



SEDAR

SouthEast Data, Assessment, and Review

4055 Faber Place Drive #201
North Charleston, SC 29405

Phone (843) 571-4366
Fax (843) 769-4520
www.sedarweb.org

MEMORANDUM

TO: Gregg Waugh, Executive Director, SAFMC
FROM: Julie A. Neer, SEDAR Coordinator
DATE: March 14, 2018
RE: Terms of Reference Approval for SEDAR 64, Southeastern U.S. Yellowtail Snapper

Enclosed are draft Terms of Reference for the SEDAR 64 Southeastern U.S. Yellowtail Snapper assessment process. These Terms of Reference have been produced in consultation with the SEFSC. Please review this information, modify if necessary, and approve according to South Atlantic Council SEDAR procedures.

SEDAR 64 will assess U.S. Southeastern Yellowtail Snapper. The Data Workshop will be held February 25 – March 1, 2019, the assessment webinars will be held between April and July 2019, and the Review Workshop will be held September 10-12, 2019.

I would appreciate it if these Terms of Reference could be included for discussion and approval at your earliest convenience. Please inform me of the results of your consideration via a memo indicating your decision by June 29, 2018.

Thank you for your attention to this matter.

cc

John Carmichael

Mike Errigo





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SEDAR 64 Southeastern U.S. Yellowtail Snapper

Assessment* Terms of Reference

DRAFT: March 2018

Data Workshop Terms of Reference

1. Review stock structure and unit stock definitions and consider whether changes are required.
2. Review, discuss, and tabulate available life history information.
 - Evaluate age, growth, natural mortality, and reproductive characteristics
 - Provide appropriate models to describe population growth, maturation, and fecundity by age, sex, and/or length by appropriate strata as feasible.
 - Evaluate the adequacy of available life history information for conducting stock assessments and recommend life history information for use in population modeling.
 - Evaluate and discuss the sources of uncertainty and error, and data limitations (such as temporal and spatial coverage) for each data source. Provide estimates or ranges of uncertainty for all life history information.
3. Recommend discard mortality rates.
 - Review available research and published literature
 - Consider research directed at yellowtail snapper as well as similar species from the southeastern United States and other areas
 - Provide estimates of discard mortality rate by fishery, gear type, depth, and other feasible or appropriate strata.
 - Include thorough rationale for recommended discard mortality rates
 - Provide justification for any recommendations that deviate from the range of discard mortality provided in the last benchmark or other prior assessment
 - Provide estimates of uncertainty around recommended discard mortality rates
4. Provide measures of population abundance that are appropriate for stock assessment.
 - Consider and discuss all available and relevant fishery-dependent and -independent data sources



- Consider species identification issues between yellowtail snapper and other species, and correct for these instances as appropriate
 - Document all programs evaluated; address program objectives, methods, coverage, sampling intensity, and other relevant characteristics
 - Provide maps of fishery and survey coverage
 - Develop fishery and survey CPUE indices by appropriate strata (e.g., age, size, area, and fishery) and include measures of precision and accuracy
 - Discuss the degree to which available indices adequately represent fishery and population conditions
 - Recommend which data sources adequately and reliably represent population abundance for use in assessment modeling
 - Provide appropriate measures of uncertainty for the abundance indices to be used in stock assessment models
 - Rank the available indices with regard to their reliability and suitability for use in assessment modeling
5. Provide commercial catch statistics, including both landings and discards in both pounds and number.
 - Evaluate and discuss the adequacy of available data for accurately characterizing harvest and discard by fishery sector or gear
 - Provide length and age distributions for both landings and discards if feasible
 - Provide maps of fishery effort and harvest and fishery sector or gear
 - Provide estimates of uncertainty around each set of landings and discard estimates
 6. Provide recreational catch statistics, including both landings and discards in both pounds and number.
 - Evaluate and discuss the adequacy of available data for accurately characterizing harvest and discard by species and fishery sector or gear
 - Provide length and age distributions for both landings and discards if feasible
 - Provide maps of fishery effort and harvest and fishery sector or gear
 - Provide estimates of uncertainty around each set of landings and discard estimates
 7. Identify and describe ecosystem, climate, species interactions, habitat considerations, and/or episodic events that would be reasonably expected to affect population dynamics.
 8. Incorporate socioeconomic information into considerations of environmental events that affect stock status and related fishing effort and catch levels as practicable.
 9. Provide recommendations for future research in areas such as sampling, fishery monitoring, and stock assessment. Include specific guidance on sampling intensity (number of samples including age and length structures) and appropriate strata and coverage.



