



SEDAR

SouthEast Data, Assessment, and Review

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SEDAR 91 U.S. Caribbean Spiny Lobster

Assessment Terms of Reference

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Data Workshop Terms of Reference:

1. Review available data inputs and provide tables and figures including, but not limited to:
 - a. Commercial and recreational catches and/or discards.
 - b. Length/age composition data
 - c. Life history and ecological information
 - d. Indices of abundance
 - e. Include data through at least 2022.
2. Provide recommendations for future research in areas such as sampling, fishery monitoring, and stock assessment. Include specific guidance on research goals, data to be collected, and how the research will inform stock assessment.
3. 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 Process Terms of Reference

1. Develop and apply assessment tools that are compatible with available data and consistent with standard practices. Document input data, model assumptions and configuration, and equations for each approach considered.
2. 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 if feasible.
3. To the extent possible given data limitations, provide management benchmarks and status determination criteria, including:
 - a. Maximum Fishing Mortality Threshold (MFMT) = F_{MSY} or proxy
 - b. MSY proxy = yield at MFMT



- c. Minimum Stock Size Threshold (MSST) = SSB_{MSY} or proxy
 - d. If alternative status determination criteria are recommended, provide a description of their use and a justification.
4. To the extent possible, develop projections to support estimates of maximum sustainable yield (MSY, the overfishing limit (OFL) and acceptable biological catch (ABC) as described below. If projections are not possible, and alternative management procedures are recommended, provide a description of their use and a justification.
- a. Unless otherwise recommended, use the geometric mean of the three previous years' fishing mortality to determine $F_{Current}$
 - b. Project F_{MSY} or proxy
 - c. If the stock is overfished:
 - i. Project F_0
 - ii. Project $F_{Rebuild}$
5. Provide recommendations for future research and data collection.
6. Provide an Assessment Workshop Report to address these Terms of reference and fully document the input data and results.

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 given the available data?
3. Evaluate the assessment findings with respect to the following:
 - a. Can the results be used to inform management in the U.S. Caribbean (i.e., develop annual catch recommendations)?
 - b. Is it likely the stock is overfished? What information helps you reach this conclusion?
 - c. Is it likely the stock is undergoing overfishing? What information helps you reach this conclusion?

4. 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.
5. 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.
6. Provide guidance on key improvements in data or modeling approaches that should be considered when scheduling the next assessment.
7. Provide recommendations on possible ways to improve the SEDAR process.
8. Prepare a Peer Review Summary summarizing the Panel's overall conclusions and recommendations.