

Standing, Reef Fish, Socioeconomic, and Ecosystem SSC Meeting Summary October 4, 2023

The meeting of the Gulf of Mexico (Gulf) Fishery Management Council's (Council) Standing, Reef Fish, Socioeconomic, and Ecosystem Scientific and Statistical Committees (SSC) was convened at 9:00 AM EDT on October 4, 2023. The agenda for this meeting was approved after adding an item under Other Business. [Verbatim minutes from past SSC meetings can be reviewed here.](#)

Dr. Luiz Barbieri will represent the SSC at the Council's October 23 – 26, 2023, meeting in Panama City, Florida.

Review of Marine Recreational Information Program Fishing Effort Survey Pilot Study and Next Steps – Dr. Rob Andrews and NOAA Office of Science and Technology

Mr. Rob Andrews from the NOAA Office of Science and Technology (OST) presented the recent findings of the Marine Recreational Information Program's (MRIP) pilot study into the Fishing Effort Survey (FES). The pilot study discovered the presence of telescoping bias in FES, whereby the order of questions regarding the frequency with which a respondent went fishing within prescribed time periods resulted in an overestimation of overall fishing effort, and thus landings. This overestimation, generalized across regions and species, was estimated to be approximately 39% for the private vessel mode and 32% for the shore mode. Mr. Andrews then detailed the follow-up pilot study to be conducted in 2024 and the anticipated peer-review process to evaluate the 2024 study, and the next steps planned by NOAA OST.

Dr. Andrews began by describing the current FES survey. When developing FES, OST tested several questionnaire versions that differed in number of reference periods, such as a single 2-month period (unbounded) versus multiple discrete periods (bounded). OST then conducted "cognitive interviews" to determine response variations in understanding of survey participants. Mr. Andrews stated that the bounded design was implemented for several successive waves, and provided independent estimates for a fixed reference period. Testing varied both recall length and question order in experimental treatments, and there was a collective effect of recall length and question order on estimates of fishing effort.

Mr. Andrews said that "bounding" of the desired reference period against other time periods resulted in lower estimates than an unbounded design. Anglers were shown to forget trips (omission error), and/or prone to report trips at the first opportunity (telescoping error); the analysis was unable to disentangle these effects. Further, cognitive interviews suggest that anglers want to be identified as such and are eager to report fishing activity, which was encouraging for survey participation. Mr. Andrews added that questionnaire testing and cognitive interviews informed the current design of FES questionnaire, which includes a 2-month recall period followed by a 12-month bounding period.

Mr. Andrews then discussed testing of a one-month wave against the current two-month wave design. There were two treatments for this test: asking about one month, followed by the next month, and then the previous 12 months; and, asking about one month, followed by the previous 12 months. This allowed for testing of recall bias, telescoping bias, and omission. OST found that the FES estimates were systematically lower than the second treatment, and larger than the first treatment. Differences in the relationship between FES and the treatments also varied by region, with statistically significant differences for Florida but not for Maine, Massachusetts, and Georgia. Mr. Andrews noted that forward telescoping error appears more prevalent in shorter reference periods, which is supported by comparing FES to the first treatment. This study was implemented for several successive months, and provided independent estimates for a fixed month followed by a longer recall period. Reference periods were presented in chronological order, which allowed OST to evaluate effects of recall length and question order on effort estimates. Longer recall periods resulted in larger effort estimates, and question order appeared the primary response variable. Bounding may help resolve forward telescoping error when bounding questions precede the reference period. Further, question order appears more important than recall period length.

When further testing question order effects, Mr. Andrews discussed three treatments of question and mode order. OST found that effort estimates were highest for the mode that was presented first and when the 2-month question preceded the 12-month question, and that mode order was not significant when 12-month question preceded 2-month question. Mr. Andrews stated that asking the 12-month question before the 2-month question appeared to reduce telescoping error, resulting in more accurate estimates than the current FES design. Thus, telescoping error is likely the predominant form of measurement error in the FES, and “bounding” is likely to reduce telescoping error most effectively when the bounding period precedes the reference period. Implementing a more effective questionnaire design will likely result in lower estimates of fishing effort.

Mr. Andrews commented further on the 2023 pilot study, stating that anglers want to report their fishing activity, and that the approach OST used in the pilot study is consistent with studies examining measurement error for other data collection modes, and results in fewer illogical responses. Though the setup used in the pilot study was not used in the original FES design, the original design did use a standard practice of asking easier questions first and then proceeding to more difficult questions. The original FES design was informed by cognitive interviews and tested through a series of pilot studies, and was informed by survey methodologists and peer-reviewed by the National Academies of Sciences. Mr. Andrews detailed next steps, which include conducting a longer pilot study in 2024 across all waves using the new pilot study design, and will examine combined effects to allow for a more efficient transition and calibration process. He noted that monthly sampling is a priority of regional partners and will produce more frequent estimates and a shorter respondent recall period that may also improve reporting error. The existing FES calibration will then be updated following peer-review, and full implementation of the revised survey design would be expected no earlier than 2026.

