

Gulf Fishery Management Council
Standing Scientific and Statistical Committees
Meeting Summary
February 26 – 27, 2025
Council Office
Tampa, Florida

The meeting of the Gulf (Gulf) Fishery Management Council (Council) Standing Scientific and Statistical Committee (SSC) was convened at 12:45 PM EDT on February 26, 2025. The agenda for this meeting and the minutes from the December 2024 webinar meeting were approved as written.

Review of SEDAR 88 Stock Assessment of Gulf Red Grouper

Fishermen Feedback

Council staff presented the results of the Fishermen Feedback tool for red grouper which was made available from April 24-May 24, 2024, and received 344 unique responses. Overall, comments were neutral in nature; however, there were several positive comments reported from peninsular Florida and south Texas. Regarding stock condition, a majority of positive responses indicated that fishermen were seeing high abundances of red grouper along their areas of distribution. For general themes, respondents were pleased to see high numbers of fish but indicated those fish were usually undersized, and similar to other iterations of the tool, indicated that sharks were a frequently encountered problem when fishing.

An SSC member asked if social media comments were going to be used in the future to inform the tool. Council staff replied that those commenting on social media likely do not expect their comments to be used for any type of analysis, and that the tool provides guidance so that users are fully aware of the use of their comments. Another SSC member noted that most of the negative or neutral comments were from areas where red grouper do not typically occur. An SSC member asked if comments are representative of homeport or area fished. Council staff responded that the tool requests fishermen indicate the areas they are fishing.

Dr. Francesca Forrestal (Southeast Fisheries Science Center [SEFSC]) presented SEDAR 88, which is a stock assessment of Gulf red grouper. This stock assessment uses Florida's State Reef Fish Survey (SRFS) in place of the Marine Recreational Information Program Fishing Effort Survey (MRIP-FES) data for recreational private vessel landings. SRFS was considered appropriate for inclusion in this assessment since the vast majority (>95%) of red grouper are landed off Florida, and while estimating a lower level of landings, SRFS demonstrates improved precision compared to MRIP-FES for red grouper. The SSC provided feedback to the SEFSC regarding SEDAR 88 at its December 4, 2024, webinar meeting.

Updates on Data Inputs

Several data updates from SEDAR 61 were performed in constructing the SEDAR 88 model. Current best modeling practices, incorporation of the SEDAR 88 Terms of Reference, and inclusion of red tide as a bycatch fleet were some of the updates reported. Specifically, updates to

SEDAR 88 included “other landings” for the commercial handline fleet, the use of SRFS for recreational landings and discards (there is no shore mode for red grouper), the use of age-based data to inform landings with length-based estimates for discards, updating appropriate indices from SEDAR 61 (commercial landings and Southeast Region Headboat Survey [SRHS] remained truncated), and the use of the combined video survey (G-FISHER). For life history data inputs, several notable metrics were changed from SEDAR 61. Fecundity was estimated as spawning stock biomass (SSB) in relative number of eggs such that per capita fecundity was calculated as the product of the proportion of females, the proportion of mature fish, and batch fecundity-at-age.

Updates to Model Specifications

The estimate for natural mortality (M) was updated using Hamel and Cope 2022¹ and increased the maximum age to 29 years. The modification of M to the model used in SEDAR 88 resulted in an overall increase in spawning output, fraction of the unfished population estimate, and age-0 recruits relative to SEDAR 61. An SSC member asked if the change in M represented a substantial change from the previous model and SEFSC staff indicated that was a correct interpretation. Virgin recruitment (R_0), recruitment variability, and steepness were estimated within the model. As a result, the steepness used in SEDAR 88 was calculated as 0.66 whereas a fixed value of 0.99 was used in SEDAR 61.

The model was updated to use age-based selectivity rather than a length-based. Additionally, the NMFS bottom longline survey selectivity was modeled as a logistic function rather than a dome-shaped relationship, indicating full selectivity of older fish. This selectivity has been updated for other grouper species in recent assessments including, gag, yellowmouth grouper, and scamp. Red tide was included in the model as a bycatch fleet. Based on recommendations from the red tide topical working group, an empirical selectivity-at-age method was used. This allowed for spatially explicit and age-specific application of removals from the stock depending on the area and severity of observed red tide events. Broadly, the model was able to account for the spatial extent of red tide and overlay that with the documented distribution of red grouper, which exhibits ontogenetic shifts in habitat, to create an age-based selectivity measure.

