SEDAR

SouthEast Data, Assessment, and Review

SEDAR South Atlantic Snowy Grouper Update Assessment
Terms of Reference

1. Update the approved SEDAR 36 South Atlantic Snowy Grouper base model with data through 2018*.

2. Document any changes or corrections made to the model and input datasets and provide updated input data tables. Provide commercial and recreational landings and discards in pounds and numbers.

3. Update model parameter estimates and their variances, model uncertainties, and estimates of stock status and management benchmarks. Identify sources of scientific uncertainty that are not already included in the model uncertainties. Explore sensitivities that bracket the corresponding SPR values above and below the 26% estimated from the SEDAR 36 assessment.

4. Provide stock projections, including a probability density function (PDF) for biological reference point estimates and yield, separated for landings and discards, reported in pounds and numbers. Projection outputs shall include relevant population parameters including recruitment, spawning stock biomass, population abundance, exploitation rates and the probability that biomass and exploitation exceed reference values for MFMT and MSST. Projection criteria:

   - To determine OFL: apply an annual probability of overfishing = 50%.

   - To evaluate the existing rebuilding plan: based on fixed exploitation at 75% F_{MSY}. In addition to reporting yield and stock status as described above, for this projection also report the probability that $SSB > SSB_{MSY}$.

     o Potential Alternative Rebuilding: If results of this projection indicate that the stock is not rebuilt by 2039 (as evidenced by $SSB > SSB_{MSY}$ at 50% probability), provide an additional projection based on a fixed exploitation rate ($F_{Rebuild}$) where $F_{Rebuild}$ is defined as the maximum exploitation rate that provides 0.50 probability of rebuilding ($SSB > SSB_{MSY}$) by 2039.

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

*Terminal year is tentative and may change based on the results of the 2019 Master SEDAR Planning call.

NOTE: The intent of the assessment update approach is to expedite appraisals of stock status by using only the methods and data sets used in the base model and approved during the preceding SEDAR assessment of that stock. Accordingly, it is not the intent of this update to resolve any outstanding issues identified in the previous SEDAR 36 assessment.

SEDAR

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SEDAR 66 South Atlantic Tilefish Assessment
Terms of Reference

1. Prepare a standard assessment, based on the approved 2016 SEDAR 25 South Atlantic Tilefish Update assessment with data through 2018*. Provide commercial and recreational landings and discards in pounds and numbers.

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.)

   - Incorporate the latest BAM model configurations and updates to data calculation methodologies, detailing the changes made between the 2016 SEDAR 25 South Atlantic Tilefish Update assessment model and the proposed SEDAR 66 model.

   - Examine evidence for changing selectivity in input data sources and consider implementing time blocks if warranted.

   - Re-consider error distributions for fitting age and length composition data.

   - Investigate the potential use of the following new data sources

     o CRP Cooperative Bottom Longline Survey to Augment Fishery Independent Reef Fish Data Collection in Deepwater Snapper Grouper

     o G. Nesslage FATE project

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 2016 SEDAR 25 South Atlantic Tilefish 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 probability density function (PDF for biological reference point estimates and yield separated for landings and discards reported in pounds and numbers. Projection results are requested for 5 years from the start of the alternative fishing mortality levels. (The specific years for projections will be determined once the terminal year and schedule are known). The panel shall provide guidance on appropriate assumptions to address harvest and

mortality levels in the interim years between the assessment terminal year (2018) and the first year of management (2020).   Projection criteria:

- To determine OFL: (1) $P^* = 50\%$; (2) F_{MSY}

- To determine ABC: (1) $P^* = 30\%$; (2) $75\% F_{MSY}$

6. 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.

7. Develop a stock assessment update report to address these TORS and fully document the input data, methods, and results of the stock assessment update.

*Terminal year is tentative and may change based on the results of the 2019 Master SEDAR Planning call.

NOTE: This assessment will follow a Standard Assessment Approach.

