criteria	Original	Revised
Overfished evaluation (SSB/MSST)	0.38	
SSB/SSB_{MSY}	0.29	
Overfishing evaluation ($F_{Current}$/MFMT)	1.54	
MFMT (F_{MSY})	0.12	
SSB_{MSY} (mt, total mature biomass)	3,183.3	
MSST (mt, 75% SSB_{MSY})	2,387.6	
MSY (1,000 lbs.)	794.3	
Y at 75% F_{MSY} (1,000 lbs.)	772	
ABC Control Rule Adjustment	22.5%	
P-Star	27.5%	
P-Rebuild	72.5%	
M (scalar for age-specific M)	0.14	

OFL RECOMMENDATIONS (Revised)				
Year	Landed LBS	Discard LBS	Landed Number	Discard Number

ABC RECOMMENDATIONS (Revised)				
Year	Landed LBS	Discard LBS	Landed Number	Discard Number

Vermilion Snapper

- Is the revised assessment recommended as Best Scientific Information Available?
  - *The Committee was unable to make a recommendation on BSIA at this point (see recommendations above).*
- What impact did the revised data have on measures of assessment uncertainty?
- Provide fishing level recommendations
  - Apply the ABC control rule and complete the fishing level recommendations table.
    - *The SSC will address revisions to the ABC at the Spring SSC meeting following the webinar.*

- Comment on any difficulties encountered in applying the Control Rule, including any required information that is not available.
- Identify and justify any changes in the ABC control rule application and outcome (i.e. P* value) as a result of the revised assessment.

Table 9. Revised Vermilion Snapper Recommendations

Criteria			Original	Revised
Overfished evaluation (SSB/MSST)			1.51	
SSB/SSB_{MSY}			1.13	
Overfishing evaluation ($F_{Current}$/MFMT)			0.609	
MFMT (F_{MSY})			0.41	
SSB_{MSY} (1e12 eggs)			18.3	
MSST (1e12 eggs)			13.7	
MSY (1,000 lbs.)			1,305.5	
Y at 75% F_{MSY} (1,000 lbs.)			1,288.2	
ABC Control Rule Adjustment			10%	
P-Star			40%	
M (scalar for age-specific M)			0.22	
OFL RECOMMENDATIONS (Revised)				
Year	Landed LBS	Discard LBS	Landed Number	Discard Number
ABC RECOMMENDATIONS (Revised)				
Year	Landed LBS	Discard LBS	Landed Number	Discard Number

Black Sea Bass

- Is the revised assessment recommended as Best Scientific Information Available?
  - *The Committee was unable to make a recommendation on BSIA at this point (see recommendations above).*
- What impact did the revised data have on measures of assessment uncertainty?
  - *During the webinar the SSC will explore the change in trend, especially in discards, at end of time series that changes status.*
    - *Discards ramp up since 1999, with a large jump in the last 4 years.*
- Provide fishing level recommendations
  - Apply the ABC control rule and complete the fishing level recommendations table.

- *The SSC will address revisions to the ABC at the Spring SSC meeting following the webinar.*

- Comment on any difficulties encountered in applying the Control Rule, including any required information that is not available.
- Identify and justify any changes in the ABC control rule application and outcome (i.e. P* value) as a result of the revised assessment.

Table 10. Revised Black Sea Bass Recommendations

Criteria	Original	Revised
Overfished evaluation (SSB/MSST)	1.15	
SSB/SSB_{MSY}	0.71	
Overfishing evaluation ($F_{Current}$/MFMT)	0.64	
MFMT (F_{MSY})	0.31	
SSB_{MSY} (1e10 eggs)	300	
MSST (1e10 eggs)	186	
MSY (1,000 lbs.)	935	
Y at 75% F_{MSY} (1,000 lbs.)	701.25	
ABC Control Rule Adjustment	12.5%	
P-Star	37.5%	
M (scalar for age-specific M)	0.38	

OFL RECOMMENDATIONS (Revised)				
Year	Landed LBS	Discard LBS	Landed Number	Discard Number

