



SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL

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Jessica McCawley, Chair | Mel Bell, Vice Chair
John T. Carmichael, Executive Director

MEMORANDUM

2/5/2020

LN# 2020-06

TO: Clay Porch

FROM: Chip Collier

SUBJECT: Scope of Work for 2021 South Atlantic Red Snapper Operational Assessment and 2022 South Atlantic Blueline Tilefish and Vermilion Snapper Operational Assessments

At its December 2019 meeting, the SAFMC supported the SEDAR Steering Committee recommendation to change the Red Snapper Assessment from a Research Track Assessment to an Operational Assessment. This change resulted in reducing the time allotted for the Red Snapper Assessment from 2 ½ years to one year and potentially opening two operational assessment slots in 2022. The SAFMC requested both Blueline Tilefish and Vermilion Snapper be added to the assessment schedule in 2022 as operational assessments. This information is provided so that SEFSC can evaluate the assessment workload prior to finalizing the 2021 and 2022 SEDAR schedule at the May 2020 Steering Committee meeting.

The SAFMC approved assessment scopes of work for the operational assessment of Red Snapper, Blueline Tilefish, and Vermilion Snapper are provided below. The attached information is provided in response to the SEDAR Steering Committee instructions. I also added some comments below some bullets in the statement of work to clarify the intent of the request. Please feel free to contact me if there are any questions about these items.

Thank you for considering,

Chip

2021-2022 SAFMC SEDAR Operational Assessments Scope of Work

Red Snapper

- Model and Additional Data Years
 - Update the South Atlantic Red Snapper SEDAR 41 assessment from a terminal year of 2014 to 2019/2020. (This will add 5-6 years of new data, depending on the chosen terminal year.)
 - Apply the current BAM configuration
- Data updates
 - Include the revised MRIP recreational estimates.
 - Evaluate, and consider including as an estimate of recreational catch, the alternative (non- MRIP) estimates of catch during recent open seasons that are used to evaluate the Annual Catch Limit.
 - *NOTE: In SEDAR 41, alternative landings and discards were created by each state for the open seasons in 2012, 2013, and 2014. The recreational working group of the data workshop recommended the appropriate data source for each year and state. A similar process will be needed for subsequent years.*
 - Evaluate information submitted voluntarily by fishermen, such as through MyFishCount, to inform assessment inputs such as discard mortality information, catch length composition, and other factors as appropriate.
 - Include any newly available information on steepness for similar species.
 - Include any new and updated information on discard mortality and life history.
 - *NOTE: There may not be new and reliable information available as requested in the prior 3 bullets, however, listing these items indicates that the SSC supports making such changes in the input dataset if information is available.*
 - Calculate different F metrics (other than apical F) to evaluate the status of the stock (to address shifts in the age of apical F throughout the assessment time series).
 - *NOTE: In SEDAR 41, the reviewers discussed several different F metrics. Some that were considered: age specific F at a fully selected age; F at specific age ranges (juv and adult); F above fully recruited; or an average fishing mortality weighted by number, biomass, exploitable number, or exploitable biomass.*
 - Run alternative projections that incorporate the use of descending devices and venting tools when releasing Red Snapper, at varying levels of compliance.
 - *NOTE: The SSC's intent was for projections of future yield to reflect regulatory changes recently approved by the Council. This could be useful to demonstrate the potential benefit of descending devices and venting tools to the public more than needed for an assessment. Maybe SAFMC and SEFSC could work together to draft a white paper after the assessment is completed.*
- Address SSC Selectivity Concerns

- The SSC reviewed a paper detailing an experiment run by FL FWRI researchers comparing the size selectivities of Chevron traps, hook and line gear, and underwater cameras for Red Snapper and other reef fishes. The study concluded that the selectivity of underwater cameras and Chevron traps is different and that the selectivity pattern for Chevron traps is likely dome-shaped.
- The SSC had this to say about the study: *“The SSC recommends that the results of this study be considered in upcoming assessments for Red Snapper. Although the SSC did not review the other aspects of this study, results may be relevant for other species evaluated in this study.”*
- The SSC also made the following recommendations:
 - *“The SSC recommends re-evaluating if different selectivities can be used within the combined Chevron trap/video (CVID) index or whether the Chevron traps and the video should continue to be combined as a single CPUE index given the differences in selectivity found in this study.”*
 - *“The SSC recommends re-evaluating the shape of the SERFS Chevron trap selectivity curve (flat-topped vs. dome-shaped).”*
- Reevaluate the use of the Chevron trap index further back in time due to Red Snapper being in the top ten most abundant species caught in these traps, indicating that Chevron traps are an efficient gear for sampling Red Snapper.
- Process
 - Hold an in-person Data Workshop, including a panel of SSC members, to review the new MRIP data series, the alternative recreational datasets that exist, and the selectivity issues regarding the Chevron trap and video indices. Hold an in-person Assessment Workshop, including a panel of SSC members, to review model development and provide guidance
 - Bring in external experts to be involved in the SEDAR Data Workshop, Assessment Workshop, and to participate in the review with the SSC. The recommendation includes experts with Red Snapper experience, and with general stock assessment and selectivity modeling expertise.