Results

A bridging analysis was done to systematically incorporate the data changes in the model. The new model had improved predictive results for landings by the directed fleets. Fits to discard data were appropriate except for two years in the commercial trap fleet, and length-based fits in the longline fleet for younger fish. Model performance was improved by using the mean weight-at-age approach and modeled outputs were within confidence intervals for fishery-dependent and fishery-independent indices. Length composition fits were improved in SEDAR 88; however, the model appeared to underestimate the influence of strong cohorts moving through time.

Recruitment, virgin recruitment (R_0), steepness, and recruitment variability were estimated well. Red tide was modeled for each year of observation (2005, 2014, 2018, 2021) and the model had high uncertainty in considering the influence of red tide on the stock in 2018 and 2021 as the time series approached the terminal year of 2022.

¹ <https://www.sciencedirect.com/science/article/abs/pii/S0165783622002545>

Diagnostics

A jitter analysis did not result in a lower negative log-likelihood (LL) than the base model. Recruitment diagnostics did result in a lower LL, which indicated a possible range of 0.55-0.80 for steepness. Contour likelihood analyses indicated that the point estimates from the model were appropriate for steepness and recruitment variability and estimated max length (L_{inf}) and growth rate. Retrospective analyses resulted in acceptable ranges for SSB but not for recruitment and fishing mortality. The SEFSC hypothesized this was due to the inclusion of the red tide bycatch fleet in discrete years such that the model had difficulty adjusting when a red tide year was removed from the analysis.

Sensitivity Runs

Sensitivity runs looking at fixing steepness at 0.99 resulted in a higher fraction of the proportion of the stock unfished outside of the base model confidence intervals. Sensitivity runs indicated that increasing the maximum age to 29 in SEDAR 88 had an effect on the model outputs such as spawning output and fraction of the unfished stock, relative to SEDAR 61. Jack-knife analysis determined that G-FISHER was the most influential index and exhibited a strong effect on timeseries trends. Since G-FISHER has expanded its survey area in recent years, an SSC member asked if effort had been made to adjust the selectivity of the survey to capture that change, as has been done for other species like mutton snapper. SEFSC staff replied they had not received any indication from the data providers that an adjustment was needed for red grouper.

SEDAR 100: Gulf Gray Triggerfish Participants for Data, Assessment, and Review Phases

Council and SEFSC staff presented the terms of reference for the data workshop for SEDAR 100. The modifications proposed are considerable, necessitating an in-person data workshop to prepare the data for the assessment process. Dr. Siegfried explained several key modifications and the anticipated limitations associated with those. She added that a stock identification workshop is not currently planned. An SSC member asked about the schedule for preparing the G-FISHER data, which are typically available in the fall for the previous year's data. If 2024 data are not available in time for the Data Workshop, data through 2023 will be used. Council Staff asked about separating the age classes (i.e., Age -0 and Age -1) by size classes based on the timing of the summer and fall SEAMAP groundfish surveys. It was thought as a better way to estimate recruitment, while also noting that the G-FISHER composite index may be a superior index for a recruitment estimate for gray triggerfish. Council Staff also noted that the G-FISHER index was not available for consideration during the last assessment. Dr. Siegfried replied that all those indices could be explored. The SSC added a bullet to evaluate any potential data issues related to misidentification with other triggerfish species in the Gulf.

Dr. Siegfried briefly reviewed the proposed modifications to the assessment process phase, in which the SEFSC will be coordinating using a more collaborative approach to gather input from SSC members and other participants. A full presentation on this proposal, and a review of the remaining TORs, will be provided to the SSC in May 2025.

Council Staff requested volunteers from the SSC for participation in the Data Workshop phase. The assessment will begin with data scoping in April 2025, and the Data Workshop will be in

August 2025. SSC volunteers included Jim Nance, Paul Mickle, Will Patterson, John Mareska, and David Griffith.

Review of SEDAR 88 Stock Assessment of Gulf Red Grouper – Projections

Projection analyses used an average value from 2020-2022 to estimate selectivity and retention, and recruitment used the model estimated Beverton-Holt stock-recruitment relationship which was held constant in the projections. The sector allocation ratio was set to the current allocation (59.3% commercial and 40.7% recreational). SEFSC staff provided three benchmarks for SSC consideration: Overfishing Limit (OFL) as the yield at $F_{30\%SPR}$, $F_{40\%SPR}$, or estimated fishing mortality at maximum sustainable yield (F_{MSY} , estimated at $F_{46.6\%SPR}$) and Acceptable Biological Catch (ABC) values that would be set at 75% of the presented possible OFL scenarios. Each projection configuration resulted in a determination that the stock was not overfished nor experiencing overfishing. However, historical stock status determination varied with each presented scenario. For example, Kobe plot results indicated that the stock only experienced overfishing in one year under the $F_{30\%SPR}$ and fluctuated more in the other two scenarios.

