**Standing, Reef Fish, Shrimp,
and Socioeconomic SSC
Meeting Summary
July 7 – 8, 2022**

The meeting of the Gulf of Mexico (Gulf) Fishery Management Council's (Council) Standing, Reef Fish, Shrimp, and Socioeconomic Scientific and Statistical Committees (SSC) was convened at 9:00 AM EDT on July 7, 2022. The agenda for this meeting was modified to include appointment of SSC members to a South Atlantic Fishery Management Council Workgroup, and was approved along with the minutes from the May 2022 SSC meeting. Verbatim minutes from past SSC meetings can be reviewed here.

Dr. Jim Nance will represent the SSC at the Council's August 22 – 25, 2022 meeting in Corpus Christi, Texas.

*Review: Alternative Model Run for SEDAR 72 Base Model using Florida's State Reef Fish Survey*

Dr. Katie Siegfried (Southeast Fisheries Science Center [SEFSC]) presented a resolved issue with the landings data from the headboat directed landings and discards. When these data were pulled for the assessment, Area 23, which covers northwest Florida and Alabama, was accidentally omitted. The inclusion of these data in both the original SEDAR 72 base model using Marine Recreational Information Program (MRIP) data, and Florida's State Reef Fish Survey (SRFS) data, resulted in minimal differences in the estimated landings by year. This error was also corrected for the SEDAR 68 operational assessment for scamp, which is not being discussed at this SSC meeting. Although these differences for gag grouper were small, both the MRIP- and SRFS-informed models were re-run to ascertain any effects to management benchmarks and rebuilding timelines. This resulted in no substantial change to the rebuilding timeline for the SRFS model; however, the MRIP model now projects that the stock rebuilds in 10 years ($T_{Min}$, F=0) at a fishing mortality rate at maximum sustainable yield ($F_{MSY}$) proxy using a 30% spawning potential ratio ($F_{30\%SPR}$), and a medium severity estimate for red tide mortality in 2021. Dr. Siegfried commented that automated data processing methods being developed by the SEFSC are being built to include error checking and safeguards.

Dr. Lisa Ailloud (SEFSC) presented the revised results of the SEDAR 72 Gulf of Mexico gag grouper operational assessment using the SRFS private angling landings in place of those from the MRIP's Fishing Effort Survey (FES), and the original SEDAR 72 base model. The Council requested the SRFS-informed model run in October 2021, with diagnostics, to see how the SRFS private angling landings data performed for gag grouper. A review of the SRFS was coordinated and completed by NMFS Office of Science and Technology (OST) in May 2022. The findings of the review were subsequently evaluated by NMFS OST and SEFSC staff, and no major concerns were identified in the review that would preclude the use of the calibrations for their intended purpose. Generally, the SRFS model estimates similar trends in landings as the MRIP model, albeit with lower estimates of removal and stock size. Approximately 95% of private angling

landings of gag grouper are captured within the SRFS sampling frame, which encompasses the eastern Gulf of Mexico from the Florida/Alabama state line east and south through Monroe County. Like the MRIP-informed model, the SRFS model shows a decline in gag grouper landings in recent years.

Dr. Ailloud presented updated model results and diagnostics, including comparisons with the SEDAR 33U assessment as well as the previously approved SEDAR 72 base model (SEDAR 2021), and revised management benchmarks, stock status estimates and projections for Gulf gag grouper. Fits to age and length composition data were similar between model runs, with some bounding issues with selectivity of directed fleets resolved by fixing those values to improve model stability. Fits to indices, trends in recruitment, exploitation rate (F), and spawning stock biomass (SSB) were also similar between models. The aforementioned headboat correction, which had a minimal effect on the overall results from the models, will be included in a revised report for the SRFS run. The SRFS run does estimate a lower virgin biomass, a lower rate of depletion, and less recruitment, all to pair to the lower estimated historical removals under SRFS compared to MRIP. The 2014 red tide episodic mortality event is more pronounced in the SRFS run than in the MRIP run; Dr. Ailloud noted that the time blocks in the model for defining fishing season duration for the recreational fleets led to differences in retention estimates between the models. However, these retention estimates are generally estimated with considerable uncertainty. Diagnostics demonstrated stable models using either SRFS or MRIP, and minimal retrospective patterns in the SSB, recruitment, and F as years of data are peeled away. Generally, the SRFS run scales down the stock's population size by about 50%, but does not change the stock's trajectory or the ratio of SSB to virgin SSB in the terminal year. Both models perform similarly.