An SSC member asked whether there is a sample size effect or a temporal effect that could influence significant versus systematic differences between questionnaire treatments. Mr. Andrews was able to use past testing data to examine this, recognizing initial issues with sample sizes. When implementing a one-month recall period, sample sizes are expected to be much larger

than at present. Mr. Andrews thought a seasonal effect may be identified, due to the seasonal nature of fishing effort and its variability between regions (e.g., it is less likely that a recreational angler fishes in January versus July).

An SSC member noted the response rates, which appeared steady at approximately 30%; however, the scientific literature states that response rate tends to decrease with an increasing number of questions. The SSC member asked if there was response rate variation over time, which could affect recall and telescoping. Mr. Andrews replied that response rate varied by state, but appeared steady within each state over time, and didn't think that effect would be prevalent. The SSC member wondered if the sample size was too small for this effect to be detected.

An SSC member asked if the sample size was expected to be large enough to evaluate question order, bounding, and the use of a one-month wave. Mr. Andrews replied that OST moved away from the old telephone survey because landline use decreased, which was decreasing survey sample size. That transition occurred over a three year period, and a longer benchmarking period would not have helped there. Mr. Andrews thought that for the aspects being tested in the 2024 pilot study, the effects should be consistent year over year. Combined with a monthly sampling frequency, Mr. Andrews thought the sample size would be sufficient. The SSC member then asked about the viability of the expected implementation date of no earlier than 2026 for the revised survey design, noting that the SSCs will have many issues with which to contend in the interim. Mr. Andrews replied that OST has the benefit of having revised the survey design in the past, and noted that the current calibration work could be implemented into the existing model more easily once peer-reviewed.

An SSC member asked about overall non-response bias in contrast to the 2023 pilot study, and asked where this pilot study fell within the scope of past studies evaluating other sources of error. Mr. Andrews replied that he didn't think non-response bias was a large contributor to error in the current survey design, and that the current pilot study should be comparably minimally affected.

An SSC member asked about the video data being collected at passes and boat ramps for measuring effort, and whether there had been discussions about using some of these state-collected data as a validation tool for effort estimates. Mr. Andrews thought there were some challenges with the technology, but thought there may be some limited possibilities to further explore these data. The SSC member thought it may be worth exploring on a region-specific level. Mr. Andrews replied that applying region-specific calculations across the board, or across regions, would require making assumptions about the regions in general and testing of whether those assumptions were likely to be violated.

Council staff noted that more avid anglers may take more time to complete the survey, and asked how that possible increased response time required to complete the survey may affect survey results. Mr. Andrews thought that anglers were generally excited to report their fishing effort, but that more anglers report zero fishing than report a high number of fishing trips. The Council staff member asked about any concern of a waning buy-in for participation in the survey as a result of the release of the pilot study findings, and how OST plans to detect and address that. Mr. Andrews thought that most anglers had little awareness of MRIP or the survey, and added that response rate could be monitored and adjustments could be made accordingly. The Council staff member

echoed the previous concern about the amount of time for benchmarking the 2024 pilot study against the current FES design, like economic influences and management biases, which have been routinely observed in the Gulf. Mr. Andrews replied that resources were limited, and recognized the possibility of these effects on the ability to benchmark the survey and the pilot study; however, he thought that the effects would be equal to both FES and the 2024 pilot study.

An SSC member asked about the cognitive interviews for designing FES, and whether follow-up studies were planned to test significant versus systematic differences in effort estimates. Mr. Andrews replied that cognitive interviews were conducted either in an interview room or virtually, with a respondent asked to answer the questionnaire as if they had received it in the mail. The respondent was then walked through the questionnaire and coaxed for each question to provide a response to determine how the question is answered. This was done prior to fielding the survey to make sure that the language of the questions is generating the desired response in terms of answer content. The SSC member wondered if it were possible for a subset of respondents to provide more detailed responses via follow-up interviews. Mr. Andrews thought there was value in this approach, adding that OST has done this in the past.

An SSC member asked about the element of FES which asks respondents to report on the activity of others in the household, and whether there were reporting biases associated with one person reporting on the activities of others in the survey. Mr. Andrews replied that the survey assumes the respondent can and will answer on behalf of the other registered anglers in the household. The SSC member clarified by asking whether the recall error possible for the respondent is assumed uniform for all members of the household, to which Mr. Andrews replied it was. The SSC member thought the treatment of recall ability for all household members as being equal was likely worth investigating, because that assumption was one that could be easily violated. The SSC member also asked about how FES addresses households with more than one registered angler. Mr. Andrews said the sample unit is a single household, with the total number of boat and shore trips summed by household's anglers.