Council staff asked about any effect from modifying sector allocations in the projections. It is likely, given the data input change from MRIP-FES to SRFS, that the Council will be interested in exploring changes in allocation when setting the new catch levels. SEFSC staff replied, that while stock status would not be expected to change, OFL and ABC values would be marginally different. Council staff cautioned against using a projection methodology that would require SEFSC staff to run several iterations of the projections to inform all the possible allocation scenarios the Council may possibly explore. Dr. Tom Fraser (Council representative) encouraged the SEFSC to communicate the workload required to make minor adjustments to the projection analyses and Council staff stated they would work with SEFSC to avoid this issue.

Several SSC members acknowledged that the stock appeared to be resilient to discrete high mortality as a result of red tide and inquired if that observation was supported empirically. SEFSC staff replied that recruitment pulses are routinely observed following red tide for red grouper. Council staff added that fishermen observations corroborate estimated recruitment pulses following red tide years, as do the age and length compositions in which the cohorts can be observed moving through the population with time. An SSC member asked if the change in the natural mortality estimate was primarily responsible for the pronounced shift in the status determination criteria. SEFSC staff stated that attributing the overall stock status to one singular model input would be inappropriate. In addition to the modification of M , the relationship of the selectivity function in the handline fleet was updated, and the inclusion of red tide effects are also influencing the model.

For stock projections, future red tide events can be simulated using mean mortality levels observed from past observations. SEFSC staff presented how red tide events with varying severity would affect yield projections. An SSC member noted that the yields projected under $F_{30\%SPR}$ have not been observed, even under more liberal retention limits. The SEFSC agreed and noted that as the impetus for exploring other MSY values.

Motion: The SSC finds the SEDAR 88 stock assessment for Gulf red grouper to be consistent with the best scientific information available, and appropriate for management advice.

Motion carried without opposition.

The SSC discussed catch advice recommendations and focused on whether the proposed increases in certain scenarios would be sustainable long-term, with focus on the life history characterization of red grouper. Several SSC members expressed concern that the model may be overcompensating for some model adjustment or combination of inputs while others considered that output as a realized reflection of stock resilience to episodic mortality. Another SSC member recalled the SSC's past history of using $F_{40\%SPR}$ for hermaphroditic groupers, like gag, scamp and yellowmouth grouper, and yellowedge grouper. Given that history of decision-making, the SSC member thought using $F_{40\%SPR}$ as the proxy for F_{MSY} was appropriate.

Dr. Frazer recalled the landings history and the Council's goal of ensuring stability in the fishery to the extent to which that was possible. An SSC member thought that adding precaution at the OFL, equivalent to the F_{MSY} proxy, was inappropriate, since the OFL is supposed to be risk neutral. Further, they added that the SSC can reduce the ABC by the amount necessary to account for scientific uncertainty. The SSC acknowledged that red grouper exhibits a variety of biological considerations that need to be accounted for when recommending catch advice. For example, it undergoes ontogenetic spatial shifts from nearshore shallow habitats to offshore deep-water habitats; large females transition to male based on environmental and social cues that are not completely understood; and its propensity to create unique habitats in the benthic substrate and territorial behavior may generate a carrying capacity issue that limits available space for other red grouper. It is also unclear if this density-dependent compensatory recruitment response is released during red tide events, which may explain the stock's overall resilience to these episodic mortality events. Ultimately, the SSC determined that accounting for the complex life history of red grouper was most imperative when recommending the OFL.

Motion: The SSC sets the OFL at $F_{40\%SPR}$ for Gulf red grouper based on the SEDAR 88 base model projections and a constant catch scenario for the fishing years 2027 – 2029 at 11.28 million pounds gutted weight (mp gw).

Motion carried with one opposed and one abstention.

The SSC discussed the proposed catch limits in SRFS units in the context of their values in MRIP-FES, had that data unit been used. Council staff replied that the current catch limits would be expected to be considerably higher were they in MRIP-FES units.

Motion: The SSC sets the ABC at 75% of $F_{40\%SPR}$ for Gulf red grouper based on the SEDAR 88 base model projections and a constant catch scenario for the fishing years 2027 – 2029 at 8.78 mp gw.

Motion carried with two opposed.

SSC members discussed reviewing a representative index of abundance periodically for red grouper to check on the stock's health. SEFSC staff added that they would be keeping an eye on red grouper given the breadth of their investigations under SEDAR 88. The SSC lauded the SEFSC's work on the SEDAR 88 stock assessment.