An SSC member noted that the last stock assessment, the SEDAR 33 Update (2016) showed a healthy stock when using female-only biomass and $F_{MAX}$ as the proxy for $F_{MSY}$ (the SSC determined this proxy to be inappropriate in November 2021). However, since the 2014 terminal year of that assessment, there have been three red tide episodic mortality events (2014, 2018, and 2021), and recruitment and landings have declined therein. The SSC member also postulated whether the *Deepwater Horizon* oil spill may have had an effect on recruitment of gag grouper on the west Florida shelf, and noted that the issue of sex ratio has been an ongoing concern.

Dr. Ailloud continued with the projections from the models, which were informed by a medium severity estimate of red tide mortality in 2021 compared to the 2005 red tide, and proxies for $F_{MSY}$ of $F_{30\%SPR}$ and $F_{40\%SPR}$. $F_{MAX}$ was not included here due to previously being deemed inappropriate by the SSC. Choosing a proxy for $F_{MSY}$ affects estimates of a recruit's future reproductive output. With protogynous hermaphrodites, if only measuring female biomass, long-term F may result in relatively low biomass levels of males, which in turn affects long-term yield. Given the uncertainty surrounding the relative contribution of males to the reproductive output of the stock, using sexes-combined SSB (males and females) provides a buffer to avoid depleting the males. Following a similar logic and adding in the complexity of uncertainty surrounding steepness, Harford et al. 2018[1] provides guidance on the level of SPR that would be highest probability of achieving long-term MSY in hermaphroditic stocks. Steepness was fixed in both models.

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[1] https://gulfcouncil.org/wp-content/uploads/05f.-Harford-et-al.-2019-Fish-and-Fisheries.pdf

For the projections, selectivity and retention are fixed at their 2019 values, with recruitment following the Beverton-holt stock-recruitment relationship. Actual landings are used for the interim years of 2019 – 2021, and the average of those three years for 2022. The sector allocation ratio from Reef Fish Amendment 30B is retained (61% recreational, 39% commercial), and the red tide influence in the interim years is included as a fixed F. Ultimately, the sector allocation scenario may necessitate differing sets of projections; if SRFS data are used to inform the sector allocation based on the years used in Reef Fish Amendment 30B (1986 – 2005), the sector allocation (based on the same formula as the present sector allocation) changes to 65% recreational, 35% commercial. Under either the SRFS or MRIP models, gag grouper is overfished and undergoing overfishing. Using an $F_{MSY}$ proxy of $F_{30\%SPR}$, the stock rebuilds to a smaller SSB than at $F_{40\%SPR}$, with ultimately smaller yields over time. The SSC noted that fixing steepness and setting a proxy for $F_{MSY}$ in effect fixes stock productivity.

The SSC discussed the SRFS run compared to the MRIP run, considerate of how the fishery is expected to be monitored in the future. An SSC member noted that the State of Florida and the Council have expressed a desire to use the same data collection program to both monitor and assess the stock, which would indicate using SRFS. The SEFSC was commended on its work to perform these additional analyses. Another SSC memberr added that migrating from a generalized survey like MRIP to a region-specific survey like SRFS may be more appropriate for stocks that are effectively sampled by the latter (95% of private angling landings for gag grouper are captured by SRFS), with the added benefit of improved precision in the SRFS survey. An SSC member asked whether switching from recommending the MRIP model at its November 2021 meeting as consistent with the best scientific information available (BSIA) to the SRFS model was in effect stating that one survey was better than the other. Council staff recalled that the SSC has always made recommendations on BSIA on a case-by-case basis, and has never given a blanket recommendation to any fishery-independent or -dependent survey. SSC members noted that any recommendation of BSIA was not specific to a survey, but rather to the completed stock assessment product as being *consistent* with BSIA. An SSC member thought it appropriate for the SRFS survey to be considered whenever it encompasses the overwhelming majority of the private angling landings for a stock (>90%). The SSC also noted the differentiation in circumstances with species like gag compared to, say, red snapper, when considering the spatial distribution and magnitude of landings compared to the surveys examining those stocks. An SSC member expressed some reservation about making determinations of BSIA between the surveys.