10. Review, evaluate, and report on the status and progress of all research recommendations listed in the last assessment, peer review reports, and SSC report concerning this stock.
11. Prepare the Data Workshop report providing complete documentation of workshop actions and decisions in accordance with project schedule deadlines (Section II of the SEDAR assessment report).



Assessment Workshop Terms of Reference

1. Review any changes in data following the data workshop and any analyses suggested by the data workshop. Summarize data as used in each assessment model. Provide justification for any deviations from Data Workshop recommendations.
2. Develop population assessment models that are compatible with available data and document input data, model assumptions and configuration, and equations for each model considered.
 - Fully document and describe the impacts (on population parameters and management benchmarks) of any changes to the model structure, methods, application or fitting procedures made between this assessment and the prior assessment (SEDAR 27A).
 - Provide a continuity model consistent with the prior assessment configuration, if one exists, updated to include the most recent observations. Alternative approaches to a strict continuity run that distinguish between model, population, and input data influences on findings, may be considered.
3. Provide estimates of stock population parameters, if feasible:
 - Include fishing mortality, abundance, biomass, selectivity, stock-recruitment relationship (if applicable), and other parameters as necessary to describe the population
 - Include appropriate and representative measures of precision for parameter estimates
 - Compare and contrast population parameters and time series estimated in this assessment with values from the previous (SEDAR 27A) assessment, and comment on the impacts of changes in data, assumptions or assessment methods on estimated population conditions
4. Characterize uncertainty in the assessment and estimated values.
 - Consider uncertainty in input data, modeling approach, and model configuration
 - Consider and include other sources as appropriate for this assessment
 - Provide appropriate measures of model performance, reliability, and ‘goodness of fit’
 - Provide measures of uncertainty for estimated parameters
5. Provide estimates of yield and productivity.
 - Include yield-per-recruit, spawner-per-recruit, and stock-recruitment models
6. Provide estimates of population benchmarks or management criteria consistent with available data, applicable FMPs, proposed FMPs and Amendments, other ongoing or proposed management programs, and National Standards. Include values for fishing mortality (including assumed discard mortality if appropriate), spawning stock biomass, fishery yield, SPR and recruitment for potential population benchmarks.
 - Evaluate existing or proposed management criteria as specified in the management summary
 - Recommend proxy values when necessary, and provide appropriate justification



- Compare and contrast reference values estimated in this assessment with values from the previous (SEDAR 27A) assessment, and comment on the impacts of changes in data, assumptions or assessment methods on reference point differences.
7. Incorporate known applicable environmental covariates into the selected model, and provide justification for why any of those covariates cannot be included at the time of the assessment
 8. Provide declarations of stock status relative to management benchmarks or alternative data poor approaches if necessary.
 9. Provide uncertainty distributions of proposed reference points, stock status, and yield.
 - Provide the probability of overfishing at various harvest or exploitation levels.
 - Provide a probability density function for biological reference point estimates.
 - If the stock is overfished, provide the probability of rebuilding within mandated time periods as described in the management summary or applicable federal regulations.
 10. Project future stock conditions (biomass, abundance, and exploitation) and develop rebuilding schedules if warranted; include estimated generation time. Stock projections shall be developed in accordance with the following:
 - A) If stock is overfished:
 $F=0, F_{\text{Current}}, F=F_{\text{MSY}}, F \text{ at } 75\% \text{ of } F_{\text{MSY}}$
 $F=F_{\text{Rebuild}}$ (max exploitation that rebuild in greatest allowed time)
 - B) If overfishing is occurring:
 $F=F_{\text{Current}}, F=F_{\text{MSY}}, F \text{ at } 75\% \text{ of } F_{\text{MSY}}$
 - C) If stock is neither overfished nor undergoing overfishing:
 $F=F_{\text{Current}}, F=F_{\text{MSY}}, F \text{ at } 75\% \text{ of } F_{\text{MSY}}$
 - D) If data limitations preclude classic projections (i.e. A, B, C above), explore alternative models to provide management advice
 11. Provide recommendations for future research and data collection.
 - Be as specific as practicable in describing sampling design and sampling intensity
 - Emphasize items that will improve future assessment capabilities and reliability
 - Consider data, monitoring, and assessment needs
 12. Review, evaluate, and report on the status and progress of all research recommendations listed in the last assessment, peer review reports, and SSC report concerning this stock.
 13. Complete the Assessment Workshop Report in accordance with project schedule deadlines (Section III of the SEDAR Stock Assessment Report).