Blueline Tilefish

- Model and Additional Data Years
 - Update the South Atlantic Blueline Tilefish SEDAR 50 assessment from a terminal year of 2016 to 2020/2021. (This will add 4-5 years of new data, depending on the chosen terminal year.)
 - Apply the current BAM configuration.
- Data updates
 - Include any new and updated information on life history, discard mortality, and steepness.
 - Explore using appropriate CVs for the landings data to capture the uncertainty in the model results.
 - Evaluate sensitivity runs with differing amounts of recruitment coming from outside the system to account for the possibility of transport of larvae and adults to the South Atlantic region from the Gulf of Mexico and South Atlantic.
 - *NOTE: SEDAR recognizes this might be difficult to evaluate in an operational assessment and might be more appropriate for a research track assessment.*
- Process
 - Convene a panel of several SSC representatives to meet via webinar to review model development and provide guidance.
 - Include the Mid-Atlantic Council in the assessment process.

Vermilion Snapper

- Model and Additional Data Years
 - Update the South Atlantic Vermilion Snapper SEDAR 55 assessment from a terminal year of 2016 to 2020/2021. (This will add 4-5 years of new data, depending on the chosen terminal year.)
 - Apply the current BAM configuration.
- Data updates
 - Include any new and updated information on life history, discard mortality, and steepness.
 - Explore using measures of precision for recreational catch estimates that better capture the extent of the uncertainty around those recreational catch estimates.
 - Vermilion Snapper was one of the other species looked at in the FWRI selectivity study. As the SSC stated (see quote above) this study's "*results may be relevant for other species evaluated in this study.*" Therefore, the same explorations and evaluations should be applied to the Chevron trap and video index data for Vermilion Snapper as was done for Red Snapper.
 - *NOTE: SEDAR will request FWRI develop a working paper on selectivity for Vermilion Snapper.*
 - The SSC raised concerns that the decline in the Headboat Index since 1992 could be due to changes in regulations and may not represent trends in the population. The SSC suggested evaluating this possibility through sensitivity runs that eliminate the index or truncate it at 1992.
- Process
 - Convene a panel of several SSC representatives to meet via webinar to review model development and provide guidance.



Gulf of Mexico Fishery Management Council

Managing Fishery Resources in the U.S. Federal Waters of the Gulf of Mexico

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March 12, 2020

Dr. Clay Porch, Director
Southeast Fisheries Science Center
National Marine Fisheries Service
75 Virginia Beach Dr.
Miami, Florida 33149

Dear Dr. Porch:

During its March 11, 2020 meeting via webinar, the Gulf of Mexico (Gulf) Fishery Management Council's (Council) Scientific and Statistical Committee (SSC) reviewed scopes of work for the planned 2022 operational assessments of yellowedge grouper and Gulf migratory group Spanish mackerel. These assessments are scheduled to be completed by the Southeast Fisheries Science Center (SEFSC) using the previously accepted modeling environments (SEDAR 22 for yellowedge grouper and SEDAR 28 for Spanish mackerel). The attached scopes of work for each assessment have been reviewed and approved by the Council's SSC for use in developing the terms of reference for these planned assessments.

Please do not hesitate to contact Mr. Ryan Rindone on Council staff or me if you have any questions.

Sincerely,

A handwritten signature in blue ink that reads "Carrie M. Simmons".

Carrie M. Simmons, Ph.D.
Executive Director

RR

cc: Council Members / Council Staff / Shannon Cass-Calay, Ph.D. / Katie Siegfried, Ph.D. / Joe Powers, Ph.D. / Larry Massey / Jack McGovern, Ph.D. / Susan Gerhart / Julie Neer, Ph.D.