The SSC noted the need to determine whish proxy to use for $F_{MSY}$. As noted, the SSC no longer supports the use of $F_{MAX}$ for gag grouper. An SSC member noted differences in when the stock was estimated to be overfished, based on the way in which SSB is calculated (female-only versus sexes-combined SSB), and based on the $F_{MSY}$ proxy ($F_{MAX}$ versus $F_{30\%SPR}$). These model specifications have changed from assessment to assessment as the data have evolved with time. An SSC member thought that an $F_{MSY}$ proxy of $F_{30\%SPR}$ was likely a lower bound for gag grouper, and $F_{50\%SPR}$ or $F_{60\%SPR}$ was a higher bound, with $F_{40\%SPR}$ being closer to the middle. Another SSC member agreed, adding that given the low sex ratio, rate of reproduction, and red tide susceptibility, there appeared to be ample evidence in support of a higher $F_{MSY}$ proxy than $F_{30\%SPR}$, and certainly higher than $F_{MAX}$.

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**Motion: The SSC recommends $F_{40\%SPR}$ as the appropriate $F_{MSY}$ proxy and the basis for stock status determination criteria for Gulf of Mexico gag grouper.**

*Motion carried with one opposed and 5 absent.*

The SSC discussed selecting the exact model that was consistent with BSIA, considerate of discussions about the data inputs and the trends observed in the stock. An SSC member asked whether the SSC was differentiating between the MRIP and SRFS surveys, and determining one to be more consistent with BSIA than the other. Another SSC member noted the certification of the SRFS program and its calibration to historical data, and its increased precision over MRIP due to it being explicitly designed for waters adjacent to Florida. Further, they noted that the decision isn't about which survey is "better"; however, the surveys are linked in that intercept data collected by SRFS are ultimately used to inform MRIP's catch estimation in the Access Point Angler Intercept Survey. Where the surveys differ is in the estimation of fishing effort. Another SSC member added that monitoring and assessing the stock using the same survey(s) was likely to the benefit of understanding the performance of the stock over time. An SSC member stated that deciding which survey to use for the private angling landings made implicit assumptions about accuracy. Another SSC member replied that studies were planned or ongoing to better determine relative estimates of accuracy for various surveys; at present, the MRIP Transition Team, which has been working on the calibration ratios for the several state surveys for various species, has stated that it is not yet possible to determine which survey(s) is more accurate. An SSC member thought that determining that the SRFS run was consistent with BSIA was not out of order, especially given the comparatively similar performance of the two models.

**Motion: The SSC determines that the SEDAR 72 Gulf of Mexico Gag Operational Assessment State Reef Fish Survey Run, based on the combined-sexes SSB, the corrected SRHS data, an MSY proxy of F40%SPR, and the "medium" red tide scenario is consistent with the best scientific information available and should be used as the basis for stock status determination and management advice. Based on this assessment model, the stock is determined to be overfished and undergoing overfishing.**

*Motion carried 15-4 with 5 absent.*

Dr. Ailloud reviewed the rebuilding timelines for the projections assuming no fishing pressure (F = 0), to determine the minimum time to rebuild the stock ($T_{Min}$). Both the MRIP and SRFS models, assuming an $F_{30\%SPR}$ reference point, rebuild in 10 years with F = 0. This similarity is not surprising given the similar performance of both models, with the primary difference being a scaling of the magnitude of recreational harvest. Assuming an $F_{40\%SPR}$ reference point, the MRIP model rebuilds in 13 years at F = 0, and 12 years for the SRFS run. Dr. Ailloud also provided the rebuilding timeline for $T_{Min} * 2$, which was preferred by the Council in its recommendations to NMFS for the proposed gag grouper interim rule. Under $T_{Min} * 2$, the MRIP model projects the rebuilding of the stock by 2049, compared to 2047 under SRFS, under an FMSY proxy of $F_{40\%SPR}$. An SSC member was concerned with the assumption of F = 0, since that assumes no additional red tide mortality or any changes in the magnitude of discards, which they thought seemed unreasonable. Dr. Ailloud agreed, replying that it isn't possible to predict exactly when, for how