Public Comment, February 25

Bob Zales II, Panama City, Florida

He thought the SSC should be afforded additional time to deliberate the issues before it. He thought there were many reasons why the red grouper stock appeared to be performing as it has. Over the years, the stock has been estimated to go up and down, and hurricanes and other factors have affected the number of commercial participants in the red grouper fishery.

Review: Determination of Predation Mortality, Barotrauma Survival, and Emigration Patterns for Catch-and-released Red Snapper

Dr. Stephen Szedlmayer (Auburn University) presented results from a study comparing red snapper survival among three release methods – surface release, drop weight release (SeaQualizer), and cage release (control). The research was conducted off Mobile Bay, Alabama, from 2021-2024. Post-release survival was evaluated based on conventional and telemetry tags. Conventional tag recapture served as a proxy for survival, and there was a 30% recapture rate across the three release methods combined. No significant difference in survival was found among release methods. There was an effect of depth, with fish caught and released at the slope edge having lower survival rates than shallower areas. Fish tracked with telemetry were categorized based on movement patterns as surviving if they were residents or emigrants, and not surviving if their movements reflected a predation event. Telemetry results found survival was highest among cage-released fish, followed by drop weight-release, and then surface release. This was different from the conventional tag result, and Dr. Szedlmayer explained that this difference may be due to the weight and stress of the external transmitter impeding fish behavior and thus, survival. A lab study was conducted to evaluate tag retention, and transmitters were found to stay attached and not change feeding behavior, although abrasions were observed at tag attachment sites. The survival of surface-released fish was surprising to the researchers and was hypothesized to be due to the research team's ability to quickly return fish to the water.

The SSC discussed the rapid handling of fish by the researchers, whether this was representative of actual handling time by anglers, and if follow-up studies were necessary to see if survival rates among release methods were different in a natural setting with real anglers. Dr. Szedlmayer responded that his research team was handling to maximize survival, and thought they were faster than recreational anglers. Charlie Robertson (Gulf States Marine Fisheries Commission, Return 'Em Right [RER] administrator) indicated that the RER team was receptive of suggestions for further research on handling rates. SSC members discussed depredation and possible learned behavior associated with release events. Dr. Szedlmayer replied that observationally, dolphin (porpoise) depredation was most common at the surface and that sandbar and bull sharks were common below the surface. He elaborated that fast release methods could mitigate learned predator behavior because the fish are in good condition and better able to escape. Council staff

inquired whether there were survival differences among release methods based on water temperature. Dr. Szedlmayer responded that temperature data were recorded for all releases and have yet to be analyzed, but that he did not think there was enough contrast in the high overall survival data to show a temperature effect.

Review: Do Descender Devices Increase Opportunities for Depredation? A Gulf-wide Examination of Descender Device Depredation Rates and Depredating Species

Dr. Marcus Drymon (Mississippi State University) presented on recent efforts to study the prevalence of depredation on fishes released using descender devices across the Gulf and identify species responsible for depredation. Seven charter-for-hire captains recorded video footage of SeaQualizer descents using downward-facing GoFish cameras. From March 2022 – March 2024, almost 1,000 descents were recorded across the Gulf. Many of the descended fishes were red snapper (> 2/3) or red grouper (~1/5 of the descents), and other assorted reef fish. The video footage indicates that depredation of fishes returning to depth on descender devices is exceedingly rare. In just two cases, a blacktip shark depredated a descending red snapper off the coast of Louisiana. These results suggest that depredation, though a significant problem for ascending fish, is essentially a nonissue for fish on descender devices. Dr. Drymon emphasized the need for using descender devices, highlighting the reduced likelihood of dead discards. An SSC member asked about how accepting stakeholders are of the results presented. Dr. Drymon replied that many anglers distrust the results and believe depredation to be occurring with the use of descending devices. An SSC member asked about prevalence and importance of depredation in the Gulf. Dr. Drymon noted that in the last decade, depredation has become an increasingly important issue in the Gulf and worldwide, and as such there are several efforts throughout the nation and worldwide to implement use of descending devices and concurrently reducing the chance of depredation.

An SSC member suggested spatial variability may occur in presence of depredation. Dr. Drymon noted that there are localized differences in depredation throughout the Gulf, and there are likely hotspots, as seen off the coast of Louisiana. Dr. Drymon stated that he typically suggests anglers to change fishing location, if possible, when depredation occurs, as it is likely that fishing in the same location will increase the likelihood of depredation. An SSC member noted that shark populations are increasing due to a lack of fishing mortality on sharks as a result of current regulations and management, which may result in increased localized depredation. An SSC member highlighted that for many private anglers off the coast of Louisiana, it is not possible to change fishing location, and as such depredation is an ongoing challenge.