ABC RECOMMENDATIONS (Revised)				
Year	Landed LBS	Discard LBS	Landed Number	Discard Number

9. COMPREHENSIVE ABC CONTROL RULE AMENDMENT

9.1. Documents

Attachment 17. ABC Control Rule Options Paper
Attachment 18. Risk Tolerance Method
Attachment 19. Risk Tolerance Method Overview

9.2. Presentation

Overview: John Carmichael, SAFMC
Risk Tolerance Method Overview: Dr. Mike Errigo, SAFMC

9.3. Overview

The Council is developing a comprehensive amendment to revise the ABC Control Rule, to address flexibility allowed in the MSA and address issues raised over the last few years by the SSC with the existing rule. The purpose of the amendment is to revise the acceptable biological catch control rule; simplify incorporation of scientific uncertainty; modify the approach used to determine the acceptable risk of overfishing, and address flexibility in specifying catch levels. 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 per recent changes to the Magnuson-Stevens Fishery Conservation and Management Act implementing regulations.

Changes made to the document since the last SSC review include edits to the actions and alternatives, additional discussion text, and examples of how the alternatives may impact ABC values. Significant additions and changes in actions are highlighted in the attachment (Attachment 17). Additionally, Council staff has developed a preliminary application of the risk tolerance determination process (Attachment 18). The SSC is asked to provide comments on the actions at this meeting. SSC recommendations on the actions are provided in the discussion of each action and are highlighted in the document provided for review (Attachment 17). These recommendations help the Council decide the range of feasible alternatives and select appropriate preferred recommendations.

9.4. Action

- Review and discuss the following items:
  - Example evaluation of the impact of proposed changes to the ABC Control Rule.
    - *Due to time constraints, the SSC was unable to discuss this Action Item at this meeting. It will be added to the Agenda of the Spring 2019 meeting.*
  - Proposed method for developing initial risk tolerance levels.
    - *Consider "generalists" vs. "specialists"* nature of fisheries in each community.
      - *E.g. longline vs. hook and line*
      - *Consider net revenues and how they change over time. Some fisheries are small, profitable, and efficient (few people) but have high impact (e.g., golden Tilefish, Wreckfish). Might these fisheries be punished by this approach?*
    - *Look at consistency of level of aggregation between different attributes*
    - *For social issues attributes, suggest looking at the proportion of Black Sea Bass relative to the entire catch by community as an index of vulnerability.*
    - *Suggest using a simple average by switching all the attribute scoring for one of the attribute categories (e.g. Productivity).*

- Provide any further recommendations regarding actions and alternatives as necessary.
  - *Table 3: Category 4 years to apply 3rd highest point may need to be species-specific. Examine the decisions made in the past and consider flexibility in time frame.*
  - *Given recent analyses, the use of the "3rd highest point" may no longer be BSIA. This is an issue that needs to be explored as it may result in the need to change the language of the new ABC CR.*

10. REVIEW OF NEW BAG AND SIZE LIMIT ANALYSIS METHODOLOGY

10.1. Documents

Attachment 20. New Bag & Size Limit Analysis Report
Attachment 21. New Bag & Size Limit Analysis
Attachment 22. New Bag & Size Limit Analysis Workgroup Report
Attachment 23. Analysis Methods Presentation

10.2. Presentation

Method Overview: Dr. Mike Errigo, SAFMC
Workgroup Consensus: Dr. Marcel Reichert (Workgroup Chair), SC DNR

10.3. Overview

At the request of the South Atlantic Council at their September 2015 meeting, staff put together Regulatory Amendment 25, which included options for increasing the bag limit for Black Sea Bass. The methods used previously for this type of analysis made inappropriate assumptions about trips meeting the new bag limits. Therefore, staff developed a new method of analyzing bag limit increases (Attachments 20 and 21).

The SSC reviewed this new methodology at their May 2016 meeting, where they made suggestions for improvements to the analysis. The SSC deemed it BSIA, after the changes were implemented, and useful as a bag limit analysis for other species. Staff was to make the changes and bring it back to the SSC in its final form. However, with Regulatory Amendment 25 finalized, there was no more need for this analysis at that time, so it was put on hold until SEDAR 56 for Black Sea Bass was completed and both bag limits and size limits were to be examined for changes.