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Gulf of Mexico Spanish Mackerel Operational Assessment Scope of Work DRAFT: March 2020

1. Update the approved SEDAR 28 Gulf of Mexico Spanish mackerel base model with data through 2021.
2. Document any changes or corrections made to model and input datasets and provide updated input data tables.
 - Document changes in MRIP data, both pre- and post-recalibration, in terms of the magnitude of changes to catch and effort.
 - Include available length frequency for the commercial fleet(s).
 - Update life history data (e.g., growth, reproduction, mortality) if warranted.
 - Consider age-dependent versus constant natural mortality estimates.
3. To the extent possible, the following should be considered for inclusion in the model:
 - Consider whether steepness can be estimated, with or without a prior. If steepness is fixed, evaluate the sensitivity of that assumption.
4. Update model parameter estimates and their variances, model uncertainties, estimates of stock status and management benchmarks, and provide the probability of overfishing occurring at specified future harvest and exploitation levels. Provide commercial and recreational landings and discards in pounds and numbers.
 - Use the following status determination criteria (SDC):
 - $MSY \text{ proxy} = \text{yield at } F_{MSY} \text{ or } F_{Rebuild} \text{ (if overfished)}$
 - $MSST = 0.75 * SSB_{MSY}$
 - $MFMT = F_{MSY} \text{ and } F_{Rebuild} \text{ (if overfished)}$
 - $OY = ACL$ as defined by the Gulf and South Atlantic Councils in CMP Amendment 18 (GMFMC and SAFMC 2011).
 - If different SDC are recommended, provide outputs for both the current and recommended SDC.
 - Unless otherwise recommended, use the geometric mean of the previous three years' fishing mortality to determine $F_{Current}$. If an alternative approach is recommended, provide justification and outputs for the current and alternative approach.
 - Describe changes in catch advice as they relate to the use of FES-adjusted MRIP recreational catch and effort data, versus changes related to stock abundance.
 - Provide yield and spawning stock biomass streams for the overfishing limit and acceptable biological catch in pounds:
 - Annually for five years
 - Under a "constant catch" scenario for both three and five years
 - For the equilibrium yield at F_{MSY} , when estimable

5. Develop a stock assessment report to address these TORS and fully document the input data and results of the stock assessment model.

In-person Workshop

An in-person data and assessment workshop **is not** recommended for this assessment.



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Gulf of Mexico Yellowedge Grouper Operational Assessment Scope of Work DRAFT: March 2020

1. Update the approved SEDAR 22 Gulf of Mexico Yellowedge Grouper base model with data through 2021.
2. Document any changes or corrections made to model and input datasets and provide updated input data tables.
 - Document changes in MRIP data, both pre- and post-recalibration, in terms of the magnitude of changes to catch and effort by mode if possible.
 - Include available length frequency for the commercial fleet(s).
 - Update life history data (e.g., growth, reproduction, mortality) if warranted.
3. To the extent possible, the following should be considered for inclusion in the model:
 - Consider potential effects of red tide on yellowedge grouper, with consideration of past red tide events in 2005, 2014, and 2018.
 - Consider whether steepness can be estimated, with or without a prior. If steepness is fixed, evaluate the sensitivity of that assumption.
4. Update model parameter estimates and their variances, model uncertainties, estimates of stock status and management benchmarks, and provide the probability of overfishing occurring at specified future harvest and exploitation levels. Provide commercial and recreational landings and discards in pounds and numbers.
 - Use the following status determination criteria (SDC):
 - $MSY \text{ proxy} = \text{yield at } F_{MSY} \text{ or } F_{Rebuild} \text{ (if overfished)}$
 - $MSST = 0.75 * SSB_{MSY}$
 - $MFMT = F_{MSY} \text{ and } F_{Rebuild} \text{ (if overfished)}$
 - $OY = \text{equilibrium yield at } 75\% \text{ of } F_{MSY} \text{ proxy, as defined by the Gulf Council}$
 - If different SDC are recommended, provide outputs for both the current and recommended SDC.
 - Unless otherwise recommended, use the geometric mean of the previous three years' fishing mortality to determine $F_{Current}$. If an alternative approach is recommended, provide justification and outputs for the current and alternative approach.
 - Describe changes in catch advice as they relate to the use of FES-adjusted MRIP recreational catch and effort data, versus changes related to stock abundance.
 - Provide yield and spawning stock biomass streams for the overfishing limit and acceptable biological catch in pounds:
 - Annually for five years
 - Under a "constant catch" scenario for both three and five years
 - For the equilibrium yield at F_{MSY} , when estimable

5. Develop a stock assessment report to address these TORS and fully document the input data and results of the stock assessment model.

