Standing, Reef Fish, Mackerel, Shrimp, and Socioeconomic SSC Meeting Summary

Tampa, Florida
March 13-14, 2019

The meeting of the Standing, Reef Fish, Mackerel, Shrimp, and Socioeconomic Scientific and Statistical Committees (SSC) was convened at 8:30 a.m. on March 13, 2019. The agenda was approved after moving item VII ahead of Item VIII. The minutes from the January 9, 2019 SSC webinar were approved as written.

Dr. Luiz Barbieri agreed to serve as the SSC representative at the April 1-4, 2019 Gulf of Mexico (Gulf) Fishery Management Council (Council) meeting in Biloxi, Mississippi.

Review of SSC Operating Procedures

At its October 2018 meeting, the SSC was presented with concerns identified in its operational procedures and potential solutions to those concerns. Dr. Joe Powers developed a white paper addressing the October 2018 presentation. A broader approach to addressing those concerns was offered, as was the continued development of the scope of work generated prior to each SSC meeting. Avoiding the practice of drafting motions "in the moment" was also suggested.

To better organize the discussion of agenda items, the use of Discussion Leaders (DL) was recommended. These DL would be assigned by the SSC Chair, based on their willingness to lead discussion of a particular agenda item, and could query other SSC members and staff prior to the SSC meeting to develop appropriate materials to contribute to the deliberation of the subject agenda item. Any Standing or Special SSC member could serve as a DL. Further, the DL for an agenda item could also assist Council staff in drafting summary report components. SSC members generally viewed the DL approach as favorable, but noted that increased time to review materials pertinent to an agenda item would be essential to the success of this approach. Some concern was expressed about discussions held between the DL and other SSC members or staff outside of the publicly noticed SSC meeting; however, since the ultimate recommendation(s) to the Council is generated at the meeting by motion by the SSC as a whole, the public nature and transparency of the decision-making process would remain unchanged. Also, motions proposed by the discussion leader would have no more weight than any other motion and would be considered by the SSC as a whole.

The SSC discussed the role of the DL with respect to reviewing stock assessments at length. It was generally agreed that an SSC member who was involved with the subject stock assessment, and preferably an SSC member who served on the assessment's Review Panel, should serve as the DL for that assessment.

Recognizing that this new DL approach would likely require some fine-tuning, SSC members agreed to implement the approach to determine where improvements or modifications could be made and make adjustments as warranted over the next several meetings.

Review of SEDAR Stock Assessment Executive Summary Components

Council and Southeast Fisheries Science Center (SEFSC) staff reviewed an initial draft proposal for the development of an executive summary report for Southeast Data, Assessment, and Review (SEDAR) stock assessments. This first draft was inclusive of many items which Council and Southeast Regional Office staff require for the development of amendments to fishery management plans and for fielding concerns posed by the public. SEFSC staff added that aspects of the assessment could change during an SSC review, which occurs after the stock assessment report is finalized. A standalone document like the proposed executive summary could serve to provide the most up-to-date information about the stock assessment in concise manner that is accessible to various stakeholders.

SSC members generally liked the idea of an executive summary, but cautioned against including too much information, especially justifications for decisions made during the assessment. The use of hyperlinks to parts of the assessment containing the pertinent justification for the decision made was thought to be an appropriate alternative to consider. SSC members supported development of a standardized format to make creating the executive summary easier, along with making it easier for the public to navigate. SEFSC staff acknowledged some funds for creating an automated method for harvesting the data for the executive summary from the stock assessment report and said this method could be explored.

SEFSC and Council staff agreed to work together to create the executive summary, recognizing that it would be an iterative process which would require a few attempts to develop into a final product. An example will be presented to the SSC at a future meeting. Once finalized, executive summaries will be posted to the SEDAR website under the appropriate stock assessment page.

Updated Gray Snapper Projections at $F_{26\%SPR}$

Dr. Shannon Cass-Calay from the SEFSC presented updated projections for gray snapper using three different values for the fishing mortality at maximum sustainable yield (F_{MSY}) proxies ($F_{26\%SPR}$, $F_{30\%SPR}$, and $F_{40\%SPR}$), along with changing the minimum stock size threshold (MSST) from 1-M*B_{MSY} to 0.5*B_{MSY}. Dr. Cass-Calay also presented associated acceptable biological catch (ABC) and overfishing limit (OFL) values, calculated with 2016 and 2017 landings data and assuming the ACL in lieu of landings for 2018, for each F_{MSY} proxy option. The SSC found the presented analyses to be statistically sound and appropriate.