Staff began developing changes to the methodology to incorporate an analysis of size limits as well as bag limits into the overall analysis (Attachments 20 and 21). At their April 2017 meeting, the SSC decided this would be a suitable candidate for the newly developed workgroup approach for reviewing complex analyses and a workgroup was formed for this task (Attachment 22). The timeline and Scope of Work was updated at the May 2018 meeting, putting the review back on track for a final review by the Committee at the October 2018 meeting.

10.4. Action

- Discuss the uncertainties associated with this analysis.
  - *Change in bag or size limit might change fishing effort and trips.*
  - *Change in bag or size limit might result in a change of consumer surplus or willingness to pay.*
  - *Consider using a Gamma distribution when calculating the new discard selectivity.*
    - *In place of a Normal distribution when calculating the probability of a fish being above/below a given minimum size.*
  - *The committee was wondering if there is a way to validate the model.*
    - *One proposed method was to use the terminal year before management changed to test the performance of the forecast.*
    - *Investigate other species in other regions where size limit decreased, or bag limit has increased.*
    - *Validating this type of model can be very difficult, especially when effort changes.*
    - *Look into using headboat observer data to validate the proportion of fish being discarded on headboats due to the size limit as opposed to hitting the bag limit.*
  - *Methods in the Gulf of Mexico use a high and low approach based on discards, which will have to be used for un-assessed species.*
    - *The more complex analysis was originally developed for Black Sea Bass due to the very high number of discards and the size limit might have been limiting fishermen from achieving any new bag limit.*
    - *This new proposed method can be used for other species, but only those that are assessed.*
  - *Workgroup suggested to add uncertainty (added in paper presented to SSC) and add headboat data (added in the paper presented to SSC)*
  - *The analysis uses old MRIP numbers*
  - *Some fish are caught more than once. Need to attempt to make sure the discarded fish in the analysis are independent.*
    - *A correction factor could be added to B2s at the trip level to account for fish being encountered more than once.*
    - *MARMAP might have repetitive capture data, which could be incorporated into the next stock assessment.*
    - *Recapture rate will likely be impacted by population size and density*

- *The model does not include benefit to reduce discards, affect to population, and changes in fishermen behavior*
  - *Consider survey to ask fishermen if they would change behavior*
- *The SSC recommends adding studies to explore validation of the bag limit analysis and fisher behavior to the research recommendations.*

- Determine whether this analysis is the Best Scientific Information Available and is appropriate for use in managing fisheries resources.
  - *The working group and the SSC considered the method in the analysis as BSIA.*
  - *The method in the analysis will work as long as the assumptions are met.*
  - *Analyses using this method will come to the SSC for review through amendment review as it is developed for other species.*

11. SOUTH ATLANTIC ECOSYSTEM MODEL UPDATE

11.1. Documents

Attachment 24. Ecosystem Model Project Scope of Work
Attachment 25. Ecosystem Model Project Presentation

11.2. Presentation

Ecosystem Model Project Presentation: Dr. Tom Okey, UVIC (via webinar)

11.3. Overview

The Council, using the Essential Fish Habitat Plan as the cornerstone, adopted a strategy to facilitate the move to an ecosystem-based approach to fisheries management in the region. This approach required a greater understanding of the South Atlantic ecosystem and the complex relationships among humans, marine life, and the environment including essential fish habitat. To accomplish this, a process was undertaken to facilitate the evolution of the Habitat Plan into a Fishery Ecosystem Plan (FEP), thereby providing a more comprehensive understanding of the biological, social, and economic impacts of management necessary to initiate the transition from single species management to ecosystem-based management in the region.