Review Workshop Terms of Reference

1. Evaluate the data used in the assessment, including discussion of the strengths and weaknesses of data sources and decisions, and consider the following:
 - a) Are data decisions made by the DW and AW sound and robust?
 - b) Are data uncertainties acknowledged, reported, and within normal or expected levels?
 - c) Are data applied properly within the assessment model?
 - d) Are input data series reliable and sufficient to support the assessment approach and findings?
2. Evaluate and discuss the strengths and weaknesses of the methods used to assess the stock, taking into account the available data, and considering the following:
 - a) Are methods scientifically sound and robust?
 - b) Are assessment models configured properly and consistent with standard practices?
 - c) Are the methods appropriate for the available data?
3. Evaluate the assessment findings and consider the following:
 - a) Are population estimates (model output – e.g. abundance, exploitation, biomass) reliable, consistent with input data and population biological characteristics, and useful to support status inferences?
 - b) Is the stock overfished? What information helps you reach this conclusion?
 - c) Is the stock undergoing overfishing? What information helps you reach this conclusion?
 - d) Is there an informative stock recruitment relationship? Is the stock recruitment curve reliable and useful for evaluation of productivity and future stock conditions?
 - e) Are the quantitative estimates of the status determination criteria for this stock reliable? If not, are there other indicators that may be used to inform managers about stock trends and conditions?
4. Evaluate the stock projections, including discussing strengths and weaknesses, and consider the following:
 - a) Are the methods consistent with accepted practices and available data?
 - b) Are the methods appropriate for the assessment model and outputs?
 - c) Are the results informative and robust, and useful to support inferences of probable future conditions?
 - d) Are key uncertainties acknowledged, discussed, and reflected in the projection results?
5. Consider how uncertainties in the assessment, and their potential consequences, are addressed.
 - Comment on the degree to which methods used to evaluate uncertainty reflect and capture the significant sources of uncertainty in the population, data sources, and assessment methods



- Ensure that the implications of uncertainty in technical conclusions are clearly stated
6. Consider the research recommendations provided by the Data and Assessment workshops and make any additional recommendations or prioritizations warranted.
 - Clearly denote research and monitoring that could improve the reliability of, and information provided by, future assessments
 - Provide recommendations on possible ways to improve the SEDAR process
 7. Consider whether the stock assessment constitutes the best scientific information available using the following criteria as appropriate: relevance, inclusiveness, objectivity, transparency, timeliness, verification, validation, and peer review of fishery management information.
 8. Provide suggestions on key improvements in data or modeling approaches that should be considered when scheduling the next assessment.
 9. Prepare a Peer Review Summary summarizing the Panel's evaluation of the stock assessment and addressing each Term of Reference. Develop a list of tasks to be completed following the workshop. Complete and submit the Peer Review Summary Report in accordance with the project guidelines.

* This assessment will follow a Benchmark-track approach.