> **Substitute Motion:** The SSC moves that the Gulf Gray Snapper OFL and ABC yield streams presented by the SEFSC for $F_{26\%SPR}$, $F_{30\%SPR}$, and $F_{40\%SPR}$ were computed with the same statistically appropriate methods. The OFL yield stream for a given SPR proxy represents 50% of the retained catch PDF for that proxy. The ABC yield stream for a given SPR proxy represents a P* of 0.4 applied to the retained catch PDF for that proxy. This P* resulted from the application of the Gulf Council's ABC Control Rule.

$F_{26\%SPR}$

Year	OFL (mp ww)	ABC (mp ww)
2019	2.59	2.52
2020	2.58	2.51
2021	2.56	2.51

$F_{30\%SPR}$

Year	OFL (mp ww)	ABC (mp ww)
2019	2.26	2.20
2020	2.29	2.24
2021	2.32	2.27

$F_{40\%SPR}$

Year	OFL (mp ww)	ABC (mp ww)
2019	1.64	1.59
2020	1.72	1.68
2021	1.80	1.76

*Substitute Motion carried unanimously***.**

SSC members had extensive discussion about how to proceed with a recommendation for the F_{MSY} proxy. The SEFSC stated that an SPR ranging between 24% and 40% was considered appropriate for gray snapper. Both the SSC and SEFSC also acknowledged that numerous uncertainties (i.e. fleet behavior, discards, etc.) existed in the stock assessment and these uncertainties should be accounted for when recommending a proxy value for F_{MSY}. Specifically, the discussion focused on selecting either an F_{MSY} proxy of $F_{26\%SPR}$ (used for red snapper) or $F_{30\%SPR}$ (the SSC's previous recommendation). Citing the SSC's previous discussion on a recommendation of an F_{MSY} proxy for gray snapper, recent published scientific literature, and uncertainty in the SEDAR 51 gray snapper stock assessment, the SSC continues to recommend $F_{30\%SPR}$ as a proxy for F_{MSY}.

> **Substitute Motion:** While the SSC acknowledges that 26% SPR is scientifically acceptable as a proxy for MSY, the SSC still prefers the earlier recommendation of 30% SPR, because of the uncertainty in the assessment, so we prefer to go forward with this more risk averse measure.
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> *Substitute Motion carried 12-9 with 2 abstentions*.

Review of FMP Objectives

Council staff presented the most recent Fishery Management Plan (FMP) objectives for six fisheries (Reef Fish, Coastal Migratory Pelagics (CMP), Shrimp, Spiny Lobster, Corals and Coral Reefs, and Red Drum), and noted that the Council had reviewed and updated the Reef Fish FMP objectives at the October 2018 and January 2019 Council meetings. The Committee made comments and suggestions as noted below, noting that these lists contain a mix of fundamental principles and means of accomplishing objectives.

Reef Fish FMP Objectives

- Rephrase Objective #2 (To achieve robust fishery reporting and data collection systems across all sectors for monitoring the reef fish fishery which minimizes management uncertainty.) to "minimizes scientific management and risk uncertainty".

CMP FMP Objectives

- Objective #1 (The primary objective of this FMP is to stabilize yield at the maximum sustainable yield (MSY), allow recovery of overfished populations, and maintain population levels sufficient to ensure adequate recruitment.) may conflict with Objective #8 (To optimize the social and economic benefits of the coastal migratory pelagic fishery.).
- Could Objective #1 be phrased similarly to Objective #6 of the Reef Fish FMP (To manage Gulf stocks at OY as defined in MSA)?
- Should cobia be added to Objective #7 (To provide appropriate management to address specific migratory groups of king mackerel.)?

Shrimp FMP Objectives

- Objective #6 (Minimize conflict between shrimp and stone crab fishermen.) and Objective #7 (Minimize adverse effects of obstructions to shrimp trawling.) may no longer be pertinent.
- Objective #7 may conflict with priorities on reef construction by some states.

Coral FMP Objectives

- Should deep-water oil and gas infrastructures, particularly their removal, be addressed?

Red Drum FMP Objectives

- Objective #1 (Cooperatively with the states provide at least a 30 percent level of escapement of juvenile red drum to the offshore spawning stock, and control offshore fishing mortality to assure optimum recruitment and enhancement of the inshore and offshore populations.) needs to better define 'juveniles' in terms of age. Also, each state may measure escapement differently, making escapement rates incomparable.
- Is Objective #2 (Establish, implement, and maintain research and data gathering programs to ensure that appropriate data will be available to formulate management measures and monitor the condition of the stock.) still applicable or needed?
- Can Objective #4 (Maximize the economic and social benefits of the resource to the nation.) be phrased similarly across the FMP objectives for all fisheries?