In-person Workshop

An in-person data and assessment workshop **is not** recommended for this assessment.



MEMORANDUM

2/20/2020

**Florida Fish
and Wildlife
Conservation
Commission**

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TO: Clay Porch

FROM: Dustin Addis

SUBJ: Scope of Work for 2022 Atlantic Hogfish Benchmark Assessment

This information is provided so that SEFSC can evaluate the assessment workload prior to finalizing the SEDAR schedule at the May 2020 SEDAR Steering Committee meeting.

Enclosed is the Statement of Work for the 2022 Atlantic Hogfish SEDAR Benchmark Assessment to be conducted by the Florida Fish and Wildlife Research Institute.

Please feel free to contact me if there are any questions about these items.

cc: Luiz Barbieri, Jessica McCawley, Gil McRae,
John Carmichael, Julie Neer

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Statement of Work for 2022 Hogfish Assessment

Assessment Process: The Florida Fish and Wildlife Research Institute (FWRI) will be conducting a Benchmark SEDAR stock assessment of the South Atlantic and Gulf of Mexico stock of Hogfish in 2022. We are referring to this assessment as a Benchmark due to the fact that FWRI plans on delivering management advice at the end of the process.

The previous benchmark consisted of data scoping meetings, assessment webinars, and a desk review. We propose a data workshop, assessment webinars, and a review workshop be considered for this benchmark.

Model Type: We anticipate conducting this assessment in Stock Synthesis (SS3). This is the same model used during the benchmark and update of SEDAR 37.

Terminal Year: 2020 or 2021, depending on where the assessment fits within the larger SEDAR schedule.

Data Requirements and SEFSC Support: As this will be a benchmark assessment, FWRI would request the following types of fisheries data:

- Southeast Region Headboat survey (SRHS): landings, discards, length/age compositions for landings
- Marine Recreational Information Program (MRIP): adjusted landings, discards, total catch, length/age composition for landings by year and gear
- Commercial data: ALS-SEFSC data, Trip ticket landings, Trip Interview Program (TIP) length/age compositions by year and gear
- Coastal Fisheries Logbook Program (CFLP): CPUE and discards by gear
- UM/NMFS Reef Visual Census (RVC) data: densities, length compositions, index
- SouthEast Reef Fish Survey (SERFS) survey: index, length/age compositions

FWRI would also request that SEFSC personnel familiar with these data sets attend the Data Workshop to provide support.

FWRI will provide the following types of fisheries data:

- Florida Trip Ticket: indices by gear
- MRIP: indices by gear
- REEF Visual Survey: index, length compositions



Atlantic States Marine Fisheries Commission

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MEMORANDUM

January 27, 2020

To: South Atlantic State/Federal Fisheries Management Board
From: Red Drum Stock Assessment Subcommittee
RE: Red Drum Stock Assessment Road Map

The Assessment Science Committee (ASC) was tasked with providing a road map for future red drum stock assessments to the South Atlantic State/Federal Fisheries Management Board. The ASC formed a subcommittee to develop the road map and the subcommittee recommended the Red Drum Stock Assessment Subcommittee (SAS) be repopulated to assist with the road map.

Together, the ASC and Red Drum SAS recommend evaluating three potential frameworks to develop management advice from the next stock assessment (in no particular order):

1. model-free stock indicators, similar to traffic light analyses used for Atlantic croaker and spot,
2. a population dynamics model tracking the juvenile components of the stocks, and
3. a population dynamics model tracking all life stages of the stocks.

The anticipated advantage of the first framework is being able to provide advice on all life stages with data currently available, with the most notable disadvantage being no quantitative stock status estimates. Rather, this framework would provide stock status as changes in individual data sets or indicators relative to some predefined time period in the available data. The anticipated advantage of the second framework is being able to provide estimates of stock status relative to potential productivity from integrated juvenile data (currently available), with the most notable disadvantage being stock status estimates that are not influenced by changes in the mature, adult components of the stocks (data currently limited or not available). The anticipated advantage of the third framework is being able to provide estimates of stock status relative to potential productivity from integrated data across life stages, but estimates from this framework are likely to have relatively high levels of uncertainty given current data limitations on adult components of the stocks (i.e., lack of age composition data characterizing dead discards).