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MEMORANDUM

TO: Gregg Waugh, Executive Director, SAFMC
FROM: Julie A Neer, SEDAR Coordinator
DATE: March 14, 2018
RE: Schedule approval request for SEDAR 64, U.S. Southeastern Yellowtail Snapper

Attached you should find the draft schedule for the SEDAR 64 U.S. Southeastern Yellowtail Snapper assessment. The assessment will follow a benchmark-track approach. This schedule has been produced through discussions with the lead assessment team with acknowledgement of other known meetings and time constraints and in accordance with SEDAR procedures to ensure that you will receive the final product by October 2019.

SEDAR 64 will assess U.S. Southeastern Yellowtail Snapper. The Data Workshop will be held February 25 – March 1, 2019, the assessment webinars will be held between April and July 2019, and the Review Workshop will be held September 10-12, 2019.

I would appreciate it if this schedule could be included for discussion and approval at your earliest convenience. Please inform me of the results of your consideration via a memo indicating your decision by June 29, 2018.

Thank you for your attention to this matter.

cc

John Carmichael

Mike Errigo





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SEDAR 64 Southeastern Yellowtail Snapper Schedule of Events

DRAFT: January 2018

Project Schedule and ToRs Approved June 2018
 Workshop Appointments September 2018

Data Scoping Webinar (DW Panel) week of November 5th, 2018
 Unprocessed Data Deadline (*includes raw age and reproduction data*) December 7, 2018
 Data Webinar (DW Panel) week of January 14th, 2019

- *Status update from WG/data providers*
- *Review summary statistics*
- *Discuss issues where panel feedback needed to prep for DW*

DW Working Paper/Processed Data Submission to SEDAR Staff February 8, 2019
Data Evaluation Workshop (TBD) February 25-March 1, 2019
 1st Draft of Data Evaluation Workshop Report March 1, 2019 (end of workshop)
 Post data workshop webinar (DW Panel, if necessary) week of March 18th, 2019
FINAL Data due to data compilers March 29, 2019
 Draft DW Reports to DW panel for review & final working papers to SEDAR April 5, 2019
 Report Comments due to Editors April 19, 2019
Final DW report sections due to SEDAR & final age/length comps April 26, 2019
 Data workshop report distribution May 3, 2019

Pre-Assessment webinar (DW and AW Panels) week of April 15th, 2019

- *Discuss any remaining data issues and/or pre-modeling questions*

Assessment Milestone I webinar week of April 29th, 2019

- *Consider methods and configuration options for models*
- *Recommend assessment methods (i.e. model classifications, packages) to pursue for potential base model configuration*
- *Identify likely issues to be addressed and evaluated in developing the base model*
- *Review and finalize any data changes or modifications since the DW*

Assessment Milestone II webinar week of May 27th, 2019

- *Progress report on base model development*

Assessment Milestone III webinar week of June 24th, 2019



- *Review base model alternatives and recommend a base model approach and configuration*
- *Recommend sensitivities and uncertainty evaluations*
- *Recommend projection approaches and configuration*

Assessment Milestone IV webinar week of July 15th, 2019

- *Review sensitivities and uncertainty evaluations*
- *Review projection results*
- *Review Assessment report and responses to ToRs*

Assessment Report Draft to panel for review August 2, 2019

AW working paper submission deadline August 9, 2017

AW report comments due to analysts August 16, 2019

Final Assessment Report to SEDAR staff August 21, 2019

RW Working Paper Submission August 19, 2019

Final AW Report distribution August 26, 2019

Pre-RW Conference Call (Analytical team, RW Chair) week of August 26th, 2019

RW Panel Introductory Conference Call (RW Panel, Chair) week of September 2nd, 2019

Review Workshop: (St. Petersburg, FL) September 10-12, 2019

Draft Review Reports due to Chair September 27, 2019

Review Workshop Addenda/Revision Reports due to Chair and SEDAR September 27, 2019

Review Workshop Reports due to SEDAR Staff October 4, 2019

Complete Assessment Report Submitted to Councils/SERO/SEFSC October 11, 2019