Review of Gulf Sector Allocations

Staff reviewed a short briefing paper that provides the existing allocations in the Gulf. These include sector allocations, within sector allocations, and jurisdictional apportionments between the Gulf and South Atlantic Councils. This was for informational purposes only, and no recommendations were made.

Review of Generic ACL Carryover Amendment

Council staff reviewed the Generic Annual Catch Limit (ACL) Carryover Amendment, outlining the functionality of the provision with respect to the Acceptable Biological Catch (ABC) Control Rule and the October 2016 update to the National Standard 1 Guidelines. SSC members asked questions about the general function and purpose of the various rules which underpin the provision and requested that Table 1.1.1 in the document explicitly show which ACLs were exceeded in 2017. SSC members recalled the two simulations provided at past meetings by the SEFSC which demonstrated that an ACL underage could be carried over, pound for pound, to the following fishing year, without any negative effect on the stock. This is because the foregone yield will be assumed to have increased in size and possibly reproduced (depending on species and fleet selectivity); therefore, even the carryover may be more conservative than necessary, as it does not also include any additional production by the previously foregone yield.

SSC members asked whether overages and payback provisions had been considered in the carryover provision. Noting that they had not, SSC members questioned the effect of an overage, and subsequent payback provision, on a stock which in a different year had the carryover provision applied. The SSC's interest in this scenario was whether the combined effects of overages, with underages negated by a carryover provision, would have an adverse effect on a stock, particularly one with a rebuilding plan. The payback provision currently used by the Council is a 1:1 payback of the overharvest in the previous fishing year from the following fishing year. This payback provision, in the inverse of the carryover provision, may not be conservative enough, as it does not directly address the future foregone contributions to recruitment by the fish removed through excessive harvest. Thus, the SSC made the following motion with respect to the previously reviewed simulations of carryover on red snapper and Gulf migratory group king mackerel:

> **Motion: The SSC moves that the Council request that the SEFSC include periodic underages and overages of the ACL in the simulations for carryover.**
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> *Motion carried unanimously*.

SSC members asked how uncertainty was addressed in the carryover provision. Council staff demonstrated the use of the Council's ACL/Annual Catch Target (ACT) Control Rule to the SSC, which operates in a similar way to the ABC Control Rule to create a measured buffer between the ABC and the ACL and between the ACL and the ACT, if applicable. Council staff added that Action 2 in the Generic ACL Carryover Amendment further constrained the amount of pounds which could be carried over to account for management uncertainty, in addition to the management uncertainty already acknowledged in the ACL/ACT Control Rule.

Update on NOAA RESTORE Activities

Dr. David Chagaris presented the results of several National Oceanic and Atmospheric Administration's Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economies (RESTORE) projects for ecosystem modeling and its potential to inform fishery management. Specifically, the presentation highlighted studies quantifying the detrimental effects of broad disturbance events (e.g., red tide, oil spills, invasive lionfish) on fish population

abundance along with other confounding effects on population dynamics such as inter- and intraspecies competition, habitat selection, and predator-prey mechanisms. The SSC acknowledged the progress made in the development of these multi-species models, but advised that rigorous peer-review and increased utility for updating new data inputs would be required before ecosystem-based models could be directly implemented as part of future stock assessments. Dr. Chagaris agreed and stated that other Council regions have taken steps towards identifying which knowledge gaps persist in stock assessments that could be answered by ecosystem modeling approaches.

Revision of ABC Control Rule

Dr. Joe Powers summarized the genesis and purpose of the Council's ABC Control Rule. SSC members agreed that revisiting the ABC Control Rule and the P* analysis periodically was prudent. SEFSC staff noted that limitations within a stock assessment typically lead to more fixed parameters, which mask uncertainty in the current ABC Control Rule. The SEFSC offered to build an alternative tool, with input from SSC volunteers, and will present the alternative control rule at a future SSC meeting. It was also noted that right-sizing assessments to the data available would likely result in more realistic representations of reality, as opposed to fixing numerous parameters. Further, for parameters that are not able to be freely estimated, the use of informative priors will allow the model additional flexibility while constraining possible parameter values within a realistic range.

SSC members discussed the issue of the size of the buffer between the OFL and ABC after the application of the P* analysis. A percent multiplier was proffered as one potential modification to the current ABC Control Rule, whereby the multiplier would impose a percent difference between the ABC and OFL under certain circumstances.

