



SEDAR 50
Atlantic Blueline Tilefish
Councils with Jurisdiction: SAFMC (SEDAR Lead) & MAFMC
Schedule of Events

Terminal Year = 2015

Updated: May 4, 2016

Schedule Approved..... March 2016
Workshop Appointments March & June 2016
TORs Approved..... June 2016

Stock ID Work Group Meeting (Stock ID work group) June 28-30, 2016
Data Scoping Webinar (DW Panel)..... week of July 18th, 2016
Unprocessed Data Deadline (*includes raw age and reproduction data*) August 1, 2016
Data Webinar (DW Panel) week of Aug 22nd, 2016

- *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..... Oct 10, 2016
Pre-DW Conference Call (DW Working Group Chairs)..... week of Oct 17th, 2016

Data Evaluation Workshop (Charleston, SC) Oct 24-28, 2016

1st Draft of Data Evaluation Workshop Report..... Oct 28, 2016 (end of workshop)
Post data workshop webinar (DW Panel, if necessary) week of Oct 31, 2016

FINAL Data due to data compilers Nov 4, 2016

Draft DW Reports to DW panel for review & final working papers to SEDAR Nov 11, 2016
Report Comments due to Editors Nov 18, 2016

Final DW report sections due to SEDAR & final age/length comps Nov 25, 2016

Data workshop report distribution Nov 30, 2016

See SEDAR50_DataTimeline document for more detailed data timeline.

Pre-Assessment webinar (DW and AW Panels) week of Jan 2nd, 2017

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

Assessment Milestone I webinar..... week of Jan 23rd, 2017

- *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*

Assessment Milestone II webinar week of Feb 6th, 2017

- *Continue work on model development*

AW working paper submission deadline Feb 13, 2017

Distribution of functioning model and model documentation Feb 13, 2017

Assessment Workshop week of Feb 27th, 2017

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

Assessment Milestone III webinarweek of Mar 20th, 2017

- *Review continuity run results and approve continuity model*
- *Review sensitivities and uncertainty evaluations*
- *Recommend projection approaches and configuration*

Assessment Milestone IV webinar.....week of Apr 10th, 2017

- *Review projection results*
- *Review Assessment report and responses to ToRs*

Assessment Report Draft to panel for reviewApr 14, 2017

AW report comments due to analystsApr 24, 2017

Final Assessment Report to SEDAR staffApr 28, 2017

RW Working Paper Submission May 5, 2017

Final AW Report distribution May 5, 2017

Pre-RW Conference Call (Analytical team, RW Chair)..... week of May 15th, 2017

RW Panel Introductory Conference Call (RW Panel, Chair) week of May 15th, 2017

Review Workshop: (Atlantic Beach, NC)May 23-25, 2017

Draft Review Reports due to Chair..... June 9, 2017

Review Workshop Addenda/Revision Reports due to Chair and SEDAR June 16, 2017

Review Workshop Reports due to SEDAR Staff..... June 23, 2017

Complete Assessment Report Submitted to Councils/SERO/SEFSC..... June 30, 2017

**SEDAR 50 Benchmark of Atlantic Blueline Tilefish
Terms of Reference: DRAFT
Councils with Jurisdiction: SAFMC (SEDAR Lead) & MAFMC
Terminal Year = 2015**

NOTE: Bold text indicates modification from, or additions to, the standard SEDAR benchmark TORS

Data Workshop Terms of Reference

1. Review stock structure and unit stock definitions and consider whether changes are required.

(Addressing the Stock ID Workshop)

NOTE: Information and recommendations to address this TOR will be developed prior to the Data Workshop by a Stock ID work group. The recommendations of the workgroup will be reviewed by the data workshop panel. The work group, including representatives from the SAFMC and MAFMC, and the Southeast and Greater Atlantic Regions, is charged with addressing the following:

- a. Review genetics studies, growth patterns, existing stock definitions, prior SEDAR stock ID recommendations and any other relevant information on blueline tilefish stock structure.***
- b. Make recommendations on biological stock structure and define the unit stock or stocks to be addressed through this assessment.***
- c. Provide recommendations to address Council management jurisdictions, to support management of the stock or stocks, and specification of management benchmarks and fishing levels, by Council jurisdiction (SAFMC/MAFMC) in a manner consistent with the productivity measures of the assessment.***
- d. Document work group discussion and recommendations through a working paper for SEDAR 50.***
- e. Work Group recommendations will be used to address Data Workshop Term 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 and fleet specific (if warranted) growth, maturation, and fecundity by age, sex, or length as applicable.
- Evaluate the adequacy of available life-history information for conducting stock assessments and recommend life history information for use in population modeling.
- 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 these species as well as similar species from the SE 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.
 - 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 are considered adequate and reliable for use in assessment modeling.
 - Rank the available indices with regard to their reliability and suitability for use in assessment modeling.
 - Provide appropriate measures of uncertainty for the abundance indices to be used in stock assessment models.
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 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.
 - 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.
 - Provide estimates of uncertainty around each set of landings and discard estimates.

7. *(Suggested by the MAFMC)* Consider ecosystem and climate issues that could affect population dynamics.

Option a. SAFMC SSC draft recommended language: Investigate the effects of abiotic and biotic factors, for example climate change, predator/prey interactions, etc., on recruitment, growth, geographic distribution, and natural mortality.

Option b. SEDAR 42 Gulf of Mexico Red Grouper ToR example: Identify and describe ecosystem, climate, species interactions, habitat considerations, and/or episodic events that would be reasonably expected to affect population dynamics.

Option c. Staff recommendation, modified for DW tasks: Identify and describe available data sources to investigate the effects of abiotic and biotic factors, for example climate change, predator/prey interactions, etc., on recruitment, growth, geographic distribution, and natural mortality.

8. 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.
9. 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.

(Addressing management unit ID)

- **Consider spatially explicit modeling approaches to address potential stock overlap of the management jurisdictions of the MAFMC-SAFMC.**
- **Provide a means of developing management reference points and fishing level recommendations for each management jurisdiction in the event a single unit stock overlaps Council jurisdictions.**

(Staff recommendation to address model changes)

- **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 32).**
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 32) assessment, and comment on the impacts of changes in data, assumptions or assessment methods on estimated population conditions.**
 4. Provide estimates of yield and productivity.
 - Include yield-per-recruit, spawner-per-recruit, and stock-recruitment models.
 5. Provide estimates of population benchmarks or management criteria consistent with the 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.

(Staff recommendation to expand reference point consideration)

- Evaluate potential management benchmarks including F_{max} , F_{msy} , and $F_{20\%}$, 30%, and 40% SPR. Comment on the reliability of MSY estimates and possible proxy values given available data and ability to estimate necessary parameters such as steepness.
 - Compare and contrast reference values estimated in this assessment with values from the previous (SEDAR 32) assessment, and comment on the impacts of changes in data, assumptions or assessment methods on reference point differences.
6. ~~Provide declarations of stock status relative to management benchmarks, or alternative data poor approaches if necessary.~~
7. Characterize uncertainty in the assessment and estimated values
- Consider uncertainty in input data, modeling approach, and model configuration.
 - 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.
 - Consider 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 and model output.
8. (*Addressing MAFMC recommendation regarding climate change, AW component*)
- Option a. SAFMC SSC draft recommended language: Investigate the effects of abiotic and biotic factors, for example climate change, predator/prey interactions, etc., on recruitment, growth, geographic distribution, and natural mortality.**
- Option b. SEDAR 42 Gulf of Mexico Red Grouper ToR example: 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.**
- Option c. Staff recommendation, modified for AW tasks: Consider incorporating applicable abiotic and biotic factors, for example climate change, predator/prey interactions, etc., in the assessment model and discuss impacts on recruitment, growth, geographic distribution, and natural mortality.**
9. Perform a probabilistic analysis 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:

$F=0$, $F=current$, $F=Fmsy$, $Ftarget$

$F=Frebuild$ (max that rebuild in allowed time)

B) If stock is not overfished:

$F=Fcurrent$, $F=Fmsy$, $F= Ftarget$

C) If data limitations preclude standard projections (i.e. A, B above), explore alternate models to provide management advice.