long, or how severe the next red tide event, or successive events, will be. Generally, the SEFSC acknowledged the presence of episodic mortality and discard mortality, and the incompatibility of that knowledge with the assumption of no fishing mortality. The SEFSC encouraged the use of interim analyses to examine the performance of the stock in the interim years between stock assessments. The SSC member then stated that they thought the argument that rebuilding the stock in 10 years was possible under $F = 0$ was not defensible. The SSC thought the mortality from discards would remain unchanged, and then determining the acceptable F from directed effort could be determined from there. The SSC acknowledged the sound analysis for calculating the rebuilding timelines based on the options available under the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), deferring to the Council to determine which rebuilding timeline it thought most appropriate given physical, biological, social, and economic considerations. An SSC member asked about further consideration of discards out of season. The SEFSC noted the ability to consider discards in this way for red snapper, and that doing so for other stocks would constitute a substantial model change, but should be done.

> **Motion: The SSC determines that the yields corresponding to the rebuilding schedules based on $T_{Min}$, $T_{Min}$ plus one generation time (8 years for gag grouper), and $T_{Min}$ * 2, are appropriately calculated and suitable for informing catch advice.**

> *Motion carried with no opposition and 5 absent.*

The SSC noted that the overfishing limit (OFL) projections (i.e., fishing at MFMT) and those for $F_{Rebuild}$, which are equivalent to the acceptable biological catch (ABC), were contained in the tables in the presentation provided in millions of pounds gutted weight. The SEFSC compiled these data into a single table for the different rebuilding timelines. The SSC noted that yields should be described annually, and not averaged into constant catch scenarios, given the overfished condition of the stock. Dr. Tom Frazer (Council Representative) added that it was likely that the Council would request annual interim analyses until the next stock assessment of gag grouper. These interim analyses may be used as "health checks" unless they result in revised catch advice from the SSC. An SSC member recalled similarities between the current estimated condition of gag grouper compared to historic red snapper and red drum assessments, when those stocks were thought to be most depleted. The SSC member thought it important to illustrate how much of a recovery would be needed to rebuild gag grouper from its current condition.

**Table 1**. OFL and ABC yields for gag grouper based on the model selected by the SSC (SRFS run, using $F_{40\%SPR}$, and medium red tide severity) for the three rebuilding timelines permitted under the Magnuson-Stevens Act.

| SRFS RUN | | mp gw | million pounds gutted weight | | | |
|---|---|---|---|---|---|---|
| **F40%SPR** | | mt gw | metric ton gutted weight | | | |
| | | | | | | |
| | | | **FRebuild** | | 0.091 | |
| **F= F40%SPR** | 0.098 | | **Year Rebuilt** | | 2047 | |
| **OFL** | mt gw | **mp gw** | **TMin (12 yrs) * 2** | | mt gw | **mp gw** |
| 2023 | 189.915 | **0.41869** | | 2023 | 175.909 | **0.387812** |
| 2024 | 284.417 | **0.627031** | | 2024 | 264.72 | **0.583607** |
| 2025 | 382.781 | **0.843887** | | 2025 | 357.698 | **0.788588** |
| 2026 | 467.534 | **1.030735** | | 2026 | 438.582 | **0.966907** |
| 2027 | 566.314 | **1.248507** | | 2027 | 533.216 | **1.175539** |
| | | | | | | |
| | | | **FRebuild** | | 0.081 | |
| | | | **Year rebuilt** | | 2043 | |
| | | | **TMin (12 yrs) + 1 Generation (8 yrs)** | | mt gw | **mp gw** |
| | | | | 2023 | 157.508 | **0.347245** |
| | | | | 2024 | 238.533 | **0.525875** |
| | | | | 2025 | 324.008 | **0.714315** |
| | | | | 2026 | 399.289 | **0.880281** |
| | | | | 2027 | 487.816 | **1.075449** |
| | | | | | | |
| | | | **FRebuild** | | 0.074 | |
| | | | **Year rebuilt** | | 2042 | |
| | | | **F=75% * F40%SPR** | | mt gw | **mp gw** |
| | | | | 2023 | 142.614 | **0.31441** |
| | | | | 2024 | 217.079 | **0.478577** |
| | | | | 2025 | 296.117 | **0.652825** |
| | | | | 2026 | 366.418 | **0.807812** |
| | | | | 2027 | 449.428 | **0.990818** |