Several SSC members emphasized that continuous education of the use of descending devices, and associated depredation rates is necessary to receive stakeholder buy-in and increasing public awareness. An SSC member suggested that Council outreach and engagement could assist in establishing public awareness. An SSC member commented that in order for many stakeholders to continue to use descending devices, there needs to be incentives and communication with the public. The SSC member thought a better understanding of depredation rates will impact management decisions and may incentivize anglers to participate in studies by suggesting increased data may result in management that would increase angler satisfaction. Dr. Drymon replied that the incentive is to better assess depredation and should be to enhance conservation of the stock and not directly tied to a management measure.

An SSC member suggested deriving quantitative metrics from the depredation rates could be utilized in the assessment to help inform discard mortality rates. Dr. Tom Frazer noted that the lack of site-selection criteria amongst captains may make using the data in assessments challenging, given location selection is not standardized. An SSC member reiterated the need for a quantitative metric to estimate live and dead discard rates. Additionally, given the funding allocated to the RER program, it would be advantageous to focus efforts to quantify the efficacy of descending devices to better incorporate the results of this research into management.

Review: Mitigation of Gag Release Mortality in the Eastern Gulf of Mexico

Dr. Patterson presented on reef fish release mortality mitigation with three-dimensional acoustic telemetry. He noted that the volume of recreational dead discards are comparable to recreational landings for Gulf gag grouper. He explained that the use of remotely operated vehicles allows for deployment of acoustic receivers and bases in 100-meter depths without the need for divers. He referenced another study which found a 20% mortality rate of descended Gulf red snapper but added that some of those fish may have already been in poor condition before release. For the gag release mortality study, a tag and release approach was used during winter and summer months for 20 fish released at the surface, 20 fish vented and released at the surface, and 20 fish released at depth with a descender device. For tag detections, millions of pings were expected from the 60 fish; however, slightly fewer than 1 million tag detections occurred, resulting in just under 14,000 geopositioned estimates. He noted the impacts of Hurricanes Idalia and Helene on the study sites. He stated that a meta-analysis of reef fish mortality studies showed a similar effect from venting and from descending devices on the change in discard mortality.

An SSC member inquired how far out in time release mortality should be followed. Dr. Patterson responded that cumulative effects by day are available, with stabilization occurring for red snapper after 1 week for release mortality. Another SSC member inquired about the meta-analysis and when intervention for barotrauma is beneficial versus detrimental. Dr. Patterson responded that handling time is a significant factor. An SSC member noted a higher mortality in the warmer summer months, which corresponds with higher effort. He suggested applying this information on a finer resolution. Another SSC member inquired about the interactions between seasonality and release format. Dr. Patterson stated that interactions do exist in the project results.

Review: Awareness, Attitudes, Perceptions, and Use of Best Fishing Practices by Recreational Reef Anglers in the Gulf of Mexico

Dr. Lou Cornicelli presented results from a survey assessing the influence of the RER program on awareness and behaviors related to barotrauma in the Gulf of Mexico (now, Gulf of America). The RER program, launched to improve reef fish survival, provides training and gear to offshore reef anglers while promoting best practices for handling and releasing fish. The survey was first conducted in 2022 to establish baseline data on reef fishing behavior, awareness of barotrauma, and release practices. It was repeated in 2024 to assess changes following outreach efforts. Survey results indicated increased knowledge and use of best handling practices, along with a greater recognition of barotrauma symptoms among anglers. In 2022, only 4% of respondents had heard of the RER program, whereas by 2024, awareness increased to 33%, with 12% stating they had

received information directly from RER. The most common sources of RER information were social media (24%) and other anglers (23%). Additionally, anglers who were aware of RER demonstrated a stronger understanding of barotrauma, best handling practices, and fish descending devices.

Following the presentation, SSC members asked questions about sampling differences among states, including representation of Florida and Texas, as well as resident versus non-resident anglers. Dr. Cornicelli acknowledged that while today's presentation did not specifically address these sampling concerns, they will be important considerations in further analysis of the survey. Committee members also asked whether the survey addressed alternative fishing techniques, such as avoiding bottom fishing, as a method to reduce barotrauma. The study investigates many of the attitudes and norms related to conservation fishing practices, so following the theory of planned behavior, researchers should be able to assess the willingness of anglers to engage in ecologically friendly behaviors. An observation from ongoing research at Auburn University suggested that red snapper, regardless of where they are caught in the water column, are pressure-adapted to the bottom, and will develop barotrauma upon surfacing. The meeting concluded with considerations for future survey improvements, data analysis at the state level, and further outreach strategies to enhance angler participation in best handling practices.