SEDAR 66
South Atlantic Golden Tilefish
Standard Assessment
Schedule of Events

DRAFT: 10/29/2018

Terminal Year: 2018

TORS and Schedule Approved .... December 2017
Workshop Appointments Final .... December 2018/March 2019

Data Scoping Webinar .... *week of May 13th, 2019*

Data Scoping Webinar ....*week of May 13th, 2019*
Unprocessed data deadline .... June 28, 2019
Updated final datasets & preliminary new datasets to Analytic Team ....September 30, 2019
- *Includes length and age compositions*

Working Paper Submission to SEDAR Staff..October 11, 2019
Assessment Scoping Webinar ....*week of October 21st, 2019*
- *Review data and discuss initial model issues*

Assessment webinar I .... *week of November 18th, 2019*
Data/Assessment Workshop (Beaufort, NC) ....January 14-16, 2020
Assessment webinar II .... *week of February 3rd, 2020*
Assessment Report Draft to panel for review .... March 6, 2020
Assessment Report comments due to editors... March 23, 2020
Final Assessment Report to SEDAR staff .... March 30, 2020

Complete Assessment Report Submitted to Council .... April 1, 2020

SEDAR 68 Scamp Stock ID
Terms of Reference
Draft August 2018

Stock ID Workshop (via webinars)

Workshop Goal: Review scamp stock structure and unit stock definitions and consider whether changes are required.

1. Review relevant information on stock structure. Potential sources include genetic studies, growth patterns, movement and migration, existing stock definitions, otolith chemistry, oceanographic and habitat characteristics, and hotspot maps of landings or CPUE.

2. Make recommendations on biological stock structure and the assessment unit stock or stocks to be addressed through SEDAR 68, and document the rationale behind the recommendations. The default boundaries for assessments should be the current Council boundaries, unless there is reasonable evidence for deviation.

3. Discuss the strength of evidence in support of stock ID recommendations with particular attention paid to recommendations if they result in a mismatch of biological stock structure, assessment unit stock, and existing management boundaries.

4. Provide recommendations for future research on stock structure.

5. Prepare a report providing complete documentation of workshop recommendations and decisions.

SEDAR 68 Scamp Research Track
Data Workshop Terms of Reference
Draft August 2018

Data Workshop Terms of Reference

1. Definition of assessment unit stock will be developed through the Scamp Stock ID process and will be added to TORs once process is complete.

2. Review, discuss, and tabulate available life history information for each stock being assessed.
   - Evaluate age, growth, natural mortality, and reproductive characteristics
     o Explore the validity of age data and methodology across ageing facilities
   - Provide appropriate models to describe population and fleet specific (if warranted) growth, maturation, hermaphroditism including age and size at transition, 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.
   - 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. Provide measures of population abundance that are appropriate for stock assessment.
   - Consider 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.
   - Document pros and cons of available indices regarding their ability to represent abundance.
     o Consider potential species identification issues between scamp and yellowmouth grouper and, if present, whether the issue was adequately addressed during index development.
   - Categorize the available indices into one of three tiers: Suitable and Recommended, Suitable and Not Recommended, or Not Suitable.
   - For recommended indices, document any known or suspected temporal patterns in catchability not accounted for by standardization.
   - Provide appropriate measures of uncertainty for the abundance indices to be used in stock assessment models.

4. Provide commercial catch statistics for each stock being assessed, including both landings and discards in both pounds and number. Consider species identification issues between scamp and yellowmouth grouper and correct for these instances as appropriate.
   - Evaluate and discuss the adequacy of available data for accurately characterizing landings and discards 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.

5. Provide recreational catch statistics for each stock being assessed, including both landings and discards in both pounds and number. Consider species identification issues between scamp and yellowmouth grouper and correct for these instances as appropriate.
   - Evaluate and discuss the adequacy of available data for accurately characterizing landings and discards by fishery sector or gear.
   - Provide length and age distributions for both landings and discards if feasible.
   - Provide maps of fishery effort and harvest by fishery sector or gear.
   - Provide estimates of uncertainty around each set of landings and discard estimates.

6. Recommend discard mortality rates.
   - Review available research and published literature.
     - Consider research directed at scamp 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.
   - Provide estimates of uncertainty around recommended discard mortality rates
   - Document the rationale for recommended rates and uncertainties.

7. Describe any known evidence regarding ecosystem, climate, species interactions, habitat considerations, and/or episodic events that would reasonably be expected to affect scamp population dynamics.

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 a Data Workshop report providing complete documentation of workshop actions and decisions in accordance with project schedule deadlines.

SEDAR 68 Scamp Research Track
Assessment Terms of Reference
August 2018 Draft

1. Review any changes in data or analyses following the Data Workshop. Summarize data as used in each assessment model. Provide justification for any deviations from Data Workshop recommendations.

2. Develop population assessment model(s) that are appropriate for the available data.

3. Recommend biological reference points for use in management.

4. Provide estimates of stock population parameters, including:
   - Fishing mortality, abundance, biomass, selectivity, stock-recruitment relationship, sex ratio, and other parameters as necessary to describe the population.

