



## **SEDAR 101 HMS Sandbar Shark Data Workshop Terms of Reference**

Revised (9/25/2025)

1. Review, discuss, and tabulate available life history information.
  - a. Evaluate and update as appropriate the stock definition, age, growth, natural mortality, and reproductive characteristics.
  - b. As needed, provide appropriate models to describe population growth, maturation, and fecundity by age, sex, or length as applicable.
  - c. As appropriate, evaluate the adequacy of available life history information for conducting stock assessments and recommend life history information for use in population modeling.
  - d. As appropriate, 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, where applicable.
  - e. As appropriate, identify key life history uncertainties that should comprise axes of uncertainty.
  
2. Review and update measures of population relative abundance focusing on identifying or developing one or a few of the most representative time series.
  - a. Consider all available and relevant fishery-dependent and fishery-independent data sources, including those used in previous assessments and any new ones.
  - b. Document all data sources evaluated; address sampling objectives, methods, coverage, sampling intensity, and other relevant characteristics.
  - c. Provide maps of fishery-dependent and fishery-independent survey coverage.
  - d. Develop and standardize fishery and survey catch-per-unit-effort (CPUE) indices by appropriate strata (e.g., age, size, area, and fishery) and include measures of precision and accuracy, using appropriate statistical methods.
  - e. Document pros and cons of available indices regarding their ability to represent abundance.
  - f. Categorize the available indices into Recommended and Not Recommended; provide justifications for the categorization; include whether any indices should be considered in some or all operating models.
  - g. For recommended indices, document any known or suspected spatial or temporal patterns not accounted for by standardization.
  - h. Provide appropriate measures of uncertainty for the abundance indices to be used in stock assessment models and projections.
  - i. As appropriate, identify uncertainties in relative abundance that should be considered within the model.
  
3. Provide commercial catch statistics for each stock being assessed, including landings, dead discards, live discards, and potential post-release mortality in both weight and number. Consider species identification issues and correct for these instances as appropriate.



- a. Evaluate and discuss the adequacy of available data for accurately characterizing landings and discards by fishery sector or gear.
  - b. Provide length and age distributions for both landings and discards if feasible.
  - c. Provide maps of fishery effort and harvest by fishery sector or gear.
  - d. Provide estimates of uncertainty around each set of commercial landings (if possible) and discard estimates.
  - e. If major uncertainties exist in historical catch composition, consider provision of multiple hypotheses.
  - f. Provide estimates of discard mortality rate by gear.
  - g. As appropriate, identify uncertainties in catch statistics that should be considered within the model.
4. Provide recreational catch statistics for each stock being assessed, including landings, dead discards, live discards, and potential post-release mortality in both weight and number. Consider species identification issues and correct for these instances as appropriate.
    - a. Evaluate and discuss the adequacy of available data for accurately characterizing landings and discards by fishery sector or gear.
    - b. Provide length and age distributions for both landings and discards if feasible.
    - c. Provide maps of fishery effort and harvest by fishery sector or gear.
    - d. Provide estimates of uncertainty around each set of recreational landings and discard estimates.
    - e. Provide estimates of discard mortality rate by gear.
    - f. As appropriate, identify uncertainties in commercial catch statistics that should be considered within the model.
5. If concluded at the data scoping webinar that there is sufficient data identified and available on ecosystem, climate, species interactions, habitat considerations, and/or episodic events that would be reasonably expected to affect population dynamics, then these should be provided as appropriate.
    - a. As appropriate, provide key levels of historical and projected uncertainty to be considered in the model.
    - b. Identify data that can contribute to how future non-stationarity should be characterized and treated within the model.
6. Categorize key axes of uncertainty into reference (primary) or robustness (secondary) uncertainties. Identify an appropriate set of parameter values to serve as the base-case scenario.
7. Collate recommendations for future research in areas such as biological sampling, fishery monitoring, and stock assessment resulting from the data and assessment processes. Include specific guidance on sampling intensity (number of length samples) and appropriate strata and coverage.
8. Prepare a Data Workshop report providing complete documentation of workshop actions and decisions in accordance with project schedule deadlines.