Review: Florida At-sea Observer Data Collection Methods, Results and Analysis

Mr. Sean Wilms (Florida Fish and Wildlife Conservation Commission) provided a presentation outlining the state's at-sea observer program, the purpose of which is to better categorize catch, discards, and discard mortality in the for-hire fleet. The voluntary survey began in 2009 and has since expanded state-wide. Observers are tasked with recording a suite of data fields including trip, station, angler, and fish information. Additionally, discarded fish are tagged conventionally and observed depredation events are also recorded.

Presentation on program results focused on red snapper, red grouper, gray triggerfish, gag grouper, and greater amberjack. Catch disposition was similar across species with a high proportion (more than 75%) of regulatory discards. Barotrauma was variable across species with red snapper exhibiting the most effects and greater amberjack the least. The percentage of venting for these species has also been highly variable since 2010. The percentage of observed predation on caught fish was approximately 1% for both charter and headboats.

An SSC member asked if the presence of an observer on board a vessel influenced fishing behavior. Mr. Wilms stated any effect of an observer was difficult to quantify but the use of cameras could potentially be used to test for any changes in angler behavior. Another SSC member asked for clarification regarding the low observed depredation in the survey. Mr. Wilms replied that, when an angler reports that a hooked fish was likely depredated, but no partial remains are observed, the observer notes that potential event. However, what Mr. Wilms provided in the presentation was only those depredation events that had been explicitly witnessed. Dr. Frazer reminded the SSC that the plot presented was aggregated data from 15 years, so 1% likely represents numerous observed depredation events during that time. Mr. Wilms added that observed depredation was highly variable and dependent on location. He indicated that observed

depredation by dolphins in the Florida panhandle and shark depredation in the Atlantic appear to be increasing.

Review: Alabama At-sea Observer Data Collection Methods, Results and Analysis

Marie Head (Alabama Department of Conservation and Natural Resources) presented an overview of Alabama's At-Sea Observer Program. She focused on the evolution of data collection methods and key findings from 2022 to 2024, emphasizing the program's transition from paper-based methods to the use of a BigFin scientific tablet app and e-board combination to streamline data collection and post-processing. A total of 205 trips were observed from 2022-2024, with 57% of observed fish being red snapper, gray triggerfish, gag, and greater amberjack. Of the red snapper, gray triggerfish and greater amberjack tagged, a small proportion were reported recaptured. Ms. Head highlighted that further outreach and education on tagging efforts could assist with the number of reported recaptures.

SSC members noted that there is an observed shift in fleet fishing locality with out-of-season fishing shifting toward Florida waters, whereas in-season fishing occurs closer to artificial reef structures. Ms. Head suggested the shift in spatial differences may be due to targeting vermilion snapper at different times of the year. An SSC member highlighted that historically, recapture efforts have also been low given a lack of incentive for returned tags and suggested continued engagement with the angling community and potential monetary incentives for returned tags.

Review: Mississippi At-sea Observer Data Collection Methods, Results and Analysis

Trevor Moncrief (Mississippi Department of Marine Resources) presented results from the Mississippi At-Sea Observer Program efforts, which ran from 2016-2024. The observer program runs concurrently with the red snapper season, which is the dominant target species for Mississippi for-hire operators. Participation in the observer program was voluntary, and a total of 10 for-hire vessels participated (state and federal combined) resulting in 182 observer trips. The majority of observer trips (88%) were concentrated in one area of artificial reef sites largely due to accessibility. Nearly all fish caught were red snapper (98%), with an approximately even ratio of harvests to discards. Tag and recapture studies were conducted on a proportion of the discarded fish, with a 5.3% recapture rate revealing that most red snapper stayed in the vicinity of their release location. The majority of fish were released in good condition and observations of barotrauma were minor, given the shallow average fishing depth of 70 feet. The proportions of regulatory discards and retained fish by size were presented for month, year, and months across years. Mr. Moncrief highlighted trends in discard sizes based on season duration that could be useful for understanding interactions between for-hire and private recreational fleets and potential effects on catchability, which could potentially inform management alternatives. An SSC member asked for clarification about the mechanism underlying the trends, and Mr. Moncrief replied that in the localized area of red snapper fishing in Mississippi, overlapping private recreational and for-hire seasons could result in an increase in regulatory discards due to reduced catchability and changes in fish behavior due to repeat exposure to fishing effort, and not necessarily due to local depletion as is often assumed. The SSC member agreed, and pointed out that studies have shown that fish can learn to avoid angler techniques (avidity).

