SEDAR 48
Southeastern Black Grouper
Schedule of Events

DRAFT: October 2016

Project Schedule and ToRs Approved .....December 2016
Workshop Appointments .....December 2016

Data Scoping Webinar (DW Panel).....*week of January 16th, 2017*
Unprocessed Data Deadline (*includes raw age and reproduction data*).....January 30, 2017
Data Webinar (DW Panel) .....*week of February 6th, 2017*

- *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 24, 2017
Data Evaluation Workshop (TBD).....March 13-17, 2017
1st Draft of Data Evaluation Workshop Report.....March 17, 2017 (end of workshop)
Post data workshop webinar (DW Panel, if necessary) ..... *week of March 20tht, 2017*
FINAL Data due to data compilers ..... March 24, 2017
Draft DW Reports to DW panel for review & final working papers to SEDAR.....March 31, 2017
Report Comments due to Editors .....April 14, 2017
Final DW report sections due to SEDAR & final age/length comps .....April 21, 2017
Data workshop report distribution .....April 25, 2017
Pre-Assessment webinar (DW and AW Panels) .....*week of May 8th, 2017*

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

Assessment Milestone I webinar.....*week of May 29th, 2017*

- *Review Continuity Model*
- *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*

In-person Assessment workshop (St. Petersburg, Florida)..... June 27-29, 2017
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Assessment Milestone II webinar .....*week of July 24th, 2017*

- *Progress report on base model development*

AW working paper submission deadline ..... July 31, 2017
Distribution of functioning model and model documentation ..... July 31, 2017

Assessment Milestone III webinar ..... *week of August 21st, 2017*

- *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 September 18th, 2017*

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

Assessment Report Draft to panel for review ..... October 9, 2017
AW report comments due to analysts ..... October 23, 2017
Final Assessment Report to SEDAR staff ..... October 27, 2017

RW Working Paper Submission ..... October 30, 2017
Final AW Report distribution to Review Panel ..... October 30, 2017
Pre-RW Conference Call (Analytical team, RW Chair) ..... week of November 6th, 2017
RW Panel Introductory Conference Call (RW Panel, Chair) ..... week of November 6th, 2017
Review Workshop: (St. Petersburg, FL) ..... November 14-16, 2017
Draft Review Reports due to Chair ..... December 1, 2017
Review Workshop Addenda/Revision Reports due to Chair and SEDAR ..... December 1, 2017
Review Workshop Reports due to SEDAR Staff ..... December 8, 2017
Complete Assessment Report Submitted to Councils/SERO/SEFSC ..... December 15, 2017

SEDAR

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SEDAR 48 Southeastern U.S. Black Grouper

Assessment Terms of Reference

DRAFT: September 2016

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 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.
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.
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.

- Complete the SEDAR index evaluation worksheet for each index considered.
- 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 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.
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.
7. 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.
8. 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.
3. Provide estimates of stock population parameters, if feasible.
   - Include fishing mortality, abundance, biomass, selectivity, stock-recruitment relationship, and other parameters as necessary to describe the population.
   - Include appropriate and representative measures of precision for parameter estimates.
4. 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
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 the available data, applicable FMPs, proposed FMPs and Amendments, other ongoing or proposed management programs, and National Standards.
   - Evaluate existing or proposed management criteria as specified in the management summary
   - Recommend proxy values when necessary
7. Provide declarations of stock status relative to management benchmarks, or alternative data poor approaches if necessary.
8. 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.
9. 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 overfishing
F=Fcurrent, F=Fmsy, F= Ftarget

C) If stock is neither overfished nor overfishing
F=Fcurrent, F=Fmsy, F=Ftarget

D) If data-limitations preclude classic projections (i.e. A, B, C 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 that 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 properly 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?
   b) Are assessment models configured properly and used consistent with standard practices?
   c) Are the methods appropriate for the available data?
3. Evaluate the assessment findings with respect to the following:
   a) Are abundance, exploitation, and biomass estimates 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, 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 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. Provide guidance on key improvements in data or modeling approaches which should be considered when scheduling the next assessment.
8. Prepare a Peer Review Summary summarizing the Panel's evaluation of the stock assessment and addressing each Term of Reference.

SEDAR 48 TORs with suggested modifications of the GMFMC. Major revisions, additions are highlighted. Minor edits, wording changes are also included but not highlighted here.