Selection of SSC Volunteers for SEDAR 68: Scamp Data Workshop

Council staff described the structure of the research track assessment for scamp and outlined the responsibilities of the Assessment Development Team (ADT). The ADT will participate in all facets of the research track, with the exception of the stock identification process, and will use feedback received from the Data, Assessment, and Review Workshop panels to make decisions about all aspects of the assessment. As the research track assessment for scamp is novel, it is also an opportunity to work through issues prior to future research track assessments. Dave Chagaris, Will Patterson, and Sean Powers volunteered to be on the ADT.

Staff also asked for volunteers for the scamp Data Workshop; Robert Leaf, Judd Curtis, and John Mareska volunteered.

Other SEDAR scheduling changes resulting from the partial government shutdown between December 2018 and January 2019 were reviewed.

Stock Status Review of Gulf of Mexico Shrimp Species

Dr. Rick Hart presented the SSC with the stock status reports for brown, pink, and white shrimp. None of the stocks are overfished, nor are they undergoing overfishing. While pink, brown, and white shrimp spawning stock biomasses are greater than overfished reference points, pink and brown shrimp spawning stock biomasses have decreased in the past few years, and Dr. Hart will be looking into that further. The Committee noted that contemporary declines in recruitment for all three species seem to suggest that the stocks are returning to pre-2005 levels. The Committee asked for clarification on how calculations for fishing mortality differed across stocks. Dr. Hart noted that the brown shrimp stock is an annual model with seasons. The pink and white shrimp stocks are modeled in monthly intervals, with the months modeled as years within the assessment framework.

> **Motion: The SSC moves to accept the Gulf of Mexico Brown, Pink, and White Shrimp Assessment Updates through 2017 as the Best Available Science.**
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> *Motion carried unanimously.*

Review of Red Snapper Management Strategy Evaluation Tool

Dr. Yuying Zhang presented a draft red snapper decision-support tool that could be used to perform a management strategy evaluation on red snapper. This tool is web-based and can be used by managers, stakeholders, and scientists to help quantify the risks and trade-offs among alternative management strategies. The tool is closely linked with both the data, models, and outputs from the most recent red snapper stock assessment (SEDAR 52) and allows simulation and exploration of model inputs and management scenarios. The tool is under active development and will be available for additional review and use within the next year. Dr. Cass-Calay stated that this tool is being developed in close coordination with the SEFSC and they are supportive of the process and interested in the potential applications of this tool. There are four sub-modules designed to incorporate external data into the decision-support tool: three use data and methods directly from stock assessments, and are therefore presumably further along in their development; a fourth focuses on socioeconomic data, and has not yet been developed. This socioeconomic module may prove quite influential in determining preferential management outcomes, and effort should be dedicated to its development.

Other Business

Dr. Joe Powers noted that Dr. Kai Lorenzen has been participating in calls about the National SSC meeting, which will take place in 2020. More information regarding the National SSC meeting will be provided to the SSC as it becomes available.

The meeting adjourned at 11:15 a.m. on March 14, 2019.

Participants

Standing SSC
Joe Powers, Chair
Luiz Barbieri
Harry Blanchet *via webinar*
Lee Anderson
Benny Gallaway
Bob Gill
Doug Gregory *via webinar*
Jeff Isely
Walter Keithly
Robert Leaf
Camp Matens
James Nance
Will Patterson
Sean Powers
Ken Roberts
Steven Scyphers
James Tolan
David Chagaris

Reef Fish SSC
Jason Adriance
Judson Curtis
John Mareska

Shrimp SSC
Thomas Shirley *via webinar*
Richard Burris *via webinar*
Peyton Cagle *via webinar*

Mackerel SSC
Jason Adriance
John Mareska
Kari MacLauchlin-Buck

Socioeconomic SSC
Kari MacLauchlin-Buck
Jack Isaacs
Andrew Ropicki *via webinar*

Council Staff
Matt Freeman
John Froeschke
Ava Lasseter
Ryan Rindone
Lisa Hollensead
Charlotte Schiaffo
Carrie Simmons

Presenters
Yuying Zhang, FIU
Shannon Cass-Calay, NMFS
Rick Hart, NMFS

Council Member
Tom Frazer

Others
Michael Drexler, OC
Sue Gerhart, NMFS
Roy Crabtree, NMFS
Jeff Pulver, NMFS
Mike Travis, NMFS
Kelsi Furman, NEU
Aubrey Foulk, NEU
Lauren Waters, NMFS
Kelli O'Donnell, NMFS
Alisha Gray-DiLeone, NMFS