5. Characterize uncertainty in the assessment and estimated values.
   - Consider uncertainty in input data, modeling approach, and model configuration.
   - Provide appropriate measures of model performance, reliability, and 'goodness of fit'.
   - Provide measures of uncertainty for estimated parameters and derived quantities such as biological reference points and stock status.

6. Provide recommendations for future research and data collection. Emphasize items that will improve future assessment capabilities and reliability. Consider data, monitoring, and assessment needs.

7. Complete an Assessment Workshop Report in accordance with project schedule deadlines.

SEDAR 68 Scamp Research Track
Review Terms of Reference
August 2018 Draft

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. Consider the following:
   - Are data decisions made by the DW and AW justified?
   - Are data uncertainties acknowledged, reported, and within normal or expected levels?
   - Are data applied properly within the assessment model?
   - Are input data series sufficient to support the assessment approach?

2. Evaluate and discuss the strengths and weaknesses of the methods used to assess the stock, taking into account the available data. Consider the following:
   - Are methods scientifically sound and robust?
   - Are priority modeling issues clearly stated and addressed?
   - Are the methods appropriate for the available data?
   - Are assessment models configured properly and used in a manner consistent with standard practices?

3. 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.

4. Provide, or comment on, recommendations to improve the assessment
   - Consider the research recommendations provided by the Data and Assessment workshops in the context of overall improvement to the assessment, and make any additional research recommendations warranted.
   - If applicable, provide recommendations for improvement or for addressing any inadequacies identified in the data or assessment modeling. These recommendations should be described in sufficient detail for application, and should be practical for short-term implementation (e.g., achievable within ~6 months). Longer-term recommendations should instead be listed as research recommendations above.

5. Provide recommendations on possible ways to improve the Research Track Assessment process.

6. Prepare a Review Workshop Summary Report describing the Panel's evaluation of the Research Track stock assessment and addressing each Term of Reference.

Proposed Project Timeline for SEDAR 68:

Year	Month	Tasks
2018	Aug	Formally establish Planning Team
	Oct	Planning Team drafts TORs & project schedule, provides recommendations for specific participants with expertise needed to address TORs
	Nov	TORs to SAFMC SSC for approval
2019	Jan	TORs to GMFMC SSC for approval
	Jan/Feb	Ageing workshop
	Feb	Stock ID process appointments
	Mar/Apr	Workshop appointments, formalize scamp 'Assessment Development Team (ADT)'
	Mar	**Stock ID Data Scoping Webinar**; ADT call to discuss modeling approach
	Apr	Apr 10th Hotspot (catches) and life history data due
		Research stock identification to determine the spatial structure of the assessment; **)**
	May	**Stock ID Webinar I**
	Jun	**Stock ID Webinar II**
	Jul	Start compiling data inputs; **Data Scoping Call (Early July)** (discuss how to handle yellowmouth grouper after preliminary explorations by data providers) **July 30th Raw data deadline** (size, age and growth, etc.)
	Aug	
	Sep	Compile data inputs; **Pre-Data Workshop Webinar** reviewing available data **Discard Mortality WG Webinar**
	Oct	Compile data inputs; Preliminary data products (i.e., inputs to assessment including size and/or age composition) deadline: October 15th
	Nov	**Data Workshop (Oct 29-Nov 1)** discussing available data, recommend data for assessment, and develop hypotheses related to data
	Dec	Model development
2020	Jan	Model development; **Discard Mortality WG Webinar, if needed**
	Feb	Model development; **Post-Data Workshop Webinar** reviewing remaining data analyses **Feb 8th Final Analytical Products** (i.e., inputs to assessment including final size and/or age composition) **Deadline**
	Mar	Model development; **Assessment Webinar I** reviewing modeling progress.
	Apr	Model development
	May	Model development; **Assessment Webinar II** reviewing modeling progress.
	Jun	**June 3:** Decide if assessment will be ready for October 2019 review; if ADT determines additional work is needed, subsequent dates will be shifted to accommodate the new timeline Review modeling progress. Discuss with panel how close assessment is to being near a useable product. If ready for review, schedule review. If not ready for review, continue working on model

	Jul	**Assessment Webinar III** reviewing modeling progress. Discuss with panel how close assessment is to being near a useable product. If ready for review, schedule review. If not ready for review, continue working on model and revisit as needed until ready; adjust timing of subsequent steps as appropriate.
	Aug	Write assessment report
	Sep	Review preparation
	Oct	**Review Workshop**
	Nov-Dec	Make changes to model based on recommendations from review. Note that actual time required will depend on the scope of the modifications. ADT will meet to help prioritize reviewer recommendations.
2021	Mar-Apr	Present Research Track to the SSCs, at their Spring meeting in 2021