Dr. Siegfried described the differences between the OFL and ABC scenarios in Table 1 for gag grouper, compared to the wide buffers observed in other rebuilding plan demonstrations (e.g., greater amberjack, gray triggerfish). For gag grouper, the stock-recruit curve was used for both management benchmarks and recruitment, and the time to rebuild for gag grouper is much longer (at least 12 years, and as many as 24 years) than for greater amberjack (6 years) or gray triggerfish (7 years). Generally, the shorter the rebuilding timeline, the lower the F must be to rebuild the stock in time, and thus, the larger the buffer will be between the OFL (at equilibrium F) and ABC. An SSC member noted that the assumptions about the spawner-recruit relationship is heavily informing future catch limits in the projections, which is in effect relying on gag grouper that have not yet been born to carry the rebuilding of the stock. Further, they thought that the approach

being taken with respect to discards may be underestimating the true number of discarded fish, and as such the subsequent discard mortality. The SEFSC thought regular interim analyses, perhaps using the combined video survey index of relative abundance, may be informative in keeping the SSC and Council apprised of the rebuilding progress of gag grouper in the interim years between stock assessments. Evaluating the recruitment of juvenile females into the fishery will need to be monitored with time to shed light on the annual success of recruitment of the stock. Although not contained in the SSC's previous motion about the catch limits associated with the different rebuilding timelines, the SSC stated that it thought the catch limits associated with the rebuilding timeline using 75% of $F_{40\%SPR}$, which is one of the options when $T_{Min}$ is greater than 10 years under the Magnuson-Stevens Act, was a valid option for consideration by the Council. Further, the SSC decided to only recommend catch limits for the five year period of 2023 – 2027.

> **Motion: The SSC determines that the yields corresponding to the rebuilding schedules based on $T_{Min}$ (12 years @ F = 0), $T_{Min}$ plus one generation time (8 years for gag grouper; 20 years total), $T_{Min}$ * 2 (24 years total), and 75% of $F_{SPR40\%}$ (19 years total) are appropriately calculated, and the 5-year OFL and ABC yield streams associated with those rebuilding timelines are suitable for informing catch advice.**

> *Motion carried with no opposition and 5 absent.*


## *Review of Discards Data for Gulf Gag, Red Grouper, Greater Amberjack, and Red Snapper*

Dr. Siegfried provided an overview of summarized discard data for directed fleets and fishing sectors. The presentation included discard data inputs from the most recent stock assessments for the requested species. The SSC asked why discards in the commercial fishery were generally trending lower during the time series across species. SEFSC staff replied they were unsure if gear changes, redirection of effort to another target species, or some other factors were contributing to that observation. Another SSC member asked if low sample sizes in specific recreational survey waves were contributing to the peaks observed for greater amberjack and red snapper. SEFSC staff replied that working papers associated with those stock assessments could provide that level of detail, but that the presentation only considered summarized annual discards.

The SSC discussed discard mortality. An SSC member noted that angler perception of discard mortality can influence public comment of proposed management measures. Generally, anglers tend to overestimate discard mortality, and therefore advocate for retention of captured fish to avoid waste. SEFSC staff also reminded the SSC that the presented data did not account for discard mortality.

The SSC stated that visualizing trends in discard data was informative. However, the SSC acknowledged several caveats when interpreting the presented information including differing sampling units, difference in fishery-dependent survey designs, and species-specific discard mortality estimates. The SSC contended that novel management approaches to incentivize release techniques that increase the probability of survivorship would be required for a meaningfully reduction in discard mortality.

