SEDAR
SouthEast Data, Assessment, and Review

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SEDAR 57 U.S. Caribbean Spiny Lobster

Assessment Terms of Reference

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Data Workshop Terms of Reference:

1. Summarize and evaluate available life history information and describe uncertainty as applicable.
    a. Evaluate age, growth, natural mortality, and reproductive characteristics
    b. Provide appropriate models to describe growth, maturation, and fecundity by age, sex, or length as applicable.
    c. Evaluate the adequacy of available life-history information for conducting stock assessments and recommend life history information for use in population modeling.
2. Provide commercial catch statistics, including both landings and discards (if significant) in both pounds and numbers.
    a. Evaluate and discuss the adequacy of available data for accurately characterizing harvest and discard by species, spatial area, and fishery sector or gear.
    b. Provide and evaluate length and age distributions for both landings and discards if feasible.
    c. Provide and evaluate fishery catch per unit effort data for use as indices of abundance
3. Provide recreational catch statistics, including both landings and discards (if significant) in both pounds and numbers.
    a. Evaluate and discuss the adequacy of available data for accurately characterizing harvest and discard by species, spatial area, and fishery sector or gear.
    b. Provide and evaluate length and age distributions for both landings and discards if feasible.
    c. Provide and evaluate fishery catch per unit effort data for use as indices of abundance if possible
4. Recommend discard mortality rate(s).
    a. Review available research and published literature and provide a rationale for recommended discard mortality rates.
    b. Provide justification for any recommendations that deviate from the range of discard

mortality provided in the last benchmark or other prior assessment.

5. Review relevant fishery-independent and third-party information that may be of use for the assessment.
6. Provide recommendations and rate the relative quality of available data inputs associated with candidate assessment tools (e.g. length-based, index-based, catch-based methods).
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 Process Terms of Reference

1. Develop and apply assessment tools that are compatible with available data and document input data, model assumptions and configuration, and equations for each approach considered.
    a. Evaluate candidate assessment tools considering the relative reliability of the data inputs.
    b. Provide recommendations for status determination criteria consistent with the available data, applicable FMPs and National Standards (if possible considering the data limited nature of this assessment).
    c. Provide declarations of stock status relative to status determination criteria and the overfishing limit (OFL) to the extent possible given the available data.
    d. Characterize assessment uncertainty including (as possible) input data, modeling approach and estimated parameters to guide subsequent determinations of allowable biological catch (ABC).
2. Provide recommendations for future research and data collection.
3. Provide an Assessment Workshop Report in accordance with project schedule deadlines.

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 which 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.