The South Atlantic Fishery Management Council developed the Fishery Ecosystem Plan (FEP) II as a mechanism, in cooperation with NOAA Fisheries, to incorporate ecosystem principles, goals, and policies into the fishery management process. A core part of the FEP II development process involved engaging the Council's Habitat Protection and Ecosystem Based Management Advisory Panel and regional experts in developing new Sections and ecosystem specific policy statements to address South Atlantic food webs and connectivity and South Atlantic climate variability and fisheries. In addition, the Council also updated standing essential fish habitat policy statements and developed a new artificial reef habitat policy statement. In combination,

these statements advance habitat conservation and the move to ecosystem-based fishery management (EBFM) in the region and provided a foundation to develop the FEP II Implementation Plan. Council policies developed through the process support data collection, model and supporting tool development, and implementation of Fishery Ecosystem Plan II. The FEP II, the FEP II Implementation Plan, and this roadmap also provide a metric for determining the incorporation of ecosystem considerations into the management process.

To help facilitate this transition, the Council worked cooperatively with the University of British Columbia and the Lenfest Sea Around Us project to develop a straw-man and preliminary food web models (Ecopath with Ecosim) to characterize the ecological relationships of South Atlantic species, including those managed by the Council. This effort was envisioned to help the Council and cooperators in identifying available information and data gaps while providing insight into ecosystem function. More importantly, the model development process provides a vehicle to identify research necessary to better define populations, fisheries, and their interrelationships.

A second collaboration built on the initial Ecopath model developed through the Sea Around Us project for the South Atlantic Bight with a focus on potential changes in forage fish populations in the region that could be associated with environmental or climate change or changes in direct exploitation of those populations.

As part of the FEP II development process a new generation South Atlantic ecosystem modeling effort funded by the South Atlantic Landscape Conservation Cooperative (SALCC), is being conducted to engage a broader scope of regional partners. This effort is drawing on existing ecosystem and other supporting models to facilitate development of a suite of ecosystem models ultimately providing evaluation tools for the SSC and Council. A new Ecopath model is under development and supporting model inputs through regional partners to refine links between the SAFMC FEP II and other regional conservation planning efforts.

11.4. Action

- Consider forming a workgroup for this project to facilitate SSC input when needed and SSC review of the final model upon completion.
    - *The SSC feels it does not have enough understanding at this time of how the model could or would be used to provide fisheries-specific advice to managers. While the model is very complicated and includes tremendous amounts of data, how can it be ground-truthed to ensure its outputs correctly inform the management process. The SSC requests the modeling group bring examples of the types of analyses/outputs of the model and how those outputs could inform management, to the SSC to evaluate at their next meeting. This overview should include inputs as well as outputs and examples.*
    - *This decision was largely due to the degree of completion of the current model. For instance, a time-series fitting of model has not been completed (but datasets are available), there is a need to rebalance after diet comp data and new MRIP data are included. The modeler can then run diagnostics and make the model and outputs ready for use in review and analyses.*

- *The presenters used the Ecopath model to provide a snapshot of the SA Ecosystem. Data is available for SAFMC species, relevant predators and prey, and lower trophic levels potentially influencing their production, and a base model is running.*
- *The presenters described Ecosim as a model that can explore time series. The development for a SA model is well underway. Time series will be available for tuning dynamic simulations.*
- *The presenters explained that once the model is complete and tuned to the available data it could be used to address broad, strategic issues, and explore "what if" scenarios. Focused sub-models could then be used to address tactical decision-making questions (e.g. provide ecosystem context for single-species management, address species assemblage questions).*
  - *First need to develop relevant questions to address.*
  - *Then need to construct the sub-model to address those questions.*
  - *Targeted sub-models may not be as large as the main model.*
- *The Committee can then form a Workgroup and discuss ToRs and charges, which can include:*
  - *Input on what analyses/applications the model should/can be used for (needed for model finalization)*
  - *Review overall base model*
  - *Appropriateness of data and decisions made*
  - *Formulation of sub-models*
- *It is important to identify a someone who is familiar with the model and model approaches, and regularly runs and maintains the models and datasets. This person should play a key role in the further development and implication of the model ("quarterback").*
- *Input on how to and who could fill the role of the ecosystem model "quarterback". This work should dovetail with SEFSC Ecosystem Branch work*
  - *Todd Kellison and Kevin Craig*
  - *Incorporating multispecies Surplus Production modeling*
  - *Ecosystem Status Reports*
  - *Ecosystem lead: Mandy Karnauskas*
  - *Input from Council very important*
- *NOAA Habitat Mapping data could be incorporated into model*
  - *Fits best into Ecospace component of modeling effort – underway*
  - *Helpful for species with incomplete diet/bio information*