*Presentation: A Decision-support Tool for Evaluating the Impacts of Short- and Long-term Management Decisions on the Gulf of Mexico Red Snapper Resource*

Dr. Yuying Zhang (Florida International University) presented a decision support tool to the SSC for evaluating management decisions for Gulf red snapper. The tool employs a management strategy evaluation (MSE), conducted through computer simulation, to evaluate the effects of management decisions and their effects on the stock and its stakeholders. The purpose of this model is to improve the evaluation of management decisions, with the goal of making progressively better decisions over time. Dr. Zhang noted that two workshops to illustrate the use of the tool will be held in Galveston , Texas, and Tampa, Florida, later in 2023. This research has been funded by a NOAA RESTORE grant.

Dr. Zhang noted that the ultimate goal was to develop a multi-species MSE for the Gulf of Mexico. This tool consists of an operating model, informed by a management strategy using a harvest control rule (HCR and estimation method, with performance statistics to track conceptual objectives. The operational model consists of an implementation model, biological and fishery model and data generation tool. Dr Zhang detailed an improvement to the tool in its consideration of carryover and paybacks, and the ability to toggle the application of these accountability measures on and off. Dr. Zhang found that the use of paybacks with carryover helped protect the stock from overexploitation, which has also been demonstrated by the SEFSC in previous analyses. The tool can also evaluate other common facets of fisheries management, like the establishment and performance of buffers between catch limits (e.g., OFL, ABC, and annual catch limits [ACL]).

Two versions of the tool will be available to users in the future: standard and professional. These will be differentiated by the types of options available to examine in each; however, each tool will allow the used to preview and compare multiple management scenarios. The SSC asked about attempts by the SEFSC to integrate MSEs regionally. The SEFSC noted it has a staff member focusing on these efforts, and that they are in touch with Dr. Zhang. An SSC member asked how difficult it would be to update the tool to apply to another species. Dr. Zhang replied that reworking the tool for other species should be very manageable.

*Discussion:  Acceptable Biological Catch Control Rule Modifications*

Dr. Jim Nance (SSC Chair) reviewed the progress made by the SSC at its May 2022 meeting, including a review of the current ABC Control Rule and how it functions, and its shortcomings as identified by the SSC. In May 2022, the SSC requested that the SEFSC work on a Ralston et al. 2011[2] -style approach informed by Gulf stocks, and considerate of current research (e.g., Privitera-Johnson and Punt (2020[3]). The SSC also discussed an alternative approach detailed in Restrepo et al. 1998[4], and requested the SEFSC provide an approach informed by that method also.

[2] https://media.fisheries.noaa.gov/dam-migration/ns1-ralston-et-al-2011.pdf
[3] https://academic.oup.com/icesjms/article/77/2/515/5675586?login=false
[4] https://www.st.nmfs.noaa.gov/Assets/stock/documents/Tech-Guidelines.pdf

Previously, the minimum stock size threshold (MSST) was based on natural mortality (M). Rebuilding plans were required when the biomass of the stock (B) was less than $(1-M)*B_{MSY}$. MSST is now set to 50% of $B_{MSY}$ for many popular reef fish species (see Reef Fish Amendment 44[5]). The stock may then be reduced to a point well below the level that produces MSY before any action is taken to reduce F. Modifying the ABC Control Rule may allow for the programming of additional measures to prevent overfishing from occurring. The SEFSC noted that the work done by Privitera-Johnson and Punt allows for the evaluation of the uncertainty in the projections from one assessment to the next; this uncertainty is not currently captured in the $\sigma_{min}$ calculations of the current ABC Control Rule, and would be an improvement on the current practice.

An SSC member noted the importance of how the uncertainty in the control rule is apportioned, including consideration of the age of each stock assessment. They suggested levels within the tiered approach that showed deference to certain criteria applicable to every stock assessment, thereby providing a qualitative differentiation in approach that was more conservative as stock assessments demonstrated less data richness, rigor, or other metrics. Some examples could include the degree to which model parameters are fixed or estimated (freely or with priors), the availability of representative indices of relative abundance, the availability of age and length composition data, evaluations of stock productivity (steepness being either fixed or estimated), and the number of imputed coefficients of variance. The SSC member noted that a discussion point would be whether to assign a single $\sigma_{min}$ value to each tier or level within a tier, or, whether a sliding scale would be more appropriate.