Review: Louisiana and Texas Expansion of At-sea Observer Data Collection Methods, Results and Analysis

Mr. Robertson presented the for-hire at-sea observer program expansion in Louisiana and Texas. He stated that the use of \$1 million USD in Inflation Reduction Act funds would support sampling of 100 offshore trips per year in each of the two states. RER has identified cities in the two states where they anticipate having the best coverage: Venice, Port Fourchon, and Cocodrie in Louisiana; and Galveston and Corpus Christie in Texas. Field sampling is expected to occur in 2025 and 2026. Mr. Robertson stated that observer information can be used to validate self-reported data. An SSC member commented that an impressive amount of effort is being conducted across the Gulf states but that all states seem to have problems recruiting vessels, and asked if recruited vessels were representative of industry demographics. The SSC member then inquired if any statisticians were involved to use the quantitative data on release mortality. Another SSC member responded that the data were being utilized in stock assessments. Captain Bob Zales II (member of public) added that having an observer onboard provided an educational component to customers in terms of fishery management.

Update: Ongoing Projects

Mr. Charlie Robertson presented on the development of the Gulf At-Sea Observer Data Warehouse, which is a centralized data storage hub completed by the GSMFC in November 2024. The system is designed to improve data validation, storage, and sharing across the Gulf, enhancing data integrity and accessibility for at-sea sampling efforts. As the program expands to include Texas and Louisiana, the warehouse will provide a standardized platform for data integration, ensuring consistency across participating states. Future enhancements will incorporate tagging and recapture data to further strengthen fisheries monitoring.

In response to a question from an SSC member regarding the end users of the data, Mr. Robertson noted that NOAA may utilize the system in the future, with an API being developed to allow repeated access. He also addressed confidentiality concerns, explaining that while times and port locations are recorded, no personally identifiable information (PII) is included. SSC members also inquired about the representativeness of the data and the precision of latitude and longitude records. Mr. Robertson explained that while location data are included, its precision is intentionally reduced. An SSC member asked about the use of historical data, and Mr. Robertson responded that the database currently contains information dating back to 2022, with plans to incorporate historical data.

Review: Best Release Practices Manual for Reef Fish and Related Species

A 2019 Release Mortality Symposium composed of scientists, managers, and anglers recognized that barotrauma was not the only consideration when mitigating dead discards. Best practices, flexible to all components of the recreational sector (private vessel, charter, and headboat) would be needed to achieve conservation goals. As a result, another workshop was held to develop a set of best release practices, informed by science, and input from recreational anglers to increase release survival. These recommendations were the basis of the published manual. The manual is focused on several areas of angler decision making including preparation for the trip, choosing a

fishing location, being cognizant of fighting time and handling, encountering predators, and wrapping up a trip. The manual is intended to serve as a “living” document that can be adapted as new science information and technologies become available.

A few SSC members encouraged the RER team to incorporate the use of easily digestible materials such as videos or condensed printed materials. Another SSC member acknowledged that the focus of the manual was offshore species but encouraged the incorporation of best fishing practices for freshwater species that inhabit deeper waterbodies and red drum which, due to their large swim bladders, are susceptible to barotrauma even in nearshore habitats. Another SSC member encouraged the practice of sampling fin clips from discarded fish, as epigenetic clock methodologies have made obtaining age composition for discards possible. Mr. Robertson replied that those suggestions are things the RER team could create for outreach and incorporate in future versions of the manual.

SSC Recommendations on the Use of Return ‘Em Right Science for Informing Fisheries Management

The SSC discussed potential ways to integrate RER science into stock assessments and management advice. SSC members agreed that the RER program was producing valuable fishery-dependent data and discussed potential changes to future program efforts to better inform stock assessments. An SSC member suggested the addition of fin clips to the sampling protocol for genetic analysis, which could provide information on population connectivity, sex identification, and exploitation rate. SSC members acknowledged that fin clip collection can be burdensome for observers. SSC members suggested improvements to the design of tagging efforts, such as incorporating some high-reward tags to quantify reporting rates and double tagging to assess tag loss, which would help to inform harvest rates. SSC members emphasized that generating information for management is distinct from providing data for stock assessments, and that the RER regulatory discard data already provide opportunities to inform changes in minimum size limits and season duration.