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SEDAR 48 Southeastern U.S. Black Grouper

Assessment* Terms of Reference

DRAFT: November 2016

Data Workshop Terms of Reference

1. Review stock structure and unit stock definitions and consider whether changes are required.
   - Review available research and published literature
   - Make recommendations on biological stock structure and define the unit stock
   - Provide recommendations to address Council management jurisdictions to support management of the stock(s), and specification of management benchmarks and fishing levels, by Council jurisdiction (SAFMC/GMFMC)
   - Document discussions and recommendations pertaining to this term of reference in a separate working paper
2. Review, discuss, and tabulate available life history information.
   - Evaluate age, growth, natural mortality, and reproductive characteristics
   - Provide appropriate models to describe 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 black grouper, and other shallow water groupers, from the southeastern US Atlantic and Gulf of Mexico
   - 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

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 for each data source
    - Develop fishery and survey CPUE indices by appropriate strata (e.g., age, size, area, and fishery) and include measures of precision and accuracy
    - Discuss issues related to historical mis-labeling of gag as black grouper and adjustments made to correct the historical data.
    - Recommend which data sources are considered adequate and reliable for use in assessment modeling
    - Discuss the degree to which available indices adequately represent fishery and population conditions.
    - Rank the available indices with regard to their reliability and suitability for use in assessment modeling
5. Provide commercial catch statistics including landings and discards in both pounds and number of fish.
    - Evaluate and discuss the 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.
6. Provide recreational catch statistics including landings and discards in both pounds and number of fish.
    - Evaluate and discuss the 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 in state and federal waters
7. 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.
8. 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 Panel. Summarize data 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.
3. Provide estimates of stock population parameters if feasible.
   - Include fishing mortality, abundance, biomass, selectivity, stock-recruitment relationship, and other parameters necessary to describe the population
   - Include appropriate and representative measures of precision for parameter estimates
4. Characterize uncertainty in the assessment and estimated parameter 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 data sources as appropriate
   - 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.
   - Evaluate existing or proposed management criteria as specified in the management summary
   - Recommend proxy values when necessary and provide justification for the use of any proxies
7. Provide declarations of stock status relative to management benchmarks, or alternative data poor approaches if necessary.
8. Perform probabilistic analyses 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
9. 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 ($F_{Current}$ = *geometric mean of the most recent three years of fishing mortality*):

A) If stock is overfished:
$F=0$, $F=F_{Current}$, $F=F_{MSY}$, F_{Target}
$F=F_{Rebuild}$ (max that rebuild in allowed time)

B) If stock is overfishing:
$F=F_{Current}$, $F=F_{MSY}$, F_{Target}

C) If stock is neither overfished nor overfishing:
$F=F_{Current}$, $F=F_{MSY}$, F_{Target}

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

E) Provide equilibrium yields at F_{OY}

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 properly 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?
   b) Are assessment models configured properly and used consistent with standard practices?
   c) Are the methods appropriate for the available data?
3. Evaluate the assessment findings with respect to the following:
   a) Are abundance, exploitation, and biomass estimates reliable, consistent with input data and population biological characteristics, and useful to support status inferences?
   b) Is the stock overfished? What information supports this conclusion?
   c) Is the stock undergoing overfishing at $F_{Current}$? What information supports 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? If not, what additional data may help inform this relationship?
   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, 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 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. Provide guidance on key improvements in data or modeling approaches that should be considered when scheduling the next assessment.
8. Prepare a Peer Review Summary that details the Panel's evaluation of the stock assessment and addresses each Term of Reference.

*This assessment will follow a Benchmark approach

Reviewed by the SAFMC SSC via email distribution, 11/1/2016. No comments received.

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SEDAR 56 South Atlantic Black Sea Bass Assessment*

DRAFT Terms of Reference

1. Update the approved 2013 SEDAR 25 South Atlantic Black Sea Bass Update assessment with data through 2015. Provide commercial and recreational landings and discards in pounds and numbers. Provide a model consistent with the 2013 SEDAR 25 Update assessment configuration and revise 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 update 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 configurations
    - Re-consider use of age and length composition data

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 2013 SEDAR 25 Update assessment.

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 2023, with projected fishing level changes beginning in 2019. However, it is possible the SAFMC could take action as early as mid-2018 and the panel is asked how this should be addressed in the projections. The panel shall provide guidance on appropriate assumptions to address harvest and mortality levels in the interim years between the assessment terminal year (2015) and the first year of management (2019). Projection criteria:

    - To determine OFL: (1) P* (annual probability of overfishing) = 50%; (2) Fmsy
    - To determine ABC: (1) P* = 40%; (2) F@75%F_{MSY}

6. 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.

SEDAR 56
South Atlantic Black Sea Bass
Standard Assessment
Schedule of Events

DRAFT: 10/13/2016
Terminal Year: 2015

TORS and Schedule Approved ..... December 2016
Workshop Appointments Final ..... December 2016

Data Scoping Webinar ..... *week of Feb 20th, 2017*
Updated datasets to Analytic Team ..... March 31st, 2017
Assessment Scoping Webinar ..... *week of May 1st, 2017*

- *Review data and discuss initial model issues*

Working Paper/Data Submission to SEDAR Staff ..... June 5, 2017
Assessment webinar I ..... *week of June 19th, 2017*
Assessment webinar II ..... *week of July 17th, 2017*
Assessment webinar III ..... *week of August 14th, 2017*
Assessment Report Draft to panel for review ..... September 5, 2017
Assessment Report comments due to editors ..... September 18, 2017
Final Assessment Report to SEDAR staff ..... September 25, 2017

Complete Assessment Report Submitted to Council ..... September 29, 2017