The SSC discussed stock assessment scheduling, frequency, and assessment age. Most stock assessments are not more than approximately five years old, with a couple being older than that. Also, the SEFSC and FWC both conduct interim analyses as requested on species which have a representative index of relative abundance, which offers an additional opportunity to either conduct a "health check" or update catch advice. The SEFSC added that it is fully scheduled, from a workload perspective, to meet its stock assessment obligations at least two years in advance of the current date; accommodating SSC and Council requests must be done despite this workload. Thus, finding efficiencies through means like the interim analysis approach will yield benefits with time as it is applied to more species, more frequently.

An SSC member asked about the ability to estimate steepness, especially for reef fish stocks. The SEFSC replied that there are not age or length composition data from time periods when exploitation rates were at or near zero; thus, contrast with current conditions is not available. Little data are available to inform the shape or parameters that inform steepness; however, National Standards are moving away from a reliance on steepness and its relationship with the spawner-recruit relationship. Developing guidance for how to react to recent research in the Gulf would be beneficial to the development of a revised ABC Control Rule.

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[5]https://gulfcouncil.org/wp-content/uploads/RF-Final-Amendment-44-revised-MSST-GOM-Reef-Fish-update-2_508Compliant.pdf

*Presentation and Discussion: Wenchman Data Evaluation and Consideration of Stock-specific Catch Limits*

NMFS provided background, management history, and recent landings for the mid-water snapper complex (queen snapper, blackfin snapper, silk snapper, and wenchman), specifically focusing on wenchman.  The stock experienced an unconventional in-season closure in 2021 due to exceeding the ACL, with large landings of wenchman contributing to the increased harvest.   Mr. Andrew Bryant and Mr. Mike Grieco, stakeholders in the butterfish fishery, provided testimony indicating that the observed increased landings of wenchman in 2021 were due to their harvest as bycatch when targeting butterfish.

The SSC inquired if the other species in the mid-snapper complex were also observed as bycatch in the butterfish fishery and Mr. Bryant replied that only wenchman were frequently encountered. The SSC asked Mr. Bryant and Mr. Grieco if they were able to differentiate butterfish from wenchman using the vessel's sonar gear and Mr. Grieco responded that the two species tend to school up together, making directed targeting too difficult.  Wenchman are marketed for human consumption, so they not discarded when caught; however, butterfish are the directed species in this fishery.  Closure of the mid-water snapper complex would result in high discard mortality of wenchman and potentially also close the butterfish fishery.  Capt. Eric Schmidt indicated that, recreationally, the deep-drop fishery has expanded for other species in the complex.  He stated he sometimes encounters small (approximately 12 in.) wenchman.  He explained closure of the mid-water snapper complex would result in a number of discards since it was difficult to avoid these species when fishing for other snapper and grouper targets.

The SSC reviewed the landings, management, and life history information for wenchman.  While bycatch of wenchman has been observed in the fishery for some time, it is difficult to tabulate landings data as wenchman catches were generally reported through state commercial trip ticket programs pre-2000 and the small amount of prosecution of the fishery results in confidentiality issues.  Additionally, during that that time other common names such as "silver snapper" and "goldenthread" were used to document the harvest of wenchman.  Mr. Bryant and Mr. Grieco explained that while wenchman have been part of the butterfish fishery for some time, they have observed a marked increase in wenchman occurrence in the past two years.  The SSC discussed the management of wenchman to determine the rational for its inclusion in the mid-water snapper complex.  After review of the 2011 Generic Acceptable Catch Limit/Accountability Amendment and an empirical study categorizing a number of Gulf stocks (Farmer and Malinowski 2010) the SSC concluded that data limitations, rather than a robust association of life history traits, resulted in wenchman being designated with mid-water snapper complex.  Given the limited overlap in spatial distribution and vulnerability to fishing gear between wenchman and the other species within the complex, the SSC determined that removal of wenchman from the mid-water snapper complex was appropriate.