An SSC member asked whether the current RER data could be used to inform parameter estimates for discard mortality rates in stock assessment models. Dr. Katie Siegfried (SEFSC) noted that stock assessments currently use a fleet-wide scalar for discard mortality, and that monthly, seasonal, spatial, or fleet-specific discard mortality data could be informative but that such data would need to be coordinated and evaluated across studies. SSC members discussed the need for a quantitative scientist or postdoctoral researcher to assist with future study design, simulation modeling, data coordination, and analysis to maximize the utility of information provided by RER. SSC members inquired whether RER was allowed to fund such a position. Mr. Robertson replied that funds needed to meet the mission and vision of RER, and also satisfy objectives of the Deepwater Horizon restoration plans. He added that the Gulf States Marine Fisheries Commission budget may be another avenue for a quantitative position in the future.

To provide additional context for the current discussion about RER science and management integration, Council staff informed the SSC that the Council would be considering whether to renew or change provisions to the Descend Act at an upcoming Council meeting. The Descend Act is set to expire in January 2026, and currently requires fishermen to have a venting tool or

descending device rigged and ready to use when fishing for reef fish. The SSC discussed the merits of the Descend Act and whether it was still necessary. SSC members suggested that angler-driven campaigns like RER have succeeded in changing social norms about best release practices, and that community-led education efforts are more effective than legislation. SSC members questioned whether the Descend Act was enforced or effective, given that the current rule does not require the application of the tool or device in practice, only that such a device is available. An SSC member disagreed and said that legislation was sometimes necessary to bring visibility and continued support to an issue. SSC members discussed whether it would be possible to incorporate outreach into enforcement by providing enforcement agents with tools to distribute to anglers. Mr. Robertson replied that coordination of such efforts has previously been unsuccessful. SSC members agreed that if the legislation were to be discontinued, messaging would be important to highlight that lack of renewal of the Descend Act was not indicative of a change in practical advice about best release practices. Council staff expressed concerns that if the Descend Act were discontinued, it would be more difficult to integrate information about efficacy and use of venting and descending devices for reducing dead discards into stock assessments in the future.

In lieu of a motion to the Council, the SSC drafted a list of recommendations for the future direction of the RER program that could improve management utility:

The SSC finds the Return 'em Right program to be a valuable resource for angler education regarding best practices for fish release, as well as a valuable data source for potentially improving discard mortality estimation for stock assessments.

The SSC recommends continued efforts to quantify the effects of angler education on fish survival following release. The program could be expanded with some additional data sources to ultimately lower estimates of dead discards and improve data streams that are needed for stock assessments.

Specific examples could include:

- Need simulations to evaluate effective sample size and potential data mining across or within strata that could improve estimates of discard mortality rate, magnitude of dead discards, etc.
- There's the potential to collect fin clips during tagging activities for genomic analysis of discard age composition, estimation of population size, exploitation rates, and sex ratio.
- Seasonal and trend data for number of released fish, as well as species composition, to improve discard mortality estimates (e.g., currently only use one average value for each stock).
- Need for data to inform stock assessment models with improved accuracy and precision of discard mortality rates, especially with seasonal, depth strata, and fishing gear associated estimates of discard mortality.
- Need for quantitative analysis of tagging databases across a range of studies, to infer discard mortality and potentially harvest rates.
- Use of variable reward tags to estimate tag reporting and ultimately harvest rate.

- Continue development of GSMFC data portals for accessibility and use in research projects and stock assessment data processes.

Public Comment, February 27

Bob Zales II, Panama City, Florida

He thought the review of the RER science was good and reiterated the comments from many fishermen about the issues with depredation. He noted the SHARKED Act and hoped that it would compel change with how depredation affects fisheries in the southeast in the future.

Other Business

SEDAR 87 Review Workshop Volunteers

Jim Nance volunteered to serve as the chair of the Review Workshop, and Steve Saul volunteered to serve as a reviewer.

SEDAR 98 Assessment Process and Review Workshop Volunteers

Harry Blanchet, Dave Chagaris, Luiz Barbieri, and Steve Saul volunteered as panelists for the assessment process. Luiz Barbieri will serve as the chair, and Mike Allen and Sean Powers volunteered to be reviewers for the Review Workshop.

The meeting adjourned at 5:00 pm eastern time on February 27, 2025.

Meeting Participants

Standing SSC

Jason Adriance
Mike Allen (*Chair*)
Luiz Barbieri
Harry Blanchet
Dave Chagaris
David Griffith
Tiffany Hopper
Jack Isaacs
John Mareska
Paul Mickle
Trevor Moncrief
Ralph Townsend

James Nance (*Vice Chair*)
William Patterson
Dan Petrolia
Sean Powers
Andrew Ropicki
Steve Saul

Council Representative

Tom Frazer

A list of all meeting participants can be viewed [here](#).