10. Provide recommendations for future research and data collection.

- Be as specific as practicable in describing sampling design and sampling intensity.
- Emphasize items which will improve future assessment capabilities and reliability.
- Consider data, monitoring, and assessment needs.

11. 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, addressing 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 appropriately within the assessment model?
 - d) Are input data series reliable and sufficient to support the assessment approach and findings?
2. Evaluate the methods used to assess the stock, taking into account the available data.
 - a) Are methods scientifically sound and robust? Do the methods follow accepted scientific practices?
 - b) Are assessment models configured appropriately and applied consistent with accepted scientific practices?
 - c) Are the methods appropriate for the available data?
3. Evaluate the assessment findings with respect to 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 appropriate for management use? If not, are there other indicators that may be used to inform managers about stock trends and conditions?
4. Evaluate the stock projections, addressing 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 all sources of uncertainty in the population, data sources, and assessment methods
 - Are the implications of uncertainty in technical conclusions 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. Provide suggestions on improvements in data or modeling approaches which should be considered when scheduling the next assessment.
 8. Prepare a Peer Review Summary of the Panel's evaluation of the stock assessment, 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.

*NOTE: This assessment will follow a Standard Assessment Approach.



**SEDAR 53
South Atlantic Red Grouper
Schedule of Events**

**DRAFT: 5/4/2016
Terminal Year: 2015**

TORS and Schedule Approved	June 2016
Workshop Appointments Final	June 2016
Data Scoping Conference Call	<i>week of Aug 8th, 2016</i>
Updated datasets to Analytic Team	September 5 th , 2016
Assessment Scoping Webinar	<i>week of Oct 10th, 2016</i>
• <i>Review data and discuss initial model issues</i>	
Working Paper/Data Submission to SEDAR Staff	Nov 14, 2016
Assessment webinar I	<i>week of Nov 28th, 2016</i>
Assessment webinar II	<i>week of Dec 12th, 2017</i>
Assessment webinar III	<i>week of Jan 9th, 2017</i>
Assessment Report Draft to panel for review	Jan 30, 2017
Assessment Report comments due to editors	Feb 13, 2017
Final Assessment Report to SEDAR staff	Feb 20, 2017
Complete Assessment Report Submitted to Council	Feb 27, 2017



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SEDAR 53 South Atlantic Red Grouper Assessment*

Terms of Reference

1. Update the approved SEDAR 19 South Atlantic red grouper base model with data through 2015. Provide a model consistent with the SEDAR 19 base assessment configuration and revised configurations as necessary to incorporate and evaluate any changes in model inputs or parameterization approved during this assessment.
2. Evaluate and document the following specific changes in input data or deviations from the benchmark model. (List below each topic or new dataset that will be considered in this assessment.)
 - Consider the inclusion of the SERFS video index
 - Incorporate the latest BAM model configuration
3. Document any changes or corrections made to the model and input datasets and provide updated input data tables. **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 SEDAR 19 assessment.** Provide commercial and recreational landings and discards in pounds and numbers. •
4. Update model parameter estimates and their variances, model uncertainties, and estimates of stock status and management benchmarks. **Compare population parameter trends and management benchmarks estimated in this assessment with values from the previous assessment, and comment on the impacts of changes in data, assumptions or assessment methods on estimated population conditions and benchmarks.**
5. Provide stock projections, including a pdf for biological reference point estimates and yield separated for landings and discards reported in pounds and numbers. Projection results are required through 2020. Projection criteria:
 - To determine OFL: apply an annual probability of overfishing = 50%.
 - To evaluate the existing rebuilding plan: base on fixed exploitation at 75% Fmsy. In addition to reporting yield and stock status as described above, for this projection also report the probability that $SSB > SSB_{msy}$.
 - Potential Alternative Rebuilding: If results of this projection indicate that the stock is not rebuilt by 2020 (as evidenced by $SSB > SSB_{msy}$ at 50% probability), provide an additional projection based on a fixed exploitation rate (Frebuild) where Frebuild is defined as the maximum exploitation rate that provides 0.70 probability of rebuilding ($SSB > SSB_{msy}$) by 2020.
5. Develop a stock assessment update report to address these TORS and fully document the input data, methods, and results of the stock assessment update.

*NOTE: This assessment will follow a Standard Assessment Approach.