>    **Motion:  Based on review of catches and historical records the SSC recommends wenchman snapper be removed from the mid-water snapper complex.**
>
>    *Motion carried with no opposition.*

The SSC deliberated on possibly setting separate catch advice for wenchman. SEFSC staff provided some options for the OFL using a variety of years in the time series to compute an average from the available (and non-confidential) mid-water snapper landings. The SSC struggled to identify any substantial portion of the time series where landings were consistent. Additionally, each iteration of the exercise resulted in an OFL for wenchman that would be less than the current mid-water snapper OFL thus, not addressing the issue of avoiding a closure of the butterfish fishery. The paucity of basic life history information further confounds setting catch advice for the species. In SEDAR 49 (Table 2.12.13), a point estimate maximum age of 14 years for wenchman was used indicating that robust information for age and growth determination was not available. The SSC was hesitant to set any catch advice before having a better understanding of the nature of the landings history for wenchman.

> **Motion: To recommend the Council ask GSMFC to work with the 5 Gulf states to compile historical landings for butterfish, wenchman, scad, and any other associated species from the mid-water trawl fishery for the Gulf SSC evaluation.**

> *Motion carried with no opposition.*

## Public Comment

Capt. Eric Schmidt (Ft. Myers, Florida) stated that fishermen are catching more gag grouper than last year but historically, red tide events, especially in 2018, had a profound effect on the population because the red tide inundated nursery ground areas like Charlotte Harbor. However, the gag grouper population south of Tampa seems to have bounced back from this event. He has observed good recruitment with age-1 and -2 fish, with these fish being discarded often in nearshore waters. Offshore, he has not observed as many large fish, specifically noting a lack of large males. Capt. Schmidt is concerned that upcoming management decisions will greatly reduce the commercial quota and close the fishery early since 50% of the quota has already been caught. He also noted that discards of larger fish will still be an issue when the bottom longline fleet fishes past 35 fathoms. New entrants into the commercial fishery will continue to struggle to find shares. Besides red tide, he mentioned other water quality issues off the west coast of Florida: changes in visibility and thermoclines leading to lower catch rates and possible sampling inaccuracies. Also, Capt. Schmidt attributed the proliferation of red snapper and greater amberjack to the current difficulty in catching gag in his area. He suggested use of a video survey in the Ft. Myers area if one hasn't already been done.

An SSC member asked how to prevent gag grouper discards. Capt. Schmidt stated that he doesn't know if there is a way to decrease discards in areas where commercial fishermen can't specifically target them, like they can in the Florida panhandle. He did not think that the SSC's catch limit recommendation will make the stock healthier or serve its intended purpose of rebuilding the stock.

Capt. Schmidt has been involved in the SEDAR 74 research track for red snapper, observing that the number of recreational red snapper discards have exponentially increased as has recreational effort, yet agencies have no idea what constitutes the red snapper angling universe. He also

thought that red snapper fishery-dependent and -independent sampling has been skewed.  He stated that he thought sampling primarily occurs in the northern Gulf, with areas south of Tampa being ignored, even though there is a productive red snapper fishery in central and south Florida.  Capt. Schmidt thinks this has led to more data from the northern Gulf informing assessment inputs (e.g., fecundity samples, age-at-length).  He would like more sampling to be done in central and south Florida.

## Other Business

Appointment of SSC Members to SAFMC Workgroup

The SSC volunteers Trevor Moncrief, Jason Adriance, Luiz Barbieri, Roy Crabtree, and David Griffith to participate with the South Atlantic SSC in a workgroup focused on establishing a method for evaluating catch limits for federally managed species currently closed to harvest, including Southeastern U.S. goliath grouper.

**The meeting was adjourned at 2:30 pm eastern time on July 8, 2022.**

## Meeting Participants

**Standing SSC**
Jim Nance, *Chair*
Luiz Barbieri, *Vice Chair*
Harry Blanchet
Roy Crabtree
Benny Gallaway
Doug Gregory
David Griffith
Paul Mickle
Trevor Moncrief
Will Patterson
Steven Scyphers
Jim Tolan

**Special Reef Fish SSC**

Jason Adriance
Mike Allen
John Mareska

**Special Ecosystem SSC**
Mandy Karnauskas
Josh Kilborn

**Special Socioeconomic SSC**
Luke Fairbanks
Cindy Grace-McCaskey
Jack Isaacs

**Council Representative**
Tom Frazer

A list of all meeting participants can be viewed here.