It is recommended that the Red Drum SAS develop simulation models as a focal point of the next assessment, given the unique characteristics of red drum life history and data availability. Simulation models will simulate red drum stocks that will be subjected to various fishing mortality scenarios and sampled to mimic available data streams. Data streams will then be applied to the three potential frameworks to test their reliability in characterizing stock status

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and inform the preferred framework for providing management advice. Simulation testing will also be used to identify the data deficiencies causing uncertainty in assessment advice to focus improvements in data collection efforts into the future. The Red Drum SAS anticipates an assessment timeline of four years to fully address the simulation work proposed. The recommended timeline is for a two-stage assessment process that includes two years of work devoted to simulation analysis with a peer review in 2022 and a subsequent two years of work devoted to a traditional benchmark stock assessment with a peer review in 2024. If the recommended timeline is approved, the simulation analysis will be scheduled for an ASMFC external peer review in 2022. The Southeast Data, Assessment, and Review (SEDAR) peer review schedule currently has a placeholder for a red drum benchmark assessment, and a request could be made to reschedule this assessment for review in 2024.

The Red Drum SAS recommends the Board provide direction to begin developing terms of reference for the simulation analysis at the ASMFC 2020 Winter Meeting to stay on track with the proposed timeline. Additionally, the SAS recommends the South Atlantic Board recommend to the Interstate Fisheries Management Plan Policy Board, approval of resources to conduct the necessary work and peer review workshops.



Atlantic States Marine Fisheries Commission

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Patrick C. Keliher (ME), Chair

A.G. "Spud" Woodward (GA), Vice-Chair

Robert E. Beal, Executive Director

Sustainable and Cooperative Management of Atlantic Coastal Fisheries

TO: Clay Porch

FROM: Pat Campfield

SUBJECT: Scope of Work for 2022 Atlantic Menhaden Single-Species and Ecological Reference Point Stock Assessment Updates

DATE: March 10, 2020

The ASMFC Atlantic Menhaden Fishery Management Board identified 2022 as the preferred timing for the next assessment updates of Atlantic menhaden and Ecological Reference Points. The Commission provides the following information in order for the SEFSC to evaluate assessment workloads prior to finalizing the SEDAR schedule at the May 2020 Steering Committee meeting.

Enclosed is the Statement of Work for the 2022 Atlantic Menhaden Single-Species and Ecological Reference Point Stock Assessment Updates, to be conducted by the ASMFC Atlantic Menhaden Technical Committee and Ecological Reference Point Work Group.

Please contact us if more information is needed with regard to the assessment updates.

Statement of Work for 2022 Atlantic Menhaden Single Species and Ecological Reference Point Stock Assessment Updates

Assessment Process: The Atlantic States Marine Fisheries Commission (ASMFC) will be conducting updates in 2022 to the 2019 Atlantic Menhaden Single Species and Ecological Reference Point (ERP) Benchmark Stock Assessments. The assessment updates will involve multiple assessment webinars and one in-person meeting of the Atlantic Menhaden Technical Committee to review and approve the assessments.

Model Type: The 2019 single-species benchmark assessment (SEDAR 69) used the Beaufort Assessment Model (BAM) to assess Atlantic menhaden. The model was developed and run for Atlantic menhaden by Dr. Amy Schueller. The previous benchmark, SEDAR 40 (2012), and stock assessment update (2017) also used BAM. The ERP assessment selected a minimum complexity EwE model that will be used in the assessment update. The model was developed and run by Dr. Dave Chagaris at the University of Florida. The EwE model and its generation of Ecological Reference Points for management advice rely heavily on BAM model outputs.

Terminal Year: 2020 or 2021, depending on timing of data availability and the broader SEDAR and ASMFC stock assessment schedules.

Data Requirements and SEFSC Support: During the update, ASMFC will request Atlantic menhaden reduction landings and associated biological data from the NMFS Beaufort Lab (Ray Mroch). ASMFC will request that Dr. Schueller and Mr. Mroch contribute to the stock assessment update process, given their modeling expertise and familiarity with the data sets, as members of the Menhaden Technical Committee.