- *Once the SSC is satisfied that the proposed model addresses concerns raised by the SSC regarding how it can be used to advise managers, the SSC will recommend a presentation to Council on benefits of Ecosystem model approaches to assessments and management*
  - *Real context most beneficial*
  - *Examples of uses elsewhere*
  - *Actual outputs from current SA model*

12. COUNCIL WORKPLAN UPDATE

12.1. Documents

Attachment 26. SAFMC Work Plan, September 2018
Attachment 27. SAFMC Amendments Overview, September 2018

12.2. Overview

These documents are provided at each meeting to keep the Committee informed of Council activities. Regular detailed reviews of each amendment are no longer requested of the SSC as amendments are developed; instead the Committee is asked to comment on specific technical items that may arise. However, members are welcome to review any ongoing amendments and to provide comments and suggestions directly to staff. Current versions of each amendment are included in the Council Briefing Books distributed to SSC members. Questions or comments about specific items should be addressed to the staff assigned to each FMP, as summarized below.

- CMP Framework 6 (King Mack Trip Limits) – Christina Wiegand
- CMP Amendment 31 (Atl. Cobia Management) – Christina Wiegand
- Corals Amendment 10/Golden Crab Amendment 10/Shrimp Amendment 11 (Access Areas) – Chip Collier
- Fishery Ecosystem Plan – Roger Pugliese
- SG Amendments 43 & 46 (Red Snapper & Recreational Reporting) – Chip Collier
- SG Commercial and Recreational Visioning Amendments – Myra Brouwer
- SG Regulatory Amendment 32 (Yellowtail Snapper) – Myra Brouwer
- SG Amendment 38 (Blueline Tilefish) – Roger Pugliese
- SG Regulatory Amendment 29 (Best Fishing Practices) – Christina Wiegand
- SG Amendment 42 (Sea Turtle Release Gear) – Christina Wiegand
- SG Regulatory Amendment 30 (Red Grouper Rebuilding) – John Hadley
- SG Amendment 47 (For-Hire Permit Modifications) – John Hadley
- Spiny Lobster Regulatory Amendment 4 (ACL and Rec Traps) – Christina Wiegand

- Spiny Lobster Amendment 13 (Coord Management w/FL) – Christina Wiegand
- DW Amendment 10 (Adaptive Management for Dolphin) – John Hadley
- Joint Commercial Logbook Amendment – John Carmichael
- Bycatch Reporting Amendment – Chip Collier
- Recreational AMs (SG Reg 31/CMP Framework 7/DW Reg 2) – Brian Cheuvront
- Abbreviated Framework 2 (Fishing levels for Black Sea Bass and Vermilion Snapper) – Brian Cheuvront

12.3. Action

- No specific actions required

13. PUBLIC COMMENT

The public is provided an additional opportunity to comment on SSC recommendations and agenda items.

14. OTHER BUSINESS

15. REPORT AND RECOMMENDATIONS REVIEW

The Committee is provided an opportunity to review its report and final recommendations.

The Final SSC report will be provided to the Council by 9 am on Tuesday, November 13, 2018 (approximately 3 ½ weeks from the end of the meeting) for inclusion in the first briefing book for the December Council meeting.

16. NEXT MEETINGS

16.1. SAFMC SSC MEETINGS

2019 Proposed Meeting Dates

Spring

- April 9-11, 2019 in Charleston, SC

Fall

- October 15-17, 2019 in Charleston, SC

16.2. SAFMC Meetings

2018-2019 Council Meetings

December 3-7, 2018 in Kitty Hawk, NC
March 4-8, 2019 in Jekyll Island, GA
June 10-14, 2019 in Stuart, FL
September 16-20, 2019 in Charleston, SC
December 2-6, 2019 in Wilmington, NC

ADJOURN