# 3. SEDAR 68 ATLANTIC SCAMP RESEARCH TRACK ASSESSMENT REVIEW

### 3.1. <u>Documents</u>

Attachment 3a. SEDAR 68 Scamp Research Track Assessment Report
Attachment 3b. SEDAR 68 Scamp Research Track Assessment Presentation
Background 3c. SEDAR 68 Scamp Research Track Assessment TORs

### 3.2. <u>Presentation</u>

SEDAR 68 Assessment Overview – Dr. Francesca Forrestal, SEFSC

### 3.3. <u>Overview</u>

The SSC is asked to provide feedback on the Atlantic Scamp Research Track Assessment prepared through the SEDAR 68 (Attachment 3a), and identify and characterize the impacts of

assessment uncertainties. This is the first research track assessment conducted through the SEDAR process and was conducted alongside an assessment with Gulf of Mexico Scamp. An operational assessment to provide management advice for Scamp will begin in 2022. Atlantic Scamp has never been assessed through the SEDAR process and the current stock status is unknown.

### 3.4. Public Comment

*Public comment was provided. See meeting minutes.*

### 3.5. Breakout Groups

### 3.6. Action

- Review assessment
  - Does the assessment address the ToRs to the SSCs satisfaction?
    - ➢ *The research track assessment addressed a majority of the ToRs in depth. However, some ToRs could not be fully addressed due to a lack of available information and should be considered for future research recommendations, particularly ecosystem and climate effects.*
  - Does the assessment represent Best Scientific Information Available?
    - ➢ *The assessment represents the Best Scientific Information Available for this species. However, more work should be undertaken to address some areas of uncertainty within the assessment, including selectivity of video and trap surveys, impacts of age and size structure information in the model, and estimation of steepness and recruitment via a stock-recruit relationship.*
  - Are there any issues with the assessment configuration that would prevent it from providing stock status and supporting fishing level recommendations?
    - ➢ *There are no issues that would prevent the assessment tool from providing stock status and fishing level recommendations. The exact configuration may or may not change during the Operational Assessment, but the final configuration could be used to provide stock status and fishing level recommendations.*
- Identify, summarize, and discuss assessment uncertainties.
  - Review, summarize, and discuss the factors of this assessment that affect the reliability of estimates of stock status.
    - ➢ Qualitatively characterize these factors in terms of their influence on assessment uncertainty.
      - ➢ *The estimation of steepness and subsequent recruitment was influenced by model assumptions and configuration, particularly length of time series (i.e., retrospective analyses), selectivity blocking, and natural mortality. Across sensitivity and retrospective runs, estimated values for steepness varied from 0.46 to 0.76.*

➢ *The SSC recommends additional exploration of the potential influence of Chevron Trap Index composition data to determine their impact on the assessment. Use of the combined Chevron Trap/Video Index via the Conn method is also a potential source of uncertainty.*

➢ *The SSC also recommends additional exploration of age/length composition fits for the fisheries and the Chevron Trap Index data to examine their impact on model estimates, particularly selectivity. The potential mismatch between model fits to the age and length composition data and the tradeoffs between these data sources should be thoroughly examined. If necessary, consider dropping less informative length data.*

➢ *The assessment of scamp and yellowmouth grouper as a complex is a potential source of uncertainty should these two species differ greatly in life history and/or exploitation patterns.*

➢ *The assessment highlighted several sources of uncertainty in commercial and recreational landings that could impact assessment uncertainty, including conversion of numbers to weight, economic influences on fishing effort trends, incorporation of CVs provided, and changes in potential targeting.*

➢ *Retrospective analyses, primarily in the $F/F_{MSY}$ ratio, suggest potential model misspecification, which could affect uncertainty in stock status.*

- List the risks and describe potential consequences of assessment uncertainties with regard to stock status, fishing level recommendations, and future yield predictions.

    ➢ *Each of the above uncertainties could impact stock status, fishing level recommendations, and future yield predictions. These impacts will not be known until they have been thoroughly explored in the upcoming Operational Assessment.*

- Are methods of addressing uncertainty consistent with SSC expectations and the available information?

    ➢ *Yes, the methods are consistent with SSC expectations, given that the assessment team provided sensitivity analysis, retrospective analysis, and jitter analysis. Uncertainty in results and precision of estimates was computed through an ensemble modeling approach using a mixed Monte Carlo and bootstrap framework.*

- Provide research recommendations and guidance on the upcoming operational assessment.
  - Review the included research recommendations and indicate those most likely to reduce risk and uncertainty in the next assessment.

    ➢ *The SSC concurred with the assessment report research recommendations and their order of priority, noting all*

*recommendations were long-term in nature and unlikely to be addressed prior to the next Operational Assessment.*

➢ *Regarding assessment research recommendation #3 ("Better characterize reproductive parameters…"), the SSC noted that age-dependent natural mortality was estimated by indirect methods. Mark-recapture approaches (e.g., conventional, telemetry, or close-kin) might make it possible to obtain direct estimates of natural mortality for scamp.*

➢ *In general, the SSC agreed with many of the review panel recommendations; however, the SSC disagreed with the recommendation to consider "borrowing" length and age composition samples from the Gulf of Mexico to address poorly sampled strata in the South Atlantic.*

- Provide any additional research recommendations the SSC believes will improve the 2022 operational assessment, future stock assessments (after 2022 operational assessment), evaluation of uncertainty, application of the ABC Control Rule, and fishing level recommendations.

➢ *Although the general outcomes may not change substantially, the SSC suggests the following research recommendations for finalizing this assessment tool to reduce uncertainty:*

*Short term (Operational Assessment 2022)*
1. *Determine which model components are most influential in the likelihood profiles for the fishery selectivity parameters. Assess the impact of age composition data from the Chevron Trap Index on model estimates. Further break down length and age components of the negative log-likelihood into commercial, recreational, and index components and examine their relative impacts. Consider additional sensitivity analyses such as:*
   - *Removing length composition data from the model*
   - *Excluding the Chevron Trap Index age composition data to determine their influence on model estimates*
   - *Explore time-varying catchability and/or catchability blocks for the Chevron Trap Index*
   - *Explore time-varying selectivity for the Chevron Trap Index*
   - *Closely examine changes over time in length and age composition data*
   - *Address the mismatch in length and age composition data*
   - *Explore the use of a random walk on the A50 selectivity parameter and the potential for multispecies fishery changes/targeting to affect selectivity.*
2. *The stock-recruitment curve overestimated recruitment at low stock sizes and vice versa, indicating steepness may not be well determined.*

*Examine alternative ways to estimate recruitment without a stock-recruitment curve.*

*<u>Long-term</u>*
*The SSC recommends:*
- ➢ *Enhanced data collection and generation of length data from the video component of SERFS*
- *Examining the impact of — and alternatives to — combining the video and Chevron trap into a single index*
- *Exploration of species interactions and the impact of climate variability*