An SSC member asked if the responses were separated out from the primary person answering the survey, to determine if any omission error was occurring for other respondents in a household. Mr. Andrews replied that cognitive testing was used to calibrate results to this potential effect, acknowledging that the respondent is likely completing the survey for the household. He also stated that survey literature suggests that females are more likely to complete any survey than a male, and that there are expected instances of the primary addressee and principal expected respondent not being the one who actually fills out the survey.

An SSC member asked about the prevalence of non-licensed anglers participating in the survey. Mr. Andrews replied that cognitive testing was done to test for and identify those anglers. The SSC member replied that capturing the effort from the unlicensed component has been an issue in MRIP for some time. In Louisiana, the LA Creel survey has not detected near the prevalence of unlicensed anglers reported by FES, with Louisiana observing approximately 87% license compliance. The SSC member asked about considerations for testing for the proportion of those anglers. While no such testing to that effect is currently underway with OST, Mr. Andrews replied that another related study is, which evaluates the interaction between a licensing question and

fishing activity questions. The study will evaluate whether a respondent is more or less likely to report fishing activity along with a licensing question.

Mr. Dale Diaz, Gulf Council member, noted that there was a considerable expected body of work to come before the Council between now and 2026. In light of this, the Council requested an evaluation of exposure to the effects of the 2023 pilot study from Council staff, to be presented at the Council's October 2023 meeting. Mr. Diaz asked the SSC to consider how the Council might move forward on the issues before it in light of this new information.

A Council staff member asked about the probability of a respondent willingly reporting that their fishing activity violated local laws by the respondent not being licensed. They recalled experiences with similar efforts associated with hunting and terrestrial species management. Mr. Andrews replied that the current licensing question study is designed to try to detect as much. The Council staff member asked how that would be accomplished. Mr. Andrews elaborated, saying that each household matches to a database of licensed anglers, with a licensing question asked to both licensed and unlicensed anglers to detect differences in responses. An SSC member commented that 80% of the fishing effort in Mississippi, according to MRIP, is off-frame, in that it is from unlicensed anglers. He added that the level of technology for a state licensing system is beholden to the resources available to build and inform the system. He added that if an angler changes addresses but annually renews their license, the system may not reflect the actual address of the angler in the present time. The SSC member thought this may result in an effect on the survey in which that angler is not being sampled as expected, which could affect other biases such as non-response and the licensing question study. Without addressing the question about license/address mismatches, Mr. Andrews replied that license matching is done to stratify the sample size, to improve efficiency and control sample size within a sample frame.

Update on SEDAR 81 Sensitivity Runs with Respect to the MRIP-FES Pilot Study

Dr. Lisa Ailloud (Southeast Fisheries Science Center [SEFSC]) presented the effects of the overestimation biases revealed by the MRIP-FES 2023 pilot study in the SEDAR 81 stock assessment. The sensitivity run suggests similarities in trends and estimates, as well as a reduction in spawning stock biomass (SSB) and recruitment. In relation to the recommended overfishing limit (OFL) and acceptable biological catch (ABC), the sensitivity run suggested a 25% decrease in those catch limits. The status of the stock did not change (not overfished and not undergoing overfishing).

An SSC member commented that for species like Spanish mackerel, for which a high proportion of landings come from the recreational sector, the impact of the changes in FES are not going to be minor. The SSC member did not think a 25% change in management advice was small or inconsequential. And, while the previous buffer between the OFL and ABC is about the same order of magnitude (~3 million pounds), the SSC member thought it prudent to work with the SEFSC and evaluate the proportion of recreational landings and provide the appropriate management advice while the new 2024 FES pilot study is up and running. Another SSC member recommended being cognizant of the level of impact the recreational sector may have on a fishery and take into consideration the data provided by state surveys.

Dr. Siegfried (SEFSC) commented that the SEFSC is not recommending that the SSC act on the results from the sensitivity run to change catch recommendations for Spanish mackerel at this time. This exercise was meant to show the relative change in comparison to the results of the SEDAR 81 stock assessment¹. She also noted that it would not make sense to provide recommendations based on the sensitivity run given that they would be in a different data unit than the current way in which the landings are monitored. An SSC member asked if the SEFSC had a list of potential options for the SSC to consider in providing management advice in light of the 2023 pilot study results. Dr. Siegfried replied that the SEFSC is still trying to understand the implications of the pilot study and developing a plan on how to proceed. Council staff confirmed that there have been discussions on exploring tools that could be used as stock assessments proceed and are reviewed by the SSC; however, developing an action plan at this time is challenging and will take time.

Another SSC member noted that during the initial discussion on SEDAR 81, there was a concern about the recreational shore mode discards and wanted to explore the catch equivalency issue. Dr. Ailloud replied that the sensitivity run still shows high variability on the shore mode estimates. She also noted that the magnitude of difference between CHTS and FES is more closely aligned, disregarding other biases in the CHTS data.

Another SSC member contended that the results from the sensitivity run may not be as consequential as they may seem, given that Spanish mackerel does not have sector allocations and no significant change on fishing mortality. They also stressed the importance of consistency in data units between catch advice and monitoring. An SSC member spoke about the geographic scope of the 2023 FES pilot study and how it is unclear what the results would be when looking at the entire Gulf, rather than just Florida. The 2024 pilot study is expected to include all states in which MRIP operates.

Dr. Siegfried commented that utilizing sensitivity runs as another tool in the stock assessment process might be the best path forward while the 2024 FES pilot study is completed. She added that additional communication with OST is needed to better understand FES. An SSC member recommended taking a closer look at stock abundance trends, and what is happening with a fishery, to better understand the social and economic outcomes resulting from catch advice.

Public Comment, October 4

Katie Fischer (commercial sector, vessel owner, fish house owner, Matlacha, FL)

- Her main concern with MRIP-FES is the socioeconomic impact it's had on the commercial sector. The science and fish stocks have been discussed but not the overwhelming impact on people.
- MRIP-FES has caused the commercial sector to lose money. Every calibration has resulted in de-facto reallocations. This has devastated the commercial industry because lease prices have increased.

¹ <https://sedarweb.org/documents/sedar-81-gulf-of-mexico-spanish-mackerel-final-stock-assessment/>

- She was encouraged to hear this discussion but commercial businesses may not be able to hold on until 2026.

Bob Zales (Panama City Beach, FL):

- There are serious problems with MRIP-FES effort shifts up and down. He's very interested in the sensitivity run on Spanish mackerel because it illustrated that nothing should have been done to the stock.
- His main concern, that has rarely been discussed, are the ramifications of MRIP-FES on real-world activity. Implementation of MRIP-FES has caused: reallocations to the recreational sector, changes in stock biomass numbers, changes to catch limits (OFLs, ABCs, ACLs, ACTs), changes to recreational fishing seasons (e.g. red grouper season cut in half); on the commercial side it has reduced quotas and prevented people from fishing and providing fresh fish to consumers. Even the multiple ongoing lawsuits are a direct result of MRIP-FES implementation.
- So much public money and time has been wasted on MRIP-FES yet results from new studies won't be available until 2026 at the earliest while social and economic damage continues.
- The only solution to this continuing problem is to make recreational anglers more accountable through some type of electronic logbook to collect catch, effort and discard data. Reallocation to the recreational sector is only increasing discard mortality and the uncertainty around the discard estimates. He wants to pause MRIP-FES; no more changes should be made until more information on the impacts of MRIP-FES is released.
- An SSC member responded to both comments above by agreeing that the shift to MRIP-FES has not done anglers or fish stocks any favors. He suggests pausing until we can find a path forward and reconcile the recreational time series. Although this is a complex process and frustrating he is optimistic about the conversations amongst agencies.
- An SSC member responded to Mr. Zales by agreeing that a formal logbook for recreational anglers is appealing, even though the logistics are not. He would like more discussion on this idea.

Other Business

Discussion of Gag Recreational Bag Limit

An SSC member noted the recreational closure of October 19th for the 2023 season for gag, and thought the SSC should discuss what reductions in fishing mortality could be achieved to increase the recreational fishing season duration to the greatest extent possible. The SSC member thought the recreational bag and vessel limit analyses should be conducted by fleet. Council staff clarified that the recreational bag and vessel limit analyses were conducted by fleet, and were presented to the SSC at its September 2023 meeting and at the Reef Fish Advisory Panel's October meeting. These analyses will also be presented to the Council during its October 2023 meeting.

The meeting was adjourned at 12:30 pm eastern time on October 4, 2023.

Meeting Participants

Standing SSC

James Nance, *Chair*

Luiz Barbieri, *Vice Chair*

Harry Blanchet

Roy Crabtree

Doug Gregory

David Griffith

Paul Mickle

Trevor Moncrief

Will Patterson

Dan Petrolia

Sean Powers

Steven Scyphers

Special Reef Fish SSC

Jason Adriance

Mike Allen

John Mareska

Special Ecosystem SSC

Mandy Karnauskas

Josh Kilborn

Steven Saul

Special Socioeconomic SSC

Luke Fairbanks

Cindy Grace-McCaskey

Jack Isaacs

Council Representatives

